

An Effective Solution for the Service Support of Virtual Banking Using the Key Performance Indices Based on Cobit-5 Architecture

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ABSTRACT: Virtual banking is a type of online banking in which their products and services can be performed through the electronic distribution channels without having a physical walk-in premises or branches. These types of banks with cost reduction and banking efficient services that benefited from indirect costs are usually pays the higher saving rate than the national average benefits paid to the customers. We reviewed the success of the virtual banking system, based on key performance indicators, measures, monitoring, guidance and supervision, evaluation, production, acquisition and the implementation. Then, we compared the delivery and support services based on Cobit-5 in the private and public banks. In this study, the satisfaction of customers, virtual private banks and government banking services were analyzed. The results showed that the private banks and the government need to provide more support services to satisfy the customers' requirements.

Keywords: virtual Banking, Key performance indicators, Cobit5, private banks, government banks.

I. INTRODUCTION

The era that we are living now is called the era of Information technology and communication, in which most of the information processing and services have been done through internet, mobile systems, and other communication facilities. One of the most important parts of the information technology that has been changed heavily is the banking industry which has transformed from the traditional banking system into the virtual banking, which removes both the shackles of time and the place of banking services (Hashemi, 2013). First, we have explained the concepts of virtual banking and then paid more attentions to the formation process and its benefits and finally focused on the virtual banking situation in Iran and other countries. We studied the challenges exist the virtual banking of Iran and developed a model for the better performance then expand it to the virtual banks in other countries to provide the best model for improving the work of virtual banking.

The development of information and communication technology has major effects in all aspects of human life, especially when there is an economic crisis or fundamental economic changes. We must pay attention to process of economic development and rapid changes in

the information technology to be coped with the changes in economic relationship, political and social will as well as the global market.

Presence in the global markets and having an efficient model for the virtual banking is the necessity of adapting with the current international system. We have no doubt that taking the advantages of Information Technology in various fields of business and finance can enhance the business performance in the national economy. The establishment of efficient national banking system and facilities to provide international banking services is necessary in design and implementation of a new system of e-commerce in the country.

In this context, the efforts has begun during the last decade of twenty centuries to establish the necessary infrastructures (including legal and telecommunication infrastructures) required to increase acceleration growth. Yet, it is a long way to reach the final destination for establishing the efficient virtual banking system.

The performance assessment of organizations and firms with similar activities along with the results of their operations, in a given period, is an important process and strategy. It can be used to define the organization's competitive position as well as to obtain its significant role in the organization's continuous improvement and quality enhancement. Since the optimal activity of banks has a significant impact on the country economic development, creating the conditions and necessary platform for promoting the quality and quantity of bank performance in a healthy competition has an important role to obtain our objectives.

II. RESEARCH BACKGROUND

There are a few things that we have studied during this research work. The main goal of this research is to verify the various forms of virtual banking and ability of theory of planned behavior to predict the target customer. The findings of this research can help the bank management in formulating the marketing strategies for the promotion of virtual banking. The information technology is used to automate the bank services since 1960. Although, the implementation of information technology by banks was internally, but the changes increase the bank facilities and its full impact are still being felt. Its first effect was the expansion of existing products in new markets, and this period began mass-market banking. Secondly, these

facilities opened an alternative distribution channels and introduced the credit cards into the market. It also creates the new banking channels such as the widespread use of ATM machines, cash transfers, telephone banking, and other bank services for the convenience of the bank customers. The banking transactions through the Internet and related products are under the development and will provide significant opportunities for the banking industry (Jones, 1995).

Kerr and Filomena Moretti (2013) have studied the importance of IT process within the Cobit framework for internal control that effects the financial reporting organizations. Senior managers of public companies in America are responsible for the design and operation of effective system of internal controls and similar requirements are applied in other countries too. Several cases of corporate fraud have increased the attentions regarding to importance of internal controls and procedures. Organizations in today's business environment are committed more on the information technology for the management and growth of business performance and they can introduce risks that must be controlled. The optimal control methods and IT risk management based on the Cobit framework are described and the Cobit internal control are defined as follows: policies and strategies, practices and organizational structures in which designed to provide reasonable guaranteed for preventing undesirable events they will be reviewed and amended.

