

# Investigation Factors Affecting the Effectiveness of Internal Auditors in the Company: Case Study Iran

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## Abstract

There are relatively fewer number of studies focused on internal audit effectiveness, than the number of studies on the effectiveness of external audit. Our focus in this paper is mainly on determinants of internal audit effectiveness. For this purpose we developed and tested five hypotheses using an investigation approach. We gathered our data using a questionnaire, filled out by 355 internal audit manager and 272 other internal audit staff.

Our multivariate regression model estimates the relationships between the effectiveness of internal audit department and its five main determinants: competency of internal audit staff, size of internal audit department, communications between internal auditors and external auditors, management's support for internal audit department, and independent (outsourced) internal audit.

Our results show that internal audit effectiveness has stronger relationships with management's support for hiring and experienced educated staff, providing the internal audit department with sufficient resources, and the size of internal audit department.

**Keywords:** efficiency, internal audit, management support

## 1. Introduction

Internal audit provides assurance on organization's strategic procedures, risk management and control, and help organization in meeting its strategic, operational, financial, and regulatory objectives. Internal audit activities are performed in different legal and cultural environments, in organizations with different objectives, size, complexities and structures, and by different internal or external parties. Although these differences may affect internal audit methodology in every environment, as long as internal auditors are seeking to meet their responsibilities, they must apply International Standards for the Professional Practice of Internal Auditing.

The traditional role of internal auditors was focused merely on financial estimations and monitoring internal controls. In recent years, however, the importance of internal audit has been significantly increased to consider a wider role of internal consultant for better risk management performance. In this respect, the important point is how internal audit department follows its determined objectives effectively. This paper, following a number of previous international studies (e.g., Ahmad et al., 2009; Mihret & Yiamaw, 2007; Dittenhofer, 2001) is focused on investigating and assessing internal audit effectiveness.

In a study, Arrena and Azone (2009) found that the qualities of inner audit groups, audit systems and activities, and hierarchical connections can have effects of inside audit viability.

Utilizing a meeting and survey methodology, Mirth and Yiisma (2007) recognized those authoritative attributes that can enhance or abatement inner audit adequacy.

They found that the nature of inner auditors fundamentally influences inside audit adequacy. In any case, authoritative settings and audit properties demonstrated almost no effects.

Likewise, past studies have used diverse measures for inward audit viability, including internal audit scores (Arwna & Azzone, 2009; Van Gansberght, 2005) or similarity with International Standards for the Professional Practice of Internal Auditing (ISPPA) (Fadzil et al., 2005).

Nik-khah Azad and Ghannad (1998, 1999) found that despite vast growth and developments in internal audit services in developed countries, empirical evidence proves of limited activities of this profession in Iran. They also identified 31 factors stopping the development of internal audit in Iran. In this paper, we prioritized these factors in three groups: organizational factors, environmental factors, and other factors.

Alzeban (2014) study evaluates the factors affecting the effectiveness of internal audit. The results show that the support of management, experienced staff, provide adequate resources and an independent internal audit department's effect on internal audit effectiveness.

This study considers different measures for internal audit effectiveness, including planning ability, improvement in organizational productivity, examining the consistency of results with formal objectives, implementation of internal audit advices, assessment of the system of internal controls, and providing recommendations for its improvement. Moreover, this paper tries to explain stakeholders' perceptions on internal audit effectiveness using measures such as competency of internal auditors, the size of internal audit department, relationships between internal auditors and external auditors, and the level of management support for internal audit performance. These factors are identified based on a review of previous studies (see Alzeban & Sawan, 2013; Soh & Bennie, 2011; Ahmad et al., 2009; Mihret & Yiamaw, 2007; Ali et al., 2007; Sarens & Beelde, 2006; Carcello et al., 2005; Brierley et al., 2001, 2003), along with studying the performance of internal audit departments, guidelines on the international standards for the Professional Practice of Internal Auditing (ISPPIA) published by the international institution for internal audit (IIA), and other available documents and evidence.

Drogalas et al. (2015) study investigates the specific factors associated with internal audit effectiveness in the Greek business environment. The findings indicate that the main factors affecting internal audit effectiveness are: (1) quality of internal audit, (2) competence of internal audit team, (3) independence of internal audit and (4) management support.

