

Effect of Using the Financial Information Technology System (SANAMA: Real-time Monitoring System of the Department of Financial Monitoring and National Treasury) on the Transparency, Accountability, and Audit of the National Budget Statement

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Abstract

The aim of this study was to investigate the effect of financial information technology system (SANAMA: real-time monitoring system of the Department of Financial Monitoring and National Treasury) on the transparency, accountability, and audit of the national budget performance statement. This system improves management of the financial system in the area of resource consumption and national budget through a continuous financial control and supervision of the public resources consumption. The lack of timely and quick access to information and audit data resulting from traditional implementation of affairs reduces the accuracy and quality of the audits in addition to increasing the cost and time. Accordingly, the Ministry of Economic Affairs and Finance launched an electronic surveillance system known as the "SANAMA" as one of the major IT-based developments in the country in order to resolve the problem mentioned above and also to change and update the audits. Data were collected using questionnaire method. Based on one-sample t-test, the respondents represented a consensus of opinion on three issues raised in this research including improvements in auditing, transparency, and accountability of financial statements in executive organizations as the consequences of SNAMA system usage.

Keywords: *Information technology (IT), SANAMA system, Transparency, Accountability, Audit.*

Introduction

The expansion of operations, intricate transactions, and their electronic implementations have resulted in the placement of paper documents by electronic ones. Consequently, audit procedures have also changed to a great extent. Therefore, it is essential that auditors become familiar with IT due to these changes and their impacts on the electronic accounting systems and processes without the use of paper documents, as IT is the best tool to improve the quality of audit records and auditors' work. In other words, this technology helps auditors to gain a better audit evidence to

support their opinions on the financial statements [1]. One of the characteristics of effective management of countries is the implementation and realization of rules for the development of the country through optimal use of financial resources to meet priority needs together with full and accurate monitoring. Therefore, the lack of timely and quick access to audit information and data caused by traditional implementation of affairs has resulted in the reduced accuracy and quality of audits in addition to increasing the cost and time. Accordingly, the Ministry of Economic

Affairs and Finance launched an electronic surveillance system known as the "SANAMA" as one of the major IT-based developments in the country. In order to improve management system in the areas of resource consumption and national budget through continuous control and financial supervision to safeguard the treasury, the Ministry of Economic Affairs and Finance has established the electronic surveillance system (SANAMA). With this system, a large amount of information about the operations of executive bodies are available to the Ministry of Economic Affairs and Finance from various sources inside or outside the organization under inspection, which are then purified, classified, and organized and will eventually be processed, analyzed, and interpreted.

The project of SANAMA system is one of the largest systematic ICT-based projects in the country, which undoubtedly has far-reaching and significant consequences in the whole system of executive affairs of the country. This system provides the possibility of immediate investigations on the operations of executive agencies and also application of controls, various audits, and financial transparency. Considering the above subjects, the aim of this study was to evaluate the effect of this system on transparency, accountability and audit of financial statements in executive bodies. Given the time and cost of implementing this project, a question is raised whether or not the transparency, accountability, and audit of the national budget performance statement using SANAMA system will be more operative and more efficient than the traditional system.

Research Literature

Accountability

According to the Governmental Accounting Standards Board: Governmental accountability is based on the belief that citizens have the right to know, the right to easily become aware of disclosed facts (which may lead to a public debate by citizens and their representatives). In a democratic society, financial reporting plays a pivotal role in the accountability of government to the public [2].

Babajani [3] also defines accountability as a duty for which people provide convincing reasons and explanations in the form of reports to fulfill the responsibilities that have been assigned to them. Therefore, accountability involves the following two distinct duties: first an obligation to accomplish a clear duty known as the responsibility and, second, a commitment to explain the quality of doing responsibility through provision of required reports, the so-called accountability, based on logical and dependable reasons.

Types of Accountability

One of the classifications accepted by Federal Accounting Standards Advisory Board of the USA and also the Accounting Standards Board of the USA and has been mentioned in Paragraph 73 of the Conceptual Statement 1 of the Federal Accounting Standards Advisory Board is described as follows:

Level One: Accountability is a policy or responsibility for adopted and rejected policies (a value).

Level Two: Accountability is a program, or responsibility for the implementation and achievement of the program objectives (outcomes or effectiveness).

Level Three: Accountability is a performance or responsibility about its quality (efficiency and economic gain).