Several process control and IT security framework are described that organizations can use to promote their ability for commercial purposes by increasing their internal control. Compliance with the security and control processes should theoretically lead to a reduction in the risks associated with IT. Information regarding the relative importance of various controls and IT security processes in the large organizations that are responsible for the governance of information technology and to maintain and manage the infrastructure of organization's IT will be important for Chief Information Officers (CIOs) (Chen and Mooney, 2009). Further information about the relative importance of information technology planning and action must be related to independent audits of large companies. Tuttleand Vandervelde(2007), have reported that large independent companies use the Cobit for the auditing. Thus, it is important to know which of the IT processes will achieve the reliable financial reports for the profession of public accounting.

The Cobit is considered widely to be as a valuable tool for providing standards and guidelines in the field of information security (Ridley and Spann, 2012). Knowledge about how to use Cobit can help managers in an attempt to improve the governance and control of IT organizations. Joe and Lee have examined the effects of multiple factors on organizational intention to adopt the Cobit as a framework for IT governance (Joe and Lee, 2010). Hardy (2006) have examined the use of IT governance and Cobit to deliver the value with IT and respond to the legal challenges and regulatory compliance payment. Control and IT security in an organization is often done with caution, but today the risk is much higher than before. The Effective IT governance with the approval of the law of Sarbanes-Oxley Act (SOX) in

America and other laws enacted around the world for many companies to become law. The only security violations, theft, error, hack or successful virus attack on the computers of an IT organization can lead to financial losses and tarnishing the reputation of IT. As a result, legislators, investors, employees, customers and vendors are concerned about security and privacy of the IT organizations. Although considerable progress has been achieved, but many companies still do not have enough control over IT. According to the research, a quarter of the participating organizations external risks and threats are evaluated on a regular basis and senior management and the board must give the guarantee that the information will be kept. IT governance should be important to allocate work orders and regularly be explored by senior managers in the Department of Information Technology.

Tuttleand Vandervelde(2007) Experimental evaluation of the internal control framework for IT began as Cobit. Organizations and their auditors use a framework to guide them during the development and evaluation of internal control. The importance of the internal control framework dramatically increased since the passage of Sarbanes-Oxley Act (SOX). Using a framework to guide and evaluate the internal controls, leading to complete evaluations, was comprehensive and reliable. Regulatory framework for access to these goals clarifies the most significant aspects of internal control in the IT environment in a sustainable manner quite reasonably to imagine and visualize. The complexity of modern systems in the absence of appropriate and comprehensive framework could be upset the auditor. This indicates that the quality of the auditor's evaluation of the internal control depends upon the conceptual model that framework is based on it. In this paper the Control Objectives for Information Technology (COBIT) deals with the concept of sustainability audit.

Cobit in a compact IT control framework that is very well known as a complementary framework to the framework Committee of Sponsoring Organizations (COSO) support organizations emerged Commission Assessment Committee (Ramos, 2004).

Fedorowicz J, Gelinis (1998) believed that the COBIT completes the COSO framework for evaluating internal controls and overall governance partnership. The Hart Lane (2001) states that the Cobit is a tool that helps companies to balance IT risks and balance the investing on control. Cobit, in fact is a strong tool for the organization management and due to its strong control focus, internal and external auditors use Cobit to audit the accounts and financial as well as operational and compliance audits. Auditing Standard No. 2(AS2) will be set in conjunction with the audited financial statements of the management control framework of Cobit to assess the effectiveness of internal control over financial reporting. Suer, in 2012 reviewed the Cobit-5 to propel scorecards to show progress and performance pay.

Cobit 5 is a great starting point for any organization and at any level. Cobit 5 in High-level batching is very comprehensive and balanced assessment of the organization can easily be created and begin to make progress. Cobit turn very comprehensive and achievable goals that can be achieved at any level provides. Cobit 5

gives users the ability to be able to have it their way in where and how they can achieve that goal.

