

RESEARCH ARTICLE

## Evaluation of internal audit effectiveness in Tehran Stock Exchange (TSE)

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### Abstract

Recently, internal auditing has received much attention due to its importance. Although, its activity domain was restricted only to control, its activity range has developed in wide range of services. The main aim of this study is to survey and determine the degree of internal audit effectiveness in internal controls improvement in firms listed in TSE. To do so, 152 people are selected as sample through random sampling. Researcher-produced questionnaire is used to collect data and Chi-square to test hypotheses. The results show that internal auditing leads to increase internal control effectiveness in the firms listed in TSE.

**Keywords:** *Audit effectiveness, COSO, Internal audit, Internal controls.*

### Introduction

Internal auditing is enjoying a level of prominence and attention unlike ever before. Accounting scandals at Enron, WorldCom, and other companies have led to an intense focus on corporate governance, effective oversight, and sound internal controls [1]. This has generated significant debate about the role that both audit committees and internal audit can play in strengthening governance [2, 3]. Therefore, the importance of good corporate governance has received significant public attention. A crucial part of an entity's corporate governance is its internal audit function. At the same time, there has been significant public concern about the level of fraud within organizations [4]. In this regard, definition of Internal auditing by the IIA demonstrates that "the internal auditing activity should evaluate and contribute to the improvement of risk management, control and governance" [5]. In addition, internal auditors perform the same type of work and often have similar objectives as external auditors. External auditors can therefore increase efficiency and effectiveness by utilizing internal audit work [6]. Moreover, changes to the definition of internal auditing have increased the scope of internal audit by explicitly including consulting activities [3]. All of these show increasingly growing the importance of internal audit.

According to Committee of Sponsoring Organizations of the Treadway Commission (COSO), "Internal control is a process-effected by an entity's board of directors, management, and other personnel—designed to provide reasonable assurance regarding the achievement of objectives in the following categories: (a) reliability of financial reporting, (b) effectiveness and efficiency of operations, and (c) compliance with applicable laws and regulations". The Committee categories it into five interrelated components of Control environment, Risk assessment, Control activities, Information and communication systems and Monitoring holding 17 principles. An effective system of internal control provides reasonable assurance regarding achievement of these three objectives. To have an effective system of internal control relating to one, two or all the categories of objectives each of the five components must be present and operate together in a manner that reduces the risk of not achieving an objective [7]. In this regard, considering the development of business environment, Gupta (2009) suggests that the COSO (1) should reevaluate the suitability of the COSO 1992 Framework in light of the new demands placed on it to meet the Section 404 requirements for a binary conclusion on the effectiveness of internal control over financial

reporting; (2) should carefully and objectively assess whether the reliance on the current guidance by the management to assess and report on controls is as efficient and effective as possible to minimize the “unintended” consequences associated with Sections 302/404 certifications including the excessive compliance costs being incurred and the significant erosion in the position of the United States as the preeminent global capital market [8]. It is while COSO recently released its draft for internal control-integrated framework substituting 1992 framework.

Considering the importance of internal audit, the present survey tries to evaluate Evaluation of internal audit effectiveness in TSE and, doing so, suggest some remarks to improve it.

## Literature Review

Internal control represents an organization’s plans, methods, and procedures used to meet its missions, goals, and objectives and serves as the first line of defense in safeguarding assets and preventing and detecting errors, fraud, waste, abuse, and mismanagement [9]. Major recent financial scandals demonstrate that when those charged with governance don’t act in the interest of shareholders and do not identify, evaluate and respond to the company’s risks and do not have incentive to set up internal control system, companies are fated to failure and public confidence in the capital markets is put to risk. In this regard, internal audit effectiveness results in good corporate governance and because of this it is important to evaluate it. In continuation of the article the surveys conducted in the regard all over the world is presented.

Noorvee [10] surveyed the effectiveness of internal control over financial reporting and reported three main findings: 1- It is easier to develop internal control in smaller companies due to less personal, more personal contract and less administration. 2- The effectiveness of internal control does not automatically mean the financial success of the company due to inherent limitations. 3- In fast growing companies, the manager’s attention has primarily been on the growth and development of figures and less on the internal development of company management and control system [10].