Many studies have used the perception of external auditors in assessing the effectiveness of internal audit, and have paid limited attention on the perceptions of other stakeholders and interested parties in internal audit. This study provides a wider prospect using perceptions of different groups in assessing the effectiveness of internal audit. For example, internal audit managers are included as interviewees; this is while previous studies intended to use opinions of external auditors or chief audit managers on internal audit effectiveness.

Measuring effectiveness is a key aspect of perceiving effectiveness and quality of internal audit. Previous studies have made use of different measurement methodologies and techniques. Some of studies have focused on the level of conformity with International Standards for Professional Practices in Internal Audit (ISPPIA) (Fadzil et al., 2005). However, this approach for full focus on implementation of standards has been heavily criticized as it is not necessarily represent the concerns of stakeholders.

Various studies have considered the effectiveness of internal audit as its ability to meet the needs of external auditors (e.g., Frigo, 2002; Ziegenfuss, 2000). These studies mainly try to measure the level of external auditors' satisfaction from internal audit activities.

Deartinhoffer (2001), in support of internal audit potentials suggested that wider actions should be taken by internal auditors to meet their objectives. Undoubtedly, this concept requires assessment of business activities observed by internal auditors, and can have potential influences, including on integrated performance.

Related studies concentrate on the capacity of inward audit to effectsly affect the nature of corporate administration (Gramling et al., 2004; Sarens, 2009).

Despite the extant justifications that quality is only one aspect of effectiveness, and the fact that the costs incurred to attain a particular level of quality also need to be considered only a few studies have utilized direct economic measures in this respect (Cashel & Aldhizer, 2002). Having that in mind, studies that fail to consider the relationship between quality and cost can in their best attempt only provide a partial explanation of the concept of effectiveness. Although this reasoning is a quite valid one, difficulties in gathering reliable data on internal audit costs can justify the fewness of the number of studies performed in this area (this is while, in their assessments of quality, auditors might consider an implicit concept for effectiveness).

This paper utilizes a specific measure for internal audit effectiveness, which is based on the quality of performance that can be observed by auditors, in particular audit managers, of the firm. This wide measurement is performed by a big population of auditors, who responded to questions about different aspects of audit performance, including: planning capacities, change of authoritative profitability, the appraisal of the level of similarity of results with set goals and targets, usage of proposals, assessment and change of risk administration, assessment of interior controls, and giving suggestions to upgrades.

No specific economic information was gathered, but rather an economic question was designed to examine the optimum usage of resources.

### *1.1 Factors Affecting the Effectiveness of Internal Audit*

We chose our hypotheses based on the extant literature along with opinions of credible professional organizations, particularly those of the Institute of Internal Auditors (IIA). A review of mentioned resources reveals five main factors related to the effectiveness of internal audit: competency of internal audit staff, communications between internal and external auditors, management's support of internal audit department, and independence of internal auditors. The reasons behind choosing each of the abovementioned factors will next be discussed in detail. For each of these factors, the related professional statements as well as previous literature is shortly reviewed with an emphasis on its history in developed and emerging markets.

#### *1.2 The Competency of Internal Audit Staff*

Internal auditors must possess appropriate knowledge, skills and other competencies necessary for undertaking their personal responsibilities. Internal audit department, as a whole, also needs to have or attract the required knowledge, skills and other capabilities and competencies for meeting its responsibilities. If internal audit lack knowledge, skills, or other capabilities and competencies needed to perform all or part of their assurance services, the head of the internal audit department should make use of powerful and competent consultants to compensate for such deficiencies of the department. Internal auditors must have sufficient knowledge needed for identification of symptoms, and signals of, and examination of fraud risk, but they are not expected to be as skillful and proficient as those who are in charge of fraud detection.

The competency of internal audit staff is a key component of efficient internal audit practice (IIA, 2006). Standard-setters have always emphasized on the importance of internal auditors who present appropriate level of knowledge, skills, and other competencies needed to meet tasks and responsibilities of internal audit department (ISPPA).

Also, competency is considered as the key measure for depending on the work of inner auditors by external auditors (Al Twaijry et al., 2004).

Past studies have concentrated on staff's needs and necessities for achieving an abnormal state of adequacy.

Ali et al. (2007) and Ahmed et al. (2009) ponders the significance of inside audit in Malaysia's public sector, and understood that not meeting the fundamental prerequisites, and learning, by inner audit staff negatively affects the part of inside audit; they proposed training as an essential need for development of inward audit in Malaysia.