Browder and Evanoff (2009) examined a research project management control framework for IT control objectives for information technology. At the beginning of this article it is pointed out that International organizations are constantly strive to achieve their competitive interests and the main tools for tracking goals Projects are good (Molly Duncan, 2008).

Management control the progress of the project over the life cycle, for important it is highly been considered. Recent findings emphasize that the ability to complete management control activity, and therefore affects the performance management plan. (Liu et al, 2010). In traditional project management, project managers on progress against plans and budgets were monitored. Contemporary approaches to a variety of control variables at different levels and at different stages of the project (i.e., participation, utilization, abilities, completion of the project team and the project team) are in (Liu et al, 2010). It can be concluded that the control framework without investing time and resources to undermine the credibility of the organizational structure and culture studies, and adopt special needs.

III. RESEARCH METHODOLOGY

In this study, the demographic analysis and evaluation of research data using statistical methods is used. Then, the considered responses and recording data are entered into the SPSS software and extract them by using the Student t test, Friedman and multivariate analysis, and the following results were obtained:

III-1- Age of Managers

Table-1: Age distribution of bank managers

Indicators	Level	Private Bank		State Bank	
		Number	Percent	Number	Percent
Age	35-40	9	15.0	6	10.0
	41-46	23	38.4	15	25.0
	47-52	18	30.0	22	36.7
	Above	10	10.0	17	28.4
	Total	60	100.0	60	100.0

The results shown that most of managers in private banks are between 41 to 46 years old, and include 4.38 % of the samples. Most of managers in state-owned banks are between 47 to 52 years old, and include 7.36 % of the samples. Only 10 % of managers in private banks have age of over 52 years old, while 4.28 % of the state-owned bank managers are over 52 years old.

III-2 - Educational Level of Managers

Table-2: Education distribution of bank managers

Indicators	Level	Private Bank		State Bank	
		Number	Percent	Number	Percent
Education	Upper Diploma	5	8.34	12	20.0
	Bachelor	25	41.67	28	46.67
	MA	18	30.0	13	21.67

	PhD	12	20.0	7	11.67
	The total	60	100.0	60	100.0

The results of Table -2 shown that most of managers in private and public banks have the bachelor's degree. Approximately 41.67% of managers in private banks: such as Saman, Dey, Parsiyan, and Mellat hold a bachelor's degree, and 46.67% of managers in state-owned Banks: Sepah, Keshavarzi, Saderat, Melli hold a bachelor's degree. In addition, 30% of managers in private banks hold master's degree and 20% hold PhD, While 21.67% of mangers in state-owned bank hold master's degree and 11.67% hold PhD.

III-3- Work Experience of Mangers

Table-3 Work Experience Distribution of Managers

Level	Private Bank		State Bank		
	Number	Percent	Number	Percent	
Work Experience	Under 10	8	13.34	4	6.67
	10-14	17	28.34	14	23.34
	14-20	23	38.34	20	33.34
	21-25	8	13.34	13	21.67
	Above	4	6.67	9	15.0
	Total	60	100.0	60	100.0

The result of above shown that most of managers in private and public banks have the work experience of between 14 to 20 years, and include 38.34% and 33.34% of the samples for the private and state banks, respectively. In addition 28.34% of managers in private banks and 23.34% managers in the state-owned banks have 10 to 14 years of experience.

The research data are collected from interviewing 60 bank customers from private banks and 60 bank customers of public banks. The detail of questions and customers' satisfactions are shown in Table-4.

III-4- Virtual banking Customer's Satisfaction

Table- 4: Customer satisfaction in private virtual banking

Level	Very low	Low	Medium	High	Very High	General
Dey	0	0	7	4	3	14
Parsiyan	0	0	3	6	5	14
Saman	0	1	3	7	8	19
Mellat	0	2	4	2	5	13
ToTal	0	3	17	19	21	60

The result of Table-4 clearly shown that most of the bank customers have used the E-banking services of Saman Bank rather than E-banking services of Dey, Parsiyan, and Mellat. The total number of customers who used the E-banking of Saman bank is 19, while total number customers used E-banking of Dey and Parsiyan are 14 for each bank, and total number of customers in Mellat bank is 13. In general the customers of Saman bank are more satisfied to use E-banking services.