Nassir et al. [11] surveyed the effectiveness of the internal auditor in Malaysian listed firms. Their findings suggest that interpersonal

skills, internal auditor's commitment and support from audit committee and Board of Director, audit performance and integrity, audit department

efficiency, internal competencies, internal auditor's knowledge on company's business operation and industry, and auditor's independence as important attributes of a quality internal audit function. In addition, they assert that the identified factors that are perceived as important for effective internal audit function will help the internal audit department to evaluate and revise the current procedures to improve the overall quality of internal audit. Coram et al. [4] find that organizations with an internal audit function are more likely than those without such a function to detect and self-report fraud. Furthermore, organizations that rely solely on outsourcing for their internal audit function are less likely to detect and self-report fraud than those that undertake at least part of their internal audit function themselves. Their findings suggest that internal audit adds value through improving the control and monitoring environment within organizations to detect and self-report fraud. They also suggest that keeping the internal audit function within the organization is more effective than completely outsourcing that function. Asare et al. [12] manifest that internal auditors serving in a either a self-assessment role or a due diligence role are sensitive to variations in management performance incentives, linked these variations to fraud risk assessments and altered their audit plans accordingly. With respect to audit committee quality, internal auditors in both roles are sensitive to variations in quality, but the responses to quality variations depended on whether they were in a due diligence or self-assessment role. With respect to the former, they link the variation in quality to fraud risk, but do not alter the scope of their planned audit effort. With respect to the latter, they neither link the variations in quality to fraud risk nor to planned scope. Karagiorgos et al. [13] evaluated the effectiveness of internal audit in Greek hotel business. Their results show that, all the components of internal control system are highly rated and control environment component of internal control system is the most highly rated item with a mean of 4.03 while monitoring is the least rated item with a mean of 4.12. Overall, their results stress the efficient functioning of all components of internal control system and their decisive role in the efficient functioning and consequently success of Greek hotel business. Arena and Azzone [14] demonstrate that the effectiveness of internal audit is influenced by: (1)

the characteristics of the internal audit team, (2) the audit processes and activities, and (3) the organizational links. Internal audit effectiveness increases in particular when the ratio between the number of internal auditors and employees grows, the Chief Audit Executive is affiliated to the Institute of internal auditors, the company adopts control risk self-assessment techniques, and the audit committee is involved in the activities of the internal auditors.

As it is obvious, all the surveys mostly emphasize on the fraud detection role of internal control, however, recently, the emphasis is on its role in corporate governance and value adding too.

### Research Hypotheses

Main hypothesis: internal audit increases and improves internal audit effectiveness in (TSE).

Sub-hypotheses:

- Internal audit increases effectiveness and efficiency of operating in firms listed in TSE.
- Internal audit increases reliability of financial reporting in firms listed in TSE.
- Internal audit increases effectiveness of compliance with laws and regulations in firms listed in TSE.
- Internal audit increases effectiveness of economic use of resources in firms listed in TSE.
- Internal audit increases effectiveness of safeguarding of assets in firms listed in TSE.

### Methodology and Data

The present study is descriptive –survey study since it uses questionnaire to collect data. The population consists of independent auditors and financial managers of firms listed in TSE. The number of these firms is 337 for different industries and the number of internal and independent auditors and financial managers is

1500. Then, Cochran's formula is used to test the required sample number. The formula is as following:

$$n = \frac{Nt^2 pq}{Nd^2 + t^2 pq}$$

Where:

N: population (1500 people)

T=Z= variable size in normal distribution equals 1.96

P= percentage of attribute distribution in population which is considered 5%

Q=percentage of missing attributes in population which is considered 5%

D=actual difference of attributes in population which is considered 5%

Therefore, putting these numbers in the formula, required sample is obtained as following:

$$n = \frac{1500 \times (1/96)^2 \times (0/5 \times 0/5)}{1500 \times (0/5)^2 + (1/96)^2 (0/5 \times 0/5)} = 152$$

Then, 150 people are selected as the research sample. Researcher-produced questionnaire is used to collect data and Ch-square to test hypotheses. To do so, SPSS software is used. Four questions are designed according to Likert scale for each variable and distributed among sample. The Cronbach Alpha coefficient is used to test the reliability of the questionnaire which is 0.82 and acceptable.