Scheiv (2000) recognized various elements influencing inward audit performance, including inadequacy of internal audit. Comparable results are gotten in other developing countries.

Studies on the nature of inner audit (Brierley et al., 2001, 2003), for occurrence, have distinguished the low quality of staff as a component restricting the performance of internal audit department.

Different studies have alluded to the low quality of inner audit staff as a factor that crumbles the inward audit department (Mihret & Yismaw, 2007); these studies demonstrate that internal audit staff lack appropriate educational qualifications, and continued professional training is expected to empower them enhance their abilities and capacities. In light of this ground, the accompanying hypothesis is produced:

H1: there is a significant relationship between internal audit effectiveness and competency of internal audit staff.

#### *1.3 The Size of Internal Audit Department*

Internal audit performance needs to be equipped with sufficient resources so that the department can satisfy its responsibilities properly. ISPPA in resource management standard states that an executive audit manager is needed to assure that internal audit resources are appropriate and sufficient, and are utilized effectively. One of responsibilities of audit committees is to inform senior management of any resource deficiencies (ISPPA, standards 1409 and 1609). Sufficient number of internal auditors should be hired, and training should be continued to assure continual professional competency of internal auditors.

Previous studies show that when there is sufficient number of staff the quality of internal audit will probably increase. Ali et al. (2007), for example, stated that the most intensive problem for internal audit is coping with lack of competent staff. Another study by Ahmed et al. (2009) reported that, according to respondents, "fewness of internal auditors" was the main reason limiting the success of internal audit performance in Malaysian governmental organizations. They suggested that with strong management support, internal audit department

should have access to sufficient human resource and other types of resources needed to enable employees successfully meeting their responsibilities.

Other studies show that there is a relationship between enough number of internal audit staff and the ability of internal audit department to fulfill its responsibilities (Mihret & Woldeyohannis, 2008; Brierley et al., 2001, 2003). Breley et al. (2003), for instance, showed that internal audit department severely suffered from lack of sufficient staff, which limited their ability to carry out the tasks of internal audit department. Based on this background, our second hypothesis is as follows:

H2: there is a significant relationship between internal audit effectiveness and the size of internal audit department.

#### *1.4 Communications between Internal Auditors and External Auditors*

It is necessary that the head of internal audit department provide required information to internal and external auditors who render assurance and consulting services; the chief internal auditor also needs to coordinate their activities to assure that all affairs are covered sufficiently, and any possible rework is at the lowest level.

The significance of coordination and participation between inner examiners and external inspectors has for some time been considered as advantages of inside audit for the association, and external partners.

Examples incorporate joint planning and correspondence of data, sentiments, and reports with a specific end goal to encourage astounding audits, including aversion of pointless revamps.

Proficient guidelines have considered the connections between inward auditors and external auditors. ISPPIA, for instance, in cooperation standard demonstrates that collaboration in the middle of inner and external auditors ought to incorporate sharing data and coordination of activities.

Applying these standards requires proficient interchanges in the middle of inside and external auditors which thusly help internal auditors in achieving their goals and giving better administrations.

From external auditors' perspective, data acquired by inside auditors will probably help creating a superior audit sentiment, and likely in situations where outer auditors can depend on the work done by inner auditors, efficiency can likewise be made strides.

Investigative studies demonstrate that proper participation can enhance productivity and adequacy of audits, and helps administration give higher quality administrations. Trouble in the middle of inner and external auditors is regularly perceived as a component harming the nature of both sorts of audit.

Brierley et al. (2001) and Almohaimeed (2000) demonstrated that trouble in the middle of inner and outer auditors can influence the nature of external audit. This leads us to our third hypothesis as takes after:

H3: there is a significant relationship between internal audit effectiveness and close correspondences in the middle of internal and external auditors.

#### *1.5 Management's Support for Internal Audit*

The head of internal audit department should provide senior management with a detailed plan of internal audit activities indicating required resources, including significant interim changes, so that senior management can review and approve it for further progress with other deciding authorities in the company.

The definition of internal audit by IIA includes issues like good monitoring which relies to some extent on professional management in assuring accurate internal audit performance. Senior managers, showing their agreement with this idea, have considered a higher significance for internal audit performance, and have changed their expectations from internal audit department (Carcello et al., 2005). Having management's support, internal auditors can have access more resources for undertaking their tasks and meeting their responsibilities, an internal audit department can hire competent employees, train them, and finally improve their capabilities and efficiency (Alzeban & Sawan, 2013). In addition, ISPPIA has emphasized on the importance of management's support in removing any limitations in access and budgets which impede the internal audit department's better performance.