Level Four: Accountability is a process or responsibility on processes, including administrative procedures or measurement criteria to perform designated tasks (planning, allocation, and management).

Level Five: Accountability is a commitment and legitimate use of funds according to the approved budget (observance) [1].

In Paragraph 74 of the Conceptual Statement 1 of the Federal Accounting Standards Advisory Board, the roles of accounting and financial reporting in the process of performing accountability have been explained as follows:

In a democratic government, appointed officials are responsive to higher authorities and elected officials against citizens at different levels of accountability as noted in Paragraph 73. Accounting and financial reporting could help appointed officials to fulfill their duties of accountability (ibid.).

Although accountability relates increasing legitimacy and commitment of people to accounting, it is already accepted that accounting profession is able and has to contribute to the achievement and fulfillment of various accountabilities as follows:

- Accountability for financial resources
- Accountability for honest respecting and adhering to regulatory requirements and enforcement policies.
- Accountability for efficiency and economic gain of operations
- Accountability for the results of governmental programs and activities that is visible in the form of their outcomes and effectiveness (ibid.).

Auditing Financial Statements of Executive Bodies

In Iran, elements of the country's social system elected directly or indirectly through the public votes and have been assigned certain responsibilities and duties by the constitution are required to consume public resources efficiently and effectively through observing economic gains in order to meet the desired goals within the framework of regulations and be accountable to the public. Achievement of predetermined goals and accountability to the people require the establishment and maintenance of strong internal control systems including an appropriate reporting system. Reporting is important because it is a dispensable component of the accountability process and people can be aware of the quality of services provided and consumption of resources through a transparent and reliable reporting system. Such an audit process helps the accountability process through both evaluating the validity of reports by governmental officials and assessment of the results of operations by legal institutions.

The financial audit effectively contributes to

accountability process through providing independent reports on the fair presentation of an entity's financial information, internal controls as well as compliance with laws, regulations, and operational audit with independent evaluation of the operations of legal entities, projects, activities, and specific tasks.

Budget Transparency and the Role of Financial Reporting

Budgeting is essential in governmental financial reporting and budget performance report is prepared with the aim of government accountability. Transparency is a qualitative characteristic for the report. This means that information should be provided in such a way that allows observation of actual performance of government and assessment of various government activities.

Level of accountability has long been under the influence of pressure for responsiveness. As much as the nation, parliament, the media, and professional associations are calling for better responsiveness, the government will also be more diligent in the provision of better information and, therefore, transparency of its activities. Today, globalization and the impact of extraterritorial financial situations on the countries have also added the international community to those demanding responsiveness.

International organizations try to oblige governments to provide true and accurate information about their financial activities by applying carrots and sticks policies (especially in granting loans). In this context, the greatest emphasis goes on compliance with coordinated international financial reporting patterns for governments.

Implementation of these models, in turn, is totally dependent upon governmental accounting situation of each country as accounting information system of the government. The difficulties arises in Iran for budget transparency are the same problems with which the governmental

accounting system has been grappling for years, that is, the shortage of financial experts, lack of motivation for demanding responsiveness and correspondingly the non-accountability habit of national authorities, inefficient laws, and the lack of governmental accounting standards.

Transparency of budget means the quality of funding formation and its ability to respond better to the public. According to a definition, transparency of budget is: "information provided concerning the reports on financial and budget operations to the parliament and the public must disclose the quality of execution and operation of the government." Budget transparency strengthens the accountability and increases the political risk corresponding to insisting on policies contrary to the national interest, thereby, adds to the credibility of the budget. It also renders public support for macroeconomic policies. In contrast, non-transparent management of budget may lead to instability, inefficiency or exacerbated inequality.

In the global village, budget crisis in a country may potentially spread to other countries, hence, this issue has gained international significance so that the Interim Committee of the Board of Directors of the International Monetary Fund (IMF) approved, declared enforceable criteria for the transparency of budget at its fifth meeting on 16 April 1998.

Annual Performance of the General National Budget Statement

Tables of the general budget law of the country according to the amendments done in the new budget classification system in order to create transparency in the sources and uses of funds include sources of public revenues, transfer of both capital and financial assets and expenses of the funds, and also acquisition credits of both capital and financial assets and each of various programs and rows of funds as well as each of the programs, projects and rows of other acquisition credits for capital assets, all of which have their own economic classification including septet chapters of cost and investment each with a subset.