Table- 5: Customer satisfaction in public virtual banking

Level	Very low	Low	Medium	High	Very High	General
Melli	0	1	5	11	5	22
Sepah	0	3	2	3	2	10
Keshavarzi	0	0	4	3	2	9
Saderat	0	2	4	8	5	19

Total	0	6	15	25	14	60
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The result of Table-5 shown that most of bank customers in state banks, 22 out of 60, have used the E-banking services of Melli Bank, while the number of bank customers, 9 out of 60, who used the E-banking services of Keshavarzri bank is the lowest among all the state banks. The number of customer who used the E-banking services of Sepah and Saderat banks are 10, 19 respectively. In addition, 25 bank customers out of 60 customers who are interviewed had high degree of satisfaction, 14 bank customers out of 60 customers who are interviewed had very high degree of satisfaction, and still the Melli bank had the highest degree of satisfaction.

Table-6 Comparison of customer satisfaction using the virtual banking for private and state banks

	Private banks		public banks	
	Average	Standard deviation	Average	Standard deviation
Customer Satisfaction	139.11	20.81	133.02	21.13

The result of Table-6 clearly shown that total numbers of customers who have used the E-banking service of the private banks are higher than total numbers of customers who used the E-banking services in state banks.

The result of Table-7 has shown the average of Key Performance Indicators (KPI) of Cobit 5 process for the private and public banks. We can see that highest average of KPI is related to the “Ensure Optimized Risk”, 3.9, then, the Security Management with a mean of 3.83 and Innovation Management with an average of 3.5 are the second and third highest values of KPI.

We can easily see that the mean of these three KPI are almost 4, and it will be considered to be a good number according to the Liker Scale. This means, the implementation of Cobit-5 process for private banks have the greatest impact on the “Ensure Optimized Risk”, “Innovation Management”, and “security Management”.

We also can see that highest average of KPI of Cobit-5 process for Public Banka are related to “ Monitoring , assessment , performance evaluation and implementation “, 3.28, then “Monitor , assess , evaluate compliance with external requirements “, with mean of 3.24, and “Provide management of organizational change “, with mean of 3.23., As we can see the values of these three Key Performance e Indicators are more than mean value(3), and managers of state-owned banks are completely satisfied from parameters that obtained through applying the Cobit-5 process.

The result of Table-8 has shown the average of Key Performance Indicators (KPI) of Cobit 5 process for the private banks: Parsiyan, Mellat, Saman, and Dey. From the viewpoints of the Parsiyan Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Ensure Optimized Risk”, “Monitoring , assessment , performance evaluation and implementation “, with

mean values of 6.73 and 6.3, respectively, and also have the greater effects on other parameters.

From the viewpoints of the Mellat Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Ensure Optimized Risk”, “Organization Architecture “, with mean values of 4 and 3.93, respectively, and also have the greater effects on other parameters.

From the viewpoints of the Saman Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Management, Business Process Controls”, and “Portfolio Management“, with mean values of 3.67 and 3.53, respectively, and also have the greater effects on other parameters.

From the viewpoints of the Dey Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Ensure optimized risk”, and “Security Management“, with mean values of 4.73 and 4.14, respectively, and also have the greater effects on other parameters.

Table -7: Comparison of the Key Performance Indicators of Cobit 5 Process, for the Private and Public Banks