The path in which senior administration demonstrates its backing likely gives an essential sign about the role and value of inner audit everywhere throughout the organization. This backing, thusly, helps empowering inward audit office for completing its undertakings and obligations. ISPPIA accentuates on the significance of correspondences between inner auditor and senior administration, and how administration underpins inward audit.

Inward audit department needs to give sufficient and dependable reports about occupations finished, conclusions, and proposals to senior administration.

In nations where universal inward audit practices are applied, the head of audit office ought to intermittently give senior administration and audit board with reports on goals, believability, and related execution (ISPPA, Standard no. 2060).

Past studies have specified backing from senior administration as the fundamental segment for effective inward audit. Ahmed et al. (2009) found that, after the competency of inward audit staff, administration's backing is the second most critical determinant of inside audit adequacy.

They showed that with management's support, internal audit recommendations will likely be implemented and internal audit department is well supported in terms of the number of staff and needed financial budgets. Mier and Yiisma (2007) showed that lack of support by management accompanied by creation of a weak attitude towards internal audit, negatively affects performance of internal audit department, because it is not considered as a high priority by senior management. Van Gansberghe (2005) showed that to be effective, internal audit department needs management's approval and appreciation of involvement and values that internal audit can add to their organization. Baltic and Yelmaz (2006) stated that internal audit effectiveness can be improved through assignment of an appropriate part of total budget. Without this, senior management might opt for reducing some resources when feels threatened. Management's support also may be reduced if management fails to implement internal audit recommendations. Such indifference can impair the effectiveness of internal audit to some extent (Van Gansberghe, 2005). Implementation of internal audit recommendations is considered as a strong measure for effectiveness of internal auditors (Van Gansberghe, 2005).

According to this, our fourth hypothesis is defined as follows:

H4: there is a significant relationship between internal audit effectiveness and more management support.

#### *1.6 Independent Internal Audit*

Internal audit activity should be independent, and internal auditors should be objective while carrying out their tasks. Independence, in this sense, means being free from conditions which threat internal auditors' ability to fulfill their responsibilities in an objective manner. Objectivity means a mental attitude free from any bias in internal audit activity, which allows internal auditors implement plans that they believe in their work while no compromise is needed in terms of the quality of their work.

Auditor's independence in long run is considered as the key driver of auditor's role. Although during times there has been much emphasis on the independence of external auditors, professional bodies and standard setters assume more value for independence of internal auditors as they are commonly employees of the company. Independence and objectivity of internal audit department is identified as a key component of internal audit effectiveness. Professional standards all around the world show that independence and objectivity can be achieved through reporting to different levels in organizations, which enables internal auditors to fulfill their responsibilities in a free manner without any intervention by other parties; it also enables the internal audit department avoid any conflict of interests, maintain direct communications with the board of directors and senior management, have unlimited access to history of employees and departments, have the authority to change the head of internal audit department without direct intervention of executive management, and finally avoid performing non-audit activities.

Previous studies show that lack of independence is a big obstacle for satisfactory performance of internal audit department. A study by Breley et al. (2001) show that internal auditors should report to the highest level of organization to assure that corrective activities will be taken to implement internal audit recommendations. Lack of independence of internal auditors is an issue opposing internal audit performance. Particularly, they identified concerns about communication channels, reporting levels, and perceptions of independence. Other studies focused on lack of independence in internal audit performance and increase in concerns, and how this lack of independence can affect the power of internal audit department (Ahmad et al., 2009).

According to this, our fifth hypothesis is defined as follows:

H5: there is a significant relationship between internal audit effectiveness and more independence of internal audit.

## 2. Methodology

Out methodology in this paper is survey, in which we gathered our data via distribution of questionnaires. Overall steps followed in this paper include determination of potential factors as variables based on review of extant literature. Then two different populations are considered in this study: the first group includes about 4,530 members of the board of directors of companies listed on Tehran Stock Exchange, and the second group consists of 1,050 internal auditors.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left( \frac{z^2 pq}{d^2} - 1 \right)}$$

(Calculated at the level of 5 percent)

Using Cochran's formula to determine sample size, our sample size for the first group was 355 persons, and 272 persons for the second group. After required data was extracted from questionnaires, we tested and analyzed our hypotheses. Our both questionnaires had similar forms, with list of answers arranged on Likert's 5-point scale.

