



Evaluation of the role of information technology in the effectiveness of internal audit

(Case study Melli Bank of Iran branches in Sistan and Baluchistan province)

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Evaluation of the role of information technology in the effectiveness of internal audit (Case study Melli Bank of Iran branches in Sistan and Baluchistan province)

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Abstract

Today, the importance of information technology and communications has been clearly specified to increase the speed and accuracy of the various activities of organizations and the relationship between its various components together, and thus increase their effectiveness. The purpose of this research is to investigate the role of information technology in increasing the effectiveness of the internal audit. The statistical population of the study consisted of 120 heads of banks and employees of different parts of internal audit of Iran Melli Bank Branches in Sistan and Baluchestan province. Of these, 92 samples were selected as research samples according to the sample size formula .The method of sampling in this research is Krjusi Morgan method. Then the questionnaire has been distributed among them and then collected. The research questionnaire contains 30 questions based on the research hypotheses. To assess the validity of the questionnaire, content validity was used and the Cronbach's alpha method was used to calculate the validity coefficient of the measure in this research.

Keywords: Information Technology, Efficiency, Effectiveness, Internal Audit, Melli Bank of Iran



1. Introduction

One of the great achievements of human being in the present age is the achievement of electronic technology and computing tools and communication tools known as information and communication technology. In today's world, the use of ICT services is an unavoidable necessity to achieve sustainable growth, and it can easily be claimed that there is no part of the economy and industry that has not been affected by ICT.

The current era is called the information age. In this age of information technology as a new thinking and strategy, it has affected all dimensions of human life, and organizations are also concepts and institutions that are heavily influenced by information technology in such a way that the idea of today's organization seems to be impossible without technology and application (Ranjbarian, 2013). Information technology as a new infrastructure has attracted a lot of attention in organizations. This infrastructure is generally defined by a combination of electronic devices, telecommunications, software, decentralized computer stations and integrated media, has had a profound effect on the organization of spatial distances and therefore, on other systems. Information technology means collecting, storing, processing, distributing and using information, and is not limited to hardware and software, and also information technology can be considered as the point of electronic convergence, data processing and telecommunications. Today, the information technology is a encouragement for the globalization of products and markets, and enhances the dynamism and flexibility of services and financial and monetary flows, and often provides a platform for increasing efficiency and effectiveness (Mousavi, 2007).

2. Statement of the problem

At the present time, governments have realized that basic investment is in the information sector and the development of communication systems is productive and undoubtedly leads to improvements at various levels. In this regard, the United States has invested \$ 1,500 in information technology in 2000 for each citizen (Nasehi, 2001).

With the emergence of large organizations with complex operations, it has been necessary to conduct internal audit activity for centuries. In practice, the use of identifiable services in the field of internal audit has a long history and possibly a twin with the formation of these organizations. The well-known role of internal auditors has been constantly changing and has changed from performing the task for vouching over the past decades to providing assurance and consulting services to increase value-added and improve the operations of organizations. An internal audit



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activity, through a systematic and regular approach, helps the organization to evaluate and improve the processes of the management system, risk management and control to achieve its goals. An internal audit by an expertise that understands organizational risks and internal controls to mitigate these risks helps management and provides suggestions for improvement. Organizations without an internal audit institution are not only deprived of internal audit professional services but also are subject to risk-based reliance on risk management because, in many cases, senior management lacks a neutral and independent view, as well as risk management skills. A historical review of the internal audit profession in Iran shows that, despite the changes in the professional and economic accounting environment, due to the lack of support of high-level managers and business unit employees and the lack of coordination between internal audit operations and management needs of the business unit, a major transformation has not undergone in this profession (Zaman, 2015). According to the mentioned contents, this research seeks to answer this question: What role does information technology play in the effectiveness of the internal audit in the bank and financial institutions? To this end, it provides a framework for improving and enhancing the role of internal auditors in the Banks.