It is important to note that the above classified information is the basis of large budget tables under the headings of reporting the government's annual revenues and costs (operational balance), and summary of transfer and acquisition of assets; these tables along with the summary table of the government's financial transactions (summary of transfer of assets and acquisition of financial assets owned by the government) are useable in the classification of national accounts that are adaptable to the classification and definitions of national accounts applied in other countries.

In the tables of national budget performance statement in 2012, the information contained in the accounts of March, amendment and final financial statements for the year 2012 received from the executive bodies as well as budget performance statement of the year 2012 for provincial executive bodies based in provinces were extracted as follows and presented in accordance with the categories and divisions contained in the general national budget law of the year 2012 and its subsequent amendments such that comparisons could be made between projected and performance figures.

Research Hypotheses

Hypothesis 1: The use of SANAMA IT system affects the audit of financial statements.

Hypothesis 2: The use of SANAMA IT system affects the transparency of financial statements.

Hypothesis 3: The use of SANAMA IT system affects the accountability of financial statements.

Research Methodology

The present research is a functional and descriptive-survey one in terms of the goal; the study population consisted of 100 principals and experts in charge of the Economic Affairs and Finance Organization, the Deputy of Fars Auxiliary Expense and Treasury, financial controllers and auditors of the Audit Bureau based in the executive agencies of Fars Province.

First the volume of the sample was calculated using the Cochran's formula and a total of 80 individuals were determined based on the contribution of each class in society.

A questionnaire was used to collect data obtained in the study. Therefore, the opinions of experts, the respected supervisor and advisor, and some members of different social classes were used to test the structural validity. The reliability was assessed using Cronbach's alpha calculated as 0.82, 0.80, and 0.84, respectively, for audit, transparency, and accountability of the financial statements.

Data were first analyzed using one-sample t-test, and then the mean of each variable was compared with an average of 3. Afterward, the rank of each indicator mentioned in the questionnaire was determined using Friedman's test. The normality of data was verified through the Kolmogorov-Smirnov test before the statistical tests.

Data Analysis

Kolmogorov-Smirnov Test

H0: Distribution of data is normal for each of the variables.

H1: Data distribution is not normal for each of the variables.

Table 1: Kolmogorov-Smirnov test

	Audit of financial statements	Transparency of financial statements	Accountability of financial statements
Number	80	80	80
Average	3.5659	3.6071	3.5000
Standard deviation	0.34473	0.36616	0.36457
Kolmogorov-Smirnov statistic	1.138	1.024	0.953
Significance level	0.092	0.152	0.214

Because the test's significance level is greater than 0.05, data distribution is normal.

The First Hypothesis

H1: The use of SANAMA system affects the audit of financial statements.

H0: The use of SANAMA system does not affect the audit of financial statements.

Table 2: Number, mean, and standard deviation for the first hypothesis

	Number	Average	Standard deviation
Impact on the audit of financial statements	80	3.5659	0.34473

The mean of answers to the 11 questions raised in the questionnaire concerning the

impact of SNAMA system on the audit of financial statements is equal to 3.5659, i.e. greater than the average value.

Table 3: One-sample t-test for the comparison of the mean with the average value (3)

	t	df	Significance
Impact on the audit of financial statements	14.683	79	0.000

According to the significance test ($p < 0.05$), the respondents showed consensus with the issues raised about the impact of SNAMA system on the audit of financial statements.

The Second Hypothesis

H1: The use of SNAMA system affects the transparency of financial statements.

H0: The use of SNAMA system does not affect the transparency of financial statements.

The mean of answers to the seven questions raised in the questionnaire concerning the impact of SNAMA system on the transparency of financial statements is equal to 3.6071, i.e. greater than the average value.

Table 4: Number, mean and standard deviation of the first hypothesis

	Number	Average	Standard deviation
Impact on the transparency of financial statements	80	3.6071	0.36616

Table 5: One-sample t-test for the comparison of the mean with the average value (3)

	t	df	Significance
Impact on the transparency of financial statements	14.831	79	0.000

According to the significance test ($p < 0.05$), the respondents showed consensus with the issues raised about the impact of SNAMA system on the transparency of financial statements.

H1: The use of SNAMA system affects the accountability of financial statements.

H0: The use of SNAMA system does not affect the accountability of financial statements.