Since the number of members of boards of directors was estimated as no reliable database provides this information for firms listed on Tehran Stock Exchange, the number of respondents was considered 380. The reason behind this is that even if the size of population was to be multiplied, the number of respondents cannot exceed this, and in this way results from hypothesis testing can be more reliable.

Our questions were in the form of closed-answers, in which a number of potential answers were provided to respondents to choose from. In other words, our answers were based on the 5-point Likert scale, in which number 5 represented absolutely agreed opinion, and absolutely disagreed was shown by number 1.

Managers' questionnaire included 15 questions. Total of numbers assigned to these 15 questions (shown in Table 7) represents our measure of overall effectiveness (dependent variable). Accordingly, questions are used to measure each of independent variables (as shown in Tables 1 to 4). Internal audit questionnaire included factors of interest considering the relationship between internal audit effectiveness and independent variables.

Table 1. Relationship amongst internal and external auditors (RELEX)

Questions	Mean	Standard deviation
1. external auditors are well disposed and steady	3/07	0/94
2. external auditors have a decent disposition towards internal auditors	3/16	0/80
3. external auditors will give internal auditors a chance to clarify their worries	3/53	0/86
4. external and internal auditors counsel on the planning of work in which they have a common interest	3/43	0/76
5. external auditors talk about their arrangements with internal auditors	2/93	0/75
6. external auditors depend on internal audit work and reports	2/80	0/79
7. external and internal auditors meet all the time	3/26	0/90
8. external and internal auditors share their working papers	3/10	0/83
9. Senior administration advances successful co-operation amongst internal and external audit	3/22	0/91

Table 2. Administration support for internal audit (MSUP)

Questions	Mean	Standard deviation
1. Senior administration underpins internal audit to perform its obligations	3/13	0/69
2. Senior administration are included in the internal audit arrangement	2/76	0/71
3. Internal audit furnishes senior administration with adequate, solid and pertinent reports about the work they perform and proposals made	3/81	0/63
4. The reaction to internal audit reports by the senior administration is sensible	3/09	0/76
5. Internal audit department is sufficiently vast to effectively complete its obligations and responsibilities	2/24	0/91
6. Internal audit department has adequate spending plan to effectively do its obligations and responsibilities	2/19	0/84

Table 3. Independence of internal audit (IND)

Questions	Mean	Standard deviation
1. Internal review audit are adequately free to perform their expert commitments and obligations	3/03	0/61
2. The head of internal audit reports to a level internal the association that permits the internal audit to satisfy its obligations	3/34	0/59
3. The head of internal audit has direct contact to the board (to the President for Government Organizations)	3/86	0/84
4. The internal audit department has direct contact with senior administration other than the finance director	3/74	0/68
5. Irreconcilable circumstance is once in a while present in the work of inner auditors	2/98	0/72
6. Internal auditors seldom confront obstruction by administration while they conduct their work	3/14	0/62
7. Internal audit staff have free access to all departments and workers in the organization	3/23	0/63
8. The top managerial staff (the President for Government Organizations) endorses the arrangement and substitution of the head of internal auditing	3/12	0/56
9. Internal audit staff are not asked for performing the non- audit functions	2/82	0/69

Table 4. Internal audit Effectiveness (IAE)

Questions	Mean	Standard deviation
1. Internal audit enhances authoritative performance	3/05	0/73
2. Internal audit surveys operations and projects to learn whether results are steady with built up targets and objectives	2/96	0/74
3. Internal audit determines the sufficiency and viability of the association's frameworks of interior bookkeeping and working controls	3/15	0/62
4. Internal audit reviews the precision and unwavering quality of money related reports	3/93	0/52
5. Internal audit reviews the consistence with approaches, arrangements, techniques and directions	3/86	0/64
6. Internal audit reviews the consistence with appropriate outside laws, and regulations	3/90	0/52
7. Internal audit reviews the method for shielding resources	3/06	0/68