Scale	Cobit 5 parameters		Average	
			Private Bank	State Bank
Assessment, Guidance and Monitoring	Reliability and maintainability of the system settings	EDM01	3.21	2.62
	Ensure the delivery of benefits	EDM02	2.85	3.05
	Ensure optimized risk	EDM03	3.9	2.78
	Ensure optimization of resources	EDM04	3.43	3.08
	To ensure transparency, stakeholder	EDM05	2.33	2.85
Monitoring, Assessment and Evaluation	Monitoring , assessment , performance evaluation and implementation	MEA01	2.80	3.28
	Monitoring , assessment, evaluation of internal control system	MEA02	2.75	2.75
	Monitor , assess , evaluate compliance with external requirements	MEA03	2.6	3.24
Planning and Organizing	Management framework, management	APO01	2.93	2.8
	Management Strategy	APO02	3.16	2.5
	Architecture Management Organization	APO03	3.28	3.12
	Innovation Management	APO04	3.5	2.88
	Portfolio management	APO05	3.16	2.97
	Budget and Cost Management	APO06	2.85	2.78
	Human Resource Management	APO07	2.76	3.14
	Relations	APO08	3.05	2.84
	Management Services Agreement	APO09	3.017	3.10
	Supplier management	APO10	3.13	2.88
	Quality Management	APO11	3.35	2.58
	Risk Management	APO12	2.90	3.05
	Security Management	APO13	3.83	2.78
Construction, Acquisition and Implementation	Management programs and projects	BA101	3.31	3.08
	Definition of needs	BA102	2.91	2.85
	Identity management solutions and making it	BA103	3.05	3.28
	Availability and Capacity Management	BA104	3.05	2.75
	Provide management of organizational change	BA105	3.43	3.23
	Management of Change	BA106	3.26	2.80
	Acceptance of change and transition management	BA107	3.08	2.5
	Knowledge Management	BA108	3.25	3.12
	Asset Management	BA109	2.95	2.88
	Configuration Management	BA110	3.38	2.97
Delivery, Services and Support	Operations Manager	DSS01	3.05	2.78
	Tickets and events management services	DSS02	3.25	3.13
	Management problems	DSS03	3.28	2.85
	Continuity Management	DSS04	3.23	3.10
	Managed Security Services	DSS05	3.05	2.98
	Management, business process controls	DSS06	3.10	2.90

The result of Table-9 has shown the average of Key Performance Indicators (KPI) of Cobit 5 Process for the Public banks: Melli,Saderat, Keshavarzi, and Sepah.

From the viewpoints of the Melli Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Managed Security Services”, and “Provide management of organizational change “, with mean values of 3.6 and 3.54, respectively, and also have the greater effects on other parameters.

Table -9: Comparison of key Performance Indicators of Cobit-5 Process, for the Public Banks

Cobit 5 parameters	Melli	Saderat	Keshavarzi	Sepah
Reliability and maintainability of the system settings	2.26	2.8	2.46	2.93
Ensure the delivery of benefits	2.94	3	3.26	3
Ensure optimized risk	3.53	2.73	3.13	3.74
Ensure optimization of resources	3.20	3.20	2.73	3.20
To ensure transparency, stakeholder	2.26	3	2.73	3
Monitoring , assessment , performance evaluation and implementation	3.13	3.54	2.93	3.54
Monitoring , assessment, evaluation of internal control system	3.07	3.54	2.87	2.54
Monitor , assess , evaluate compliance with external requirements	2.86	3.54	3	3.54
Management framework, management	2.27	2.87	3.2	2.87
Management Strategy	2.47	2.26	2.47	2.5
Architecture Management Organization	3.27	2.94	3.0	3.27
Innovation Management	3.14	3.54	2.74	3.14
Portfolio management	1.1	1.02	1	1.1
Budget and Cost Management	1.28	1.23	1	1.27
Human Resource Management	2.94	3.13	3.54	2.94
Relations	2.87	3.06	2.54	2.87
Management Services Agreement	3	2.87	3.54	3
Supplier management	3.2	2.27	2.87	3.2
Quality Management	2.8	2.46	2.27	2.8
Risk Management	3	3.27	2.94	3
Security Management	2.74	3.13	2.54	2.74
Management programs and projects	3.2	2.73	3.2	3.2
Definition of needs	3	2.73	2.67	3
Identity management solutions and making it	3.54	2.94	3.14	3.54
Availability and Capacity Management	2.54	2.87	3.06	2.54
Provide management of organizational change	3.54	3	2.87	3.54
Management of Change	2.87	3.2	2.27	2.87
Acceptance of change and transition management	2.46	2.8	2.48	2.27
Knowledge Management	3.26	3	3.26	2.94
Asset Management	3.13	2.74	3.13	2.54
Configuration Management	3.74	3.2	2.73	3.2
Operations Manager	2.73	3	2.73	2.67
Tickets and events management services	2.94	3.53	2.94	3.13
Management problems	2.90	2.54	2.86	3.06
Continuity Management	3	3.53	3	2.86
Managed Security Services	3.6	2.86	3.2	2.27
Management, business process controls	3.07	2.74	3.67	2.14