The Third Hypothesis

Table 6: Number, mean and standard deviation of the first hypothesis

	Number	Average	Standard deviation
Impact on the account ability of financial statements	80	3.5000	0.36457

The mean of answers to the 10 questions raised in the questionnaire concerning the impact of SNAMA system on the account

ability of financial statements is equal to 3.5000, i.e. greater than the average value.

Table 7: One-sample t-test for the comparison of the mean with the average value (3)

	t	df	Significance
Impact on the accountability of financial statements	12.267	79	0.000

According to the significance test ($p < 0.05$), the respondents showed consensus with the issues raised about the impact of SNAMA system on the accountability of financial statements.

Comparison of Mean Scores between the Dependent Variables

Null hypothesis: The mean scores of multiple factors are the same. Opposite hypothesis: At least one pair of the mean factors does not have the same rank.

Table 8: Results of Friedman's test for ranking each of the dependent variables

Number	80
Chi- square	154.589
df	2
Significance	0.000

Considering the level of significance (0.000), which is less than 0.05, the hypothesis of equal average ranks is rejected and the dependent

variables are statistically different. The values of the ranks are presented in Table 4-10.

Table 9: The rank of each dependent variable

Dependent variables	Rank
Audit of financial statements	3.06
Transparency of financial statements	2.15
Accountability of financial statements	2.86

Discussion and Conclusion

The First Hypothesis

Based on one-sample t-test, a t value of 14.683 was obtained with a significance of 0.000 (Table 3), which represents the consensus of respondents regarding the use of SANAMA system for the audit of financial statements. The audit operations and accreditation of financial and operational reports are parts of the accountability process. Given the emphasis of auditing standards, the financial statements audited by the auditors are suitable means to transfer reliable information.

In other words, the auditor validates the claims prepared by someone else in the form of financial statements and increases the reliability of information used in the process of accountability and economic decisions.

Financial statements of organizations and governmental agencies show the responsibility of executives for the financial management of the state module. Accordingly, in order to ensure users of the financial statements prepared in accordance with accounting standards and financial reporting drafted by the authorized officials and also for full disclosure of important cases, an independent auditor's report should be presented together with financial statements. Due to the properties of SANAMA system, audit of financial statements prepared by executive bodies will be conducted appropriately, and plays effective roles in the audit and accreditation of their financial statements.

This result is in line with a research by A below (2010), who stated that companies routinely use IT audit function to provide assurance of IT controls and ensure compliance with certain legal requirements or industry. With the growth of investments in information technology, IT auditing can ensure that risks are under control and there are no possibilities of large losses. As a result, based on the views of experts active in the field of research theme, the outcome of the procedure could be positive and in line with the aims of the Ministry of Economic Affairs and Finance in the field of

government's IT. The result of this hypothesis is consistent with the expectation of present research, which provides one of the aims of the project implementation by the government.

The Second Hypothesis

Based on one-sample t-test, a t value of 14.831 was obtained with a significance of 0.000 (Table 3), which represents the consensus of respondents regarding the use of SANAMA system for the transparency of financial statements. The transparency of budget means the quality of budget information and its ability to respond better to the public. According to a definition, transparency of budget is: "information provided concerning the reports on financial and budget operations to the parliament and the public must disclose the quality of execution and the operation of government.

"Budget transparency strengthens the accountability and increases the political risk corresponding to insisting on policies contrary to the national interest, thereby, adds to the credibility of the budget. It also renders public support for macroeconomic policies. In contrast, non-transparent management of budget may lead to instability, inefficiency or exacerbated inequality.

In the global village, budget crisis in a country may potentially spread to other countries, hence, this issue has gained international significance so that the Interim Committee of the Board of Directors of the International Monetary Fund (IMF) approved, declared enforceable criteria for the transparency of budget at its fifth meeting on 16 April 1998. Since the financial statements of executive institutes are identically sent to the Office of Centralization and Integration of Accounts to be verified according to the protocol of SANAMA system, they significantly impact the transparency of financial statements of executive bodies. The result of this hypothesis agrees with a study by Azar (2001), who examined the effect of electronic processing system on audit procedures and transparency of financial statements.

The results showed that the electronic processing systems affect the audit

procedures of independent auditors and transparency of financial statements and, in general, the effects and consequences of SANAMA system on the clarity of statements were assessed to be positive. Moreover, the extent of this impact on audit procedures was different.