3. Background of the research

The official US government announced in 1998 that the accounting profession should have the skills to use effective tools and technologies. The accounting changes committee has suggested that, given the rapid impact of organizations on technology, accounting professionals should understand the current and future information technology roles in organizations (Dehghan Nestanaki et al., 2012). In the past, the tremendous impact of information technology on the accounting profession was worrying for the professional accountants' community. For example, the professional accountants community in Australia in 1998 reported: As the business sector needs overall business skills and strategy, accountants also need extensive information technology skills (Bicken & Richardson, 2007) considering the fact that accounting standards have remained constant over the years without major changes, but information technology is changing day by day, committees and the accounting community need to shift to educating accountants, which is possible due to increased knowledge of information systems and technology information knowledge , that this leads to facilitate the process of calculations and also the better presentation of business data were needed to make more effective decisions. Additionally, information technology will have a significant impact on costs. In fact, information technology improves



efficiency in accounting areas as well as saving time and increasing the accuracy of computations (Mortie et al., 2012). Dehghan Nistanaki et al., (2012) concluded in an article that IT developments have increased the demand for IT auditing. Independent auditors, whose main role is to validate accounting information, should therefore turn to the IT audit to provide updated audit services and increase efficiency in auditing. Mortie et al. (2012) evaluated the application of information technology in decision making in accounting management. The results of this research show that the application of information technology in the sector of management accounting in companies enables accountants to provide more accurate financial reports for making optimal decisions. There is also a very close relationship between management, accounting and IT users. Mega et al. (2014) evaluated the interaction of cost control systems and the integration of IT on the financial performance of manufacturing factories. The results show that although IT integration and cost control systems do not have a significant effect on the financial performance of manufacturing factories, but have a mutually beneficial effect on their performance.

Wang et al., (2014) studied the role of decision-making with the help of IT in integrating intra-organizational information in order to improve customer service performance and achieved a constructive positive relationship between these two factors. Arabi (2009) evaluated the developments in information technology and concluded that IT developments has affected the system of accounting information by eliminating human errors, reducing costs, increasing efficiency, quality, and effectiveness, and also has been caused creating context and new applications in the accounting profession.

4. Research Methodology

According to the research goals, the method used in this research is descriptive-survey of field research. The statistical population in this research was bank executives and employees (branches) whose 92 employees were selected by random sampling of Karjesi Morgan as a sample of the statistical population studied in this research. A questionnaire consisting of 30 questions, which its reliability and validity were made by Bartlett's and Cronbach's alpha tests were made available to department heads and employees.

Table 1: Bartlett test and Cronbach alpha



questionnaire.

0.778	Sample adequacy measurement
759.835	Chi square
55	Degrees of freedom
0.000	Threshold Importance
0.927	Cronbach's alpha test

Research hypotheses include:

It seems that the use of information technology will increase the competence and suitability of internal auditors in Melli Bank branches of Iran.

It seems that the use of information technology will increase the efficiency and activity of the internal audit unit in Melli Bank of Iran.

It seems that the use of information technology improves the relationship between internal and independent auditors in Melli Bank branches of Iran.

It seems that the use of information technology will increase the managers' support of internal auditors in Melli Bank branches in Iran.

It seems that the use of information technology leads to an increase in the independence of the internal audit.

5. The results of research hypotheses

In the test of research hypotheses, based on the normality of the data, a single-sample t test was used, that its results are presented below. The meaningful relationship between information technology and the effectiveness of internal audit in the branches of the bank is shown.

5-1. the first hypothesis

- ✓ There is a significant difference between information technology and increasing the competence and suitability of internal auditors.



Table2. Independent T test results Difference between information technology and increasing competence and suitability

Confidence level 0.95		Difference criterion error	Difference of averages	Significant level	Degrees of freedom	T test	Statistical indicator
upper limit	Bottom limit						
-0.70922	1.54255	0.562465	0.41667	0.462	58	0.741	Increasing competence and suitability

Since T is calculated at 95% confidence level ($\alpha = 0.05$) and degree of freedom 58 is less than T critical value ($t = 2.00$), it is concluded that there isn't a significant difference between information technology and increasing the competence and suitability of internal auditors

5-2.The second hypothesis

- ✓ There is a significant difference between information technology and increasing the efficiency and activity of the bank's internal audit unit.

Table3. Independent T-test results between information technology and efficiency and activity of the internal audit unit

Confidence level 0.95		Difference criterion error	Difference of averages	Significant level	Degrees of freedom	T- test	Statistical indicator
upper limit	Bottom limit						
0.52779	2.40555	0.46904	1.46667	0.003	58	3.127	efficiency and activity

Since T is calculated at a confidence level of 99% ($\alpha = 0.01$) and a degree of freedom of 58 is greater than the critical value T ($t = 2.00$), it is concluded that there is a significant difference between information technology and the efficiency and activity of the internal audit unit.