### Research Results

Since in this survey there is only one group which is auditors and also the survey is correlation study, One-Sample Statistic can be used. Sub-hypothesis 1: Internal audit increases effectiveness and efficiency of operating in firms listed in TSE.

**Table 1: One-Sample Statistic for testing the effect of internal audit in effectiveness and efficiency of operating**

□□	Description	Test prop.	Observed* prop.	□□	degree of freedom	Sig
□	Internal audit activity in the firm results in accurate and timely record of firm`s activity	□	□□□□	□□□□□	□□□	□□□□□
□	All firm`s obligations are recorded through internal audit	□	□□□□	□□□□	□□□	□□□□□

<input type="checkbox"/>	Internal auditors through monitoring improve process in the firm	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
<input type="checkbox"/>	in our firm, internal audit activity is more than only financial control and traditional stewardship and internal audit through offering suggestions have an important role in operating efficiency improvement	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
Total	the effect of internal audit on effectiveness and efficiency of operating	3	□□□□	□□□□□	□□□	□□□□□

\*The score which respondent gives to the questions related to survey hypotheses and frequently spreads between one and five

According to Table, it is inferred that because calculated  $\chi^2$  is 12.53 and significance level is 0.001, our hypothesis is accepted and since Observed Prop (3.71) is more than Test Prop. (3),

it can be inferred that respondents regard internal audit as effective tool for increasing effectiveness and efficiency of operating in firms listed in TSE.

Sub-hypothesis 2: Internal audit increases reliability of financial reporting in firms listed in TSE.

**Table 2: One-Sample Statistic for testing the effect of internal audit in reliability of financial reporting**

$\chi^2$	Description	Test prop.	Observed prop	$\chi^2$	degree of freedom	Sig
<input type="checkbox"/>	Internal audit reports increase the management reliability on audit department	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
<input type="checkbox"/>	If there occurs fraud or deviations in financial statements, internal auditors detect and report them to correct and through this the reliability of financial statements increases	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
<input type="checkbox"/>	In this firm, internal auditors care to comply accounting standards and financial events to correctly appear in accounts	<input type="checkbox"/>	□□□□	□□□□□	□□□	□□□□□
<input type="checkbox"/>	Firm's management emphasize on financial statements attested by internal audit	<input type="checkbox"/>	□□□□	□□□□□	□□□	□□□□□
Total	the effect of internal audit on reliability of financial reporting	3	□□□□	□□□□□	□□□	□□□□□

According to Table, it is inferred that because calculated  $\chi^2$  is 15.88 and significance level is 0.001, our hypothesis is accepted, that is, internal audit increases reliability of financial reporting in firms listed in TSE.

Sub-hypothesis 3: Internal audit increases effectiveness of compliance with laws and regulations in firms listed in TSE.

**Table 3: One-Sample Statistic test for testing the effect of internal audit in effectiveness of compliance with laws and regulations**

$\chi^2$	Description	Test prop.	Observed prop	$\chi^2$	Degree of freedom	Sig
<input type="checkbox"/>	Internal audit increases discipline in the firm	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
<input type="checkbox"/>	The financial reports accuracy increases through internal audit monitoring	<input type="checkbox"/>	□□□□	□□□□□	□□□	□□□□□
<input type="checkbox"/>	In this firm, internal auditors control financial events through scientific methods, monitoring of internal statements and standards	<input type="checkbox"/>	□□□□	□□□□	□□□	□□□□□
<input type="checkbox"/>	Through the process of expense and revenue forecasts by internal auditors, financial discipline is established in the firm	<input type="checkbox"/>	□□□□	□□□□□	□□□	□□□□□
Total	the effect of internal audit on effectiveness of compliance with laws and regulations	3	□□□□	□□□□	□□□	□□□□□

According to Table, it is inferred that because calculated  $\chi^2$  is 7.30 and significance level is 0.001, our hypothesis is accepted, that is, internal audit increases effectiveness of compliance with laws and regulations in firms listed in TSE.

Sub-hypothesis 4: Internal audit increases effectiveness of economic use of resources in firms listed in TSE.