Table- 8: Comparison of the Key Performance Indicators of Cobit-5 Process, for Private Banks

Cobit 5 parameters	Parsiyan	Mellat	Saman	Dey
Reliability and maintainability of the system settings	3.26	3.27	3	3.33
Ensure the delivery of benefits	3.07	2.87	2.73	2.75
Ensure optimized risk	3.67	4	3.20	4.73
Ensure optimization of resources	3.2	3.47	3	4.06
To ensure transparency, stakeholder	2.6	1.87	3.53	1.27
Monitoring , assessment , performance evaluation and implementation	3.6	3.54	2.67	2.40
Monitoring , assessment, evaluation of internal control system	3.13	2.53	3.53	1.8
Monitor , assess , evaluate compliance with external requirements	3.07	3.73	2.87	1.74
Management framework, management	2.47	3.06	3.20	2.94
Management Strategy	2.80	3.60	3.26	3
Architecture Management Organization	3.47	3.93	3	3.73
Innovation Management	3.26	3.53	4	3.21
Portfolio management	3.14	3.6	3.53	3.31
Budget and Cost Management	2.80	3.20	1.87	3.53
Human Resource Management	3.07	3.20	2.27	2.53
Relations	3.25	2.87	2.54	3.53
Management Services Agreement	3.45	3	2.73	2.86
Supplier management	3.20	3	3.13	3.2
Quality Management	2.8	4.2	3.14	3.27
Risk Management	3	3.46	3.33	1.87
Security Management	2.74	3.67	3	4.14
Management programs and projects	3.20	3.40	3.34	3.34
Definition of needs	3	3.47	3.34	1.87
Identity management solutions and making it	3.54	3.47	2.94	2.27
Availability and Capacity Management	3.07	3.34	2.27	2.54
Provide management of organizational change	3.54	3.67	2.67	3.87
Management of Change	2.87	3.34	2.94	2.93
Acceptance of change and transition management	3.2	3.73	2.74	2.67
Knowledge Management	3.27	3.40	2.80	3.54
Asset Management	2.87	3.20	2.46	3.27
Configuration Management	3.87	3.14	3.27	3.26
Operations Manager	3.33	3.07	2.87	2.94
Tickets and events management services	4.07	3.34	2.80	2.82
Management problems	3.94	3.54	3.07	2.6
Continuity Management	3.53	3.13	3.07	3.23
Managed Security Services	3.07	3.33	3.2	2.6
Management, business process controls	3.07	3.54	3.67	2.14

From the viewpoints of the Saderat Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Monitoring, assessment, performance evaluation and implementation”, “Monitoring, assessment, evaluation of internal control system”, “Monitor, assess, and evaluate compliance with external requirements”, and “Innovation Management”, with mean values of 3.54, 3.54, 3.54, and 3.54, respectively, and also have the greater effects on other parameters.

From the viewpoints of the Keshavarzi Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Management, Business Process Controls”, “Human Resource Management”, and “Management Services Agreement”, with mean values of 3.6, 3.54, and 3.54, respectively, and also have the greater effects on other parameters.

From the viewpoints of the Sepah Bank managers the key performance indicators of Cobit-5 process have a good effects on strengthening the parameters of the “Ensure Optimized Risk”, with mean values of 3.74, and also have the greater effects on other parameters.

IV. Conclusion

Alignment of IT on business performance and effectiveness of information technology used in business organizations has increased goals, strategies, resources, integration, investment and other relevant factors in improving the business.

We have studied most of the new models and verified their views and the importance of indicators and criteria that have been used. We also analyzed the well known models that have major roles in Information Technology for running a business or following an organization's strategic direction, alignment, operational, and other aspects of information, to suggest an strong model for the Service support of virtual banking using the key performance indices based on Cobit-5 architecture.