5-3.The third hypothesis



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- ✓ There is a significant difference between information technology and the increase in the relationship between internal and independent auditors.

Table4. Independent T-Test Results between Information Technology and the Relationship between Internal Auditors and Independent Auditors

Confidence level 0.95		Difference criterion error	Difference of averages	Significant level	Degrees of freedom	T- test	Statistical indicator
upper limit	Bottom limit						
0.73085	2.61915	0.47167	1.67500	0.001	58	3.551	Relationship between Internal Auditors and Independent Auditors

Because T is calculated at a confidence level of 99% ($\alpha = 0.01$) and degree of freedom 58 is higher than the critical value T ($t = 2.00$), it is concluded that there is a significant difference between information technology and the increase of the relationship between internal and external auditors.

5-4. Fourth hypothesis

- ✓ There is a significant difference between the information technology and the increased managers' support of internal auditors.



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Table5. Independent T-test results between information technology and managers support of internal auditors

Confidence level 0.95		Difference criterion error	Difference of averages	Significant level	Degrees of freedom	T-test	Statistical indicator
upper limit	Bottom limit						
0.64960	1.98373	0.33325	1.31667	0.000	58	3.951	managers support

Because T is calculated at 95% confidence level ($\alpha = 0.05$) and degree of freedom 58 is higher than the critical value T ($t = 2.00$), it is concluded that there is a significant difference between the information technology and the managers support of the internal auditors.

5-5.The fifth hypothesis

- ✓ There is a significant difference between information technology and increasing the independence of internal audit.

Table6. Independent T test results Difference between information technology and internal audit independence

Confidence level 0.95		Difference criterion error	Difference of averages	Significant level	Degrees of freedom	T- test	Statistical indicator
upper limit	Bottom limit						
-1.08923	1.10590	0.54831	0.00833	0.988	58	0.15	audit independence

Since the calculated T is smaller at 95% confidence level ($\alpha = 0.05$) and the degree of freedom 58 is less than the critical value T ($t = 2.00$), it is concluded that there is no meaningful difference between information technology and the independence of the internal audit.

The results of the research hypothesis test are summarized in Table 7.



Table 7. Results of the research hypothesis test

Test result				Comparable variable	Hypothesis number
Final result	Gap	The opposite hypothesis	Zero hypothesis		
		Unequal	Equals		
Apply the status changes	0.008	✓	×	competence and suitability	Hypothesis1
Apply the status changes	1.316	✓	×	efficiency and activity	Hypothesis2
Apply the status changes	1.675	✓	×	The relationship between the auditors	Hypothesis3
Apply the status changes	1.466	✓	×	Managers support	Hypothesis4
Maintain existing status	0.416	×	✓	independence	Hypothesis5

According to the results of the questionnaire and the analysis, the results of the hypotheses related to the role of information technology in the internal audit effectiveness of the Melli Bank branches of Iran in Sistan and Baluchestan province are presented in Table 8. It should be noted that the results are based on the criteria for field and library research.

Table8. Status and rank of hypotheses rose

Final result	Gap	Comparable variable
Keep the status	0.416	independence
Change the status	1.466	Managers support
Change the status	1.675	The relationship between the auditors
Change the status	1.316	efficiency and activity
Change the status	0.008	competence and suitability

6- Conclusion

As can be seen in the Melli Bank branches, the independence variable of the internal audit unit has been able to rank first. This means that with the use of information technology, the independence



of the internal audit unit at the bank is high, indicating that the independence of these units in the bank increases with the use of information technology. Another variable is the support of managers that the Melli Bank branches of Iran are in a poor position. This situation reduces the quality of services because the support of managers and the lack of awareness of internal auditors of information technology leads to a decrease in efficiency and effectiveness in the internal audit department of the bank.

The internal auditing units of the Melli Bank branches are in an inappropriate situation as regards the relationship between internal and external auditors, and this variable is the third rank. This variable indicates that the interaction between the internal auditors of the branches and independent auditors is not appropriate and should be improved. In the end, the efficiency and effectiveness of the internal audit unit should also be improved. Therefore, in view of the inappropriateness and unfavorability of the four variables, efforts should be made to optimize these four variables in the Melli Bank branches of Iran in order to increase the effectiveness of internal audit in these branches with information technology and its criteria

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