**Table 4: One-Sample Statistic test for testing the effect of internal audit in effectiveness of economic use of resources**

□□	Description	Test prop.	Observed prop	□□	Degree of freedom	Sig
□□	Internal audit protects form increasing fraud and error in financial reporting	□	□□□□	□□□□□	□□□	□□□□□
□□	Internal auditors continuously observe the warnings about costing and cost centre and respond to them and through this take part in optimal use of resources and efficiency	□	□□□□	□□□□□	□□□	□□□□□
□□	Internal auditors through continuously internal control evaluation, effectiveness of risk management, detecting wasting the resources and inefficiency and suggesting resolutions for them and also recognizing potential opportunities cause to operating improvement and value creation	□	□□□□	□□□□□	□□□	□□□□□
□□	Internal audit is a motive for adaptation of new systems by managers and setting successful informational systems and detect the need for informational systems changes	□	□□□□	□□□□	□□□	□□□□□
total	the effect of internal audit on effectiveness of economic use of resources	3	□□□□	□□□□□	□□□	□□□□□

internal audit does not increase effectiveness of economic use of resources in firms listed in TSE.

According to Table, it is inferred that because calculated □□ is -2.58 and significance level is 0.011, our hypothesis is not accepted, that is,

Sub-hypothesis 5: Internal audit increases effectiveness of safeguarding of assets in firms listed in TSE.

**Table 5: One-Sample Statistic test for testing the effect of internal audit in safeguarding of assets**

□□	Description	Test prop.	Observed prop	□□	degree of freedom	Sig
□□	Internal audit by monitoring equipments safety and insurance cover of them has important role in safeguarding of assets	□	□□□□	□□□□	□□□	□□□□□
□□	Applicable forecasts done by internal auditors reduce firms risk	□	□□□□	□□□□	□□□	□□□□□
□□	Internal auditors through closed circuit televisions in financial and operational environments have an important role in protecting misusing of assets and resources in firm	□	□□□□	□□□□□	□□□	□□□□□
□□	Internal audit is a motive for adaptation of new systems by managers and setting successful informational systems and detect the need for informational systems changes	□	□□□□	□□□□□	□□□	□□□□□
total	the effect of internal audit on effectiveness of economic use of resources	3	□□□□	□□□□□	□□□	□□□□□

According to Table, it is inferred that because calculated □□ is 14.37 and significance level is 0.001, our hypothesis is accepted, that is, internal audit increases safeguarding of assets in firms listed in TSE [15].

### Results

In this study, the degree of internal audit effectiveness in internal controls improvement in firms listed in Tehran Stock Exchange (TSE) is surveyed. To do so, 152 people are selected as sample though random sampling. Researcher-produced questionnaire is used to collect data and Ch-square and Pearson correlation coefficient to test hypotheses. 150 people are selected as research sample. Four questions are designed according to Likert scale for each variable and

distributed among sample and the Cronbach Alpha coefficient is used to test the reliability of the questionnaire. The results show that internal audit leads to increase internal control effectiveness in firms listed in TSE. In addition, the findings indicate that: 1- internal audit activities may cause more effectiveness in financial process in firms. 2- Exact monitoring by internal auditors may result in investor's confidence augmentation. 3- Internal auditors though warning non-compliance cases of financial discipline cause to more effectiveness of compliance with laws and regulations. 4- Internal audit may warn the accurate methods of resources usage for employees. 5- Internal audit by reporting exact and structured reports related to firms assets, protect from its waste.

## Suggestions

- Considering the results of the survey, existence of efficient and effective internal audit unit causes to decrease operating time and reducing firm's costs such as auditing costs. However, considering that unacquainted managers may ignore internal audit, therefore, in order to increase effectiveness and efficiency of internal audit and finally reducing time and firms operating cost and using other services of internal control, necessary trainings to be performed to managers.
- It is suggested that firms in order to increase the level of investor's confidence, internal controls governed in financial reporting is designed and applied to achieve reasonable assurance in terms of timeliness and reliability of financial reporting.

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- It is suggested that firms in order to increase the level of compliance of laws and regulations, set internal regulation, organizational discipline, control environment to be established in a way that it sets the tone of other component of internal control.
- 4-It is suggested that firms consider following internal control to increase effectiveness of safeguarding of assets:

Use Health and Safety Executive (HSE).

Use enough and timely insurance cover for firms assets.

Plant, equipment and properties to be counted periodically and compared with evidence.

- It is suggested that internal auditors train employees regarding the accurate handling of resources in order to increase effective and efficiency of economic use of resources and value creation.