8. Internal review assesses and enhances the viability of risk administration	2/41	0/53
9. Internal audit reviews the economical, successful and effective utilization of assets	2/13	0/76
10. Internal audit assesses the inward control framework	3/94	0/72
11. Internal audit makes proposals for enhancing the interior control framework when suitable	2/44	0/68
12. Internal review enhances the association's efficiency	2/51	0/69
13. Internal audit creates proper yearly audit arranges	3/21	0/71
14. Timely action is made to execute the suggestions of the internal audit report	3/17	0/79
15. Internal audit gives sufficient follow-up to guarantee that proper remedial move is made and that it is effective	2/96	0/56

### 2.1 Measurement of Independent Variables

Independent variables are measures through gathering and sorting of internal auditors' answers to the abovementioned questions. These questions are distributed based on five basic factors as follows:

- Competency of internal audit department (COMP) which is measured using four different measures: educational competency, professional competency, experience in internal audit, and continuous development (average annual training hours).
- The size of internal audit department (SIZE), measured by the number of internal auditors working for the department.
- Communications between internal auditors and external auditors (RELEX), measure using a number of proxies: attitudes towards external auditors; coordination, including the conflict of interests. Issue of audit plans, reliance of external auditors on the work done by internal auditors; the number of conferences and sharing working papers, and management improvement as a result of relationships between these two groups.
- Management's support for internal audit (MSUP), measured using a number of proxies: supporting internal audit for carrying out its duties and responsibilities; participation in planning internal audit; reports delivered to management by internal audit team; management's respond to reports provided by internal audit department; and resources of internal audit department.
- Independence of internal audit department (IND), is measured via following nine factors: level of independence, reporting level, direct connection with board of directors and senior management, conflict of interests, intervention, unlimited access to all departments and employees, hiring and firing head of internal audit department, performance, and non-audit activities.

### 2.2 Model

We used following ordinary least square regression model to estimate effects of above identified factors (independent variables) on internal audit effectiveness (dependent variable). Our main OLS regression model is as follows:

$$IAE = b_0 + b_1COMP + b_2SIZE + b_3RELEX + b_4MSUP + b_5IND + e_i$$

Where, IAE represents internal audit effectiveness; COMP indicates the competency of internal audit department (education and experience); RELEX shows communications between internal and external auditors; MSUP represents management's support for internal audit, and IND shows the independence of internal audit department.

## 3. Results

Our scores are average of scores on 5-point Likert scale, in which 1 shows respondents' absolute disagreement and 5 represents their absolute agreement. We calculated Cronbach's alpha for cases with maximum relation with each other, and cases with minimum relation with other variables. First variable, labeled as "Competency," includes four item with a reliability of 0.81 (Cronbach's alpha). Second variable includes nine factors and describe communications with external auditors (Cronbach's alpha: 0.79). Third variable includes six item about management's support (Cronbach's alpha: 0.86), and fourth variable consists of nine factors (Cronbach's alpha:



0.80) covering independence of internal auditors. Reliability of factors used to measure effectiveness was 0.91 (based on their Cronbach's alpha).

Table 5 shows the results from analysis of correlations between independent and dependent variables. IAE has significant and positive correlations with five factors (more specifically, with factors COMP, SIZE, RELEX, MSUP at  $p < 0.01$  level, and with IND at  $p < 0.05$  level). In addition, MSUP has significant and positive correlations with other variables (at  $p < 0.05$  level).

Table 6 shows results from regression analysis. Our overall model is significant at  $p < 0.01$  level, with adjusted  $R^2$  of 71%. Coefficient of COMP is significant and positive figure (approving H1), which means higher effectiveness of internal auditors is related to more competency of internal audit staff. Results also show that there is a significant and positive relationship between effectiveness of audit committee and the size of internal audit department at  $p < 0.01$  level of confidence (approving H2). Moreover, other results show that, according to H4, there is a significant and positive relationship between internal audit effectiveness and management's support for internal audit, at  $p < 0.01$  level of confidence; which indicates that higher effectiveness of internal audit is related to support from senior management. According to our factor analysis, senior management's support, as main component, with  $\beta = 0.298$ , contributes the most to the effectiveness of internal audit. Coefficient of communications between internal and external auditors, and independence of internal audit department also were significant and  $p < 0.05$  level (leading to approval of H3 & H5), but not at the same level of significance as other three hypotheses.

While the above analysis uses perceptions of managers as a semi-external measure of internal audit effectiveness, we repeated the main analysis using the perceptions of internal auditors about internal audit effectiveness, as our dependent variable. Similarly, results from this analysis shows there are positive and significant relationships between internal audit effectiveness and five independent factors. Our last results also emphasize again on the significance of management's support for internal audit effectiveness.