The Third Hypothesis

Based on one-sample t-test, a t value of 12.267 was obtained with a significance level of 0.000 (Table 3), which represents the consensus of respondents regarding the role of the above factors in influencing enhanced accountability of financial statements. According to the test results and based on the observed consensus, the role of SANAMA system is confirmed in increasing the accountability. The result of this hypothesis is in accordance with a finding by Jameie and Karamzadeh [4], whose study was entitled "The role of information technology on the advancement of accrual accounting system in medical universities of Iran (Kermanshah University of Medical Sciences).

Their results showed that IT plays an important role in planning and decision-making of managers, data and information management, evaluation of personnel and organizational performance, increased information security, practices of financial reports, and human resource management, all of which are effective in promoting accrual accounting system; a basic element for the impact of these factors can be a suitable IT proportional to that system.

One of the goals of SANAMA system is to promote the responsiveness of executive bodies and active people in the field of annual national budget performance statement believe that the implementation of this system has improved the responsiveness of executive bodies, therefore, the effects and consequences of this system on the responsiveness of executive agencies were assessed to be positive.

Propositions

Based on the First Hypothesis

Taking into account the effect of SANAMA system on the audit of financial statements, it is proposed that:

Other regulatory agencies such as the Court of Audit and the Auditing Organization to use this system in auditing the financial statements of executive bodies in accordance with their own procedures.

Appropriate training courses should be held for auditors in the Offices of Centralization and Integration of Accounts to audit financial statements based on the SANAMA system.

Given the extent of changes occurred in the preparation of financial statements, executive bodies should become familiar with the preparation of financial statements in accordance with accounting standards for the public sector by attending appropriate training courses.

Propositions Based on the Second Hypothesis

Considering that the use of IT in the SANAMA system provides clarification of the information sent by executive bodies through the provision of online information, it is recommended that the analysts of issues related to the fiscal domain of government to take advantage of the possibility provided.

As the use of IT in the SANAMA system reveals actual performance of executive bodies in an understandable form, the authorities of assessing the performance of executive agencies can make use of this system in this regard.

Propositions Based on the Third Hypothesis

Due to the impact of IT usage in the SANAMA system on the accountability of financial statements, the following issues are recommended:

- Quick and easy access of parliament members, analysts, and other users to the system output reports.

The responsiveness of government, which originates from respecting people's rights, and people demand for responsiveness as

their authentic right in an Islamic system are the necessities of today's community in Iran. This proposition has been presented according to Article 55 of the constitution providing that a budget settlement should be made public, and also the second principle of the government's financial statistics system in elucidation of budget (public access to information) as well as Article 174 in Statement 1 of the delegation of government's accounting standard that requires the purposes of financial reporting should consider the information needs of all users while taking into account the impacts of environmental attributes of both governmental and commercial activities.

Thus, the basis for accountability is provided and only culturalization and habituation among governmental managers are necessary to perform their duty of accountability. Correspondingly, familiarization of people with their social and economic rights in reviewing and evaluating the performance of government and officials leads to the development of a serious and persistent culture of demanding responsiveness and also sensitizes people to assess the performance of government. This will unconsciously persuades the government to pay attention to the governmental reporting system as a tool to fulfill the accountability and undertake reforms necessary to allow the task of responsiveness. Therefore, it is recommended that all-inclusive measures to be taken in social and cultural fields in order to promote the culture of accountability by the government and public demands for responsiveness so that public use of

SANAMA system becomes possible to assess the performance of executive bodies.

- Raising the level of skills and scientific abilities of financial controllers and finance managers

Since the main task of a financial controller is to monitor expense procedures and their accommodation with the financial regulations and accounting rules, effective and continuous training courses should be held in the fields of finance, accounting and laws to raise the levels of skills and abilities of financial controllers and fiscal managers of executive agencies as needed, and those who are appointed as chief financial officer of executive bodies should have acquired special education with scientific and administrative certifications.

In addition, the requirements for education and amendment of professional status of financial controllers, establishment of unification, employment of experienced and competent people rather than less experienced ones, and support of financial controllers should be accomplished by senior executives of the Ministry of Economic Affairs and Finance and other relevant authorities. Furthermore, the Ministry of Economic Affairs and Finance should oblige executive agencies to provide potent employees and required facilities for financial controllers such that fiscal managers and financial controllers of executive agencies can easily perform the duties of timely control and supervision.

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