Cobit-5 is A Business Framework for the Governance and Management of Enterprise IT. It is the latest edition of ISACA framework that was globally accepted by IT managers and Enterprises.

We have designed and implemented our model based on the Cobit-5 architecture and verified our findings with the results obtained by Ali Reza Shahraki and Jalal Mojallal [2]. Although we have used the different approached for the virtual banking but the final result was fully consistent with the results that we obtained from our model. Their findings suggest that the reliability, content, site design, ease of use, Internet Banking system will influence many satisfied customers.

Yun (2010) has studied the customer satisfaction with online banking in China to investigate the effects on the relationship between experience and customer satisfaction records checks. Results showed that the plan of information content security and customer support service have a significant impact on customer satisfaction with the group experience and group experience is very low. Ease of use is also a significant impact on customer satisfaction too.

The results of this study provide a model that can be used by organizations which puts the alignment of information technology with their business measures. The results indicate that the direction of information technology in organizations with a business model for state banks based Cobit-5 have to be improved. Based on the results of this study we can suggest a model for the state banks that if the information technology used in their business is aligned with respect to Cobit-5 model the customer satisfaction can be obtained and improvement is guaranteed.

To increase the alignment of the banks the following procedure is suggested.

- Since the implementation Cobit-5 on the private banking has more effect on the key performance indicators such as, “Ensure Optimized Risk Management”, “Security, and Management Innovation”, thus, we have recommended that all private banks use Cobit-5 in order to strengthen other key performance Indices. In fact, the process of cobit-5 applied on the private banks somehow changes all the parameters above average. For example, the key performance indices of private banks, such as Monitoring, Evaluation and Assessment (MEA) is less than average(3), thus the model of Cobit-5 somehow must be changed to give higher weight to strength key performance indicators.
- We have shown that the Key Performance Indicators of state banks based on Cobit-5 has the highest average for the identify solutions and construction management and supervision, assessment, performance evaluation and implementation, and monitoring. The average of the KPI in state banks is somewhat acceptable for us because their mean values are more moderate, but it is clear that the public banks have more factors than private banks and value of KPI in public banks are lower than average. So, we must use the Cibit-5 and change the Cobit-5 processes to improve the value of KPI.
- We have applied the model of Cobit-5 on the private and state banks and obtained some parameters that are lower than average and some parameters that are above the average. So we have suggested the Cobit-5 be applied on the Private and Public banks separately and the result be verified.

V. Research Suggestions

This study is the first step to try and to review the Key Performance Indicators based on cobit-5 in public and private banks. Alongside this analysis, customer satisfaction, virtual banking, public and private banks are also examined. Although this study include strategic results useful for policy makers, managers and private banks (Dey, Saman, Parsiyan and Mellat) and state-owned banks (Sepah, Keshavarzi, Saderat, and Melli), Iran, but it is the beginning of the research to understand the customer satisfaction and other issues. Hence, in this paper, the proposed multi-axis position and the subject for future research are offered:

1. This study aimed to examine the matter at the national level comparative analysis between counties and cities.

2. Determine the contribution of virtual banking services provided in the private and public banks.
3. Promoting the culture use of virtual services.
4. Internet conditions to avoid wasting time given the time taken to complete forms for opening the account or given Card or password for input to the Internet and the traditional bank guarantees.
5. Insert condition for Internet with security keeping avoiding going to the bank for Autodesk.
6. Create a new method to renew or apply for bank cards after expiration date or until the card issuing bank's forms or extend the date.
7. Moved money from your account to another account without need to token device.
8. Provide a new method for financing due to the lack of electronic money and the single currency in most banks.
9. Depreciation money and Checks in bank.
10. Due to restrictions on the transfer of ceiling solutions, harvesting in all banks in one day.
11. Offers to address an encryption issue and bank documents (bank guarantees and letters between Ccheck) and increase the likelihood of fraud.
12. Provide a new solution to prevent abuse of noncompliance due to lack of banking Online Inquiry System and fraudsters encoded by the Central Bank
13. Check and warranty solutions to all holders of record of the depositary bank by users and facilitate commercial bank.

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