Further, we examined whether perceptions of internal auditors about effectiveness was similar to those of managers. According to t-test (see Table 7) there was no significant difference at aggregate level, but there were significant differences for only 4 factors among 15 items, in each of which auditors measures at detailed level were more than manager's perceptions.

Table 5. Pearson correlation coefficients for the variables in the model

	1	2	3	4	5	6
1. IAE	1/00					
2. COMP	0/48**	1/00				
3. SIZE	0/53**	0/36**	1/00			
4. RELEX	0/36**	0/41**	0/24	1/00		
5. MSUP	0/73**	0/50**	0/55**	0/60**	1/00	
6. IND	0/21*	0/16	0/19*	0/24	0/38**	1/00

\*Correlation is significant at the .05 level. \*\*Correlation is significant at the .01 level.

Table 6. Regression results

Variable	B	Standard	$\beta$	t	p-Value
Constant	0.487	0.236		2.079	0.043
COMP	0.196	0.061	0.219	2.692	0.009
SIZE	0.221	0.053	0.252	3.342	0.001
RELEX	0.104	0.057	0.170	2.030	0.046
MSUP	0.253	0.069	0.298	3.523	0.001
IND	0.141	0.059	0.165	2.201	0.029

Note.  $R^2 = .71$ , Adjusted  $R^2 = .65$ ,  $F = 26.546$ ,  $p < .01$ .

These parts where perceptions of internal auditors diverge from those of managers are: investigation of compliance with applicable rules and regulations by internal auditors, examination of organizational productivity by internal auditors, internal auditors develop appropriate annual audit plans, and timely implementation of internal audit recommendations.

Overall, our results indicate that amongst factors affecting internal audit effectiveness, management's support contributes the most to the effectiveness of internal auditor. These findings are consistent with results obtained by Alsban and Swan (2013). Results of this paper also support findings of Al-tuigery et al. (2004) that interactions between internal audit staff and senior management are so important for independence and objectivity of internal auditors. It can be interpreted, therefore, that senior management's support is the foundation of internal audit effectiveness. Management's support in terms of resources, competency, independence, and relationships between internal and external auditors is of a very high importance. These findings are related to a concept that "better" describes the relation between management's support and internal audits.

Table 7. Consequences of t-tests

Questions	t	p	Mean difference
1. Internal audit enhances authoritative performance	1/45	0/161	0/171
2. Internal audit surveys operations and projects to discover whether results are steady with built up targets and objectives	1/68	0/071	0/179
3. Internal audit determines the sufficiency and viability of the association's frameworks of interior bookkeeping and working controls	1/26	0/183	0/121
4. Internal audit surveys the exactness and unwavering quality of budgetary reports	0/56	0/823	0/032
5. Internal audit surveys the consistence with arrangements, arrangements, methodology and directions	1/73	0/154	0/160
6. Internal audit surveys the consistence with pertinent outside laws, and controls	2/68	0/031	0/196
7. Internal audit surveys the method for shielding resources	1/11	0/034	0/203
8. Internal audit assesses and enhances the viability of risk administration	1/64	0/071	0/223
9. Internal audit surveys the economical, compelling and effective utilization of assets	1/13	0/153	0/136
10. Internal audit assesses the inward control framework	0/62	0/812	0/022
11. Internal audit makes proposals for enhancing the interior control framework when suitable	0/95	0/281	0/236
12. Internal audit enhances the association's efficiency	1/60	0/013	0/165
13. Internal audit creates proper yearly audit plans	2/75	0/023	0/365
14. Timely action is made to actualize the suggestions of the internal audit report	3/06	0/018	0/216
15. Internal audit gives sufficient follow-up to guarantee that suitable remedial action is made and that it is effective	0/86	0/241	0/068

#### 4. Conclusion

Internal auditors providing recommendations based on their analysis and assessment of business data and business processes are considered as an accelerating factor in effectiveness and efficiency of organizations. Internal audit with commitment to integrity and accountability as an independent consulting resource creates value for governors and senior management of companies. This study focuses on factors affecting internal audit effectiveness. Our results provide evidence that competence, size of internal audit department, communications between internal and external auditors, independence of internal auditors, and level of management's support for internal audit performance, all contribute to the effectiveness of internal audit department. Our findings also

emphasize on management's support for internal audit performance, as the key driver of internal audit effectiveness.

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