

Assessment of Internal Auditor of Sepah Bank by the Independent Auditor Belief Functions Method

¹Yahya Hassas Yeganeh, ²Reza Habibi and ²Donya Haji Shahverdi

¹Allameh Tabatabai University, Tehran, Iran

²Iranian Banking Institution, Tehran Central Branch, Islamic Azad University, Tehran, Iran

Abstract: This study aims to present a picture of how independent auditor rely on internal auditor activity to improve the internal audit function through belief functions in Financial Year (FY) of 1392 in the Sepah Bank. The results of the investigation revealed that impartiality is one of the important factors in assessing the IA function strength. Even when exist high levels of professional competence and work performance of internal auditor when there is not available appropriate information about the impartiality of the internal audit function, the strength of IA function is placed in lower position.

Key words: Internal audit, impartiality, professional competence, work performance, belief function

INTRODUCTION

The increasing dependence of independent auditor and financial market participants on the results of the internal audit function led to further efforts to better understand of the results of the internal audit activity and their relationship with the independent auditor, so that the international accounting standard No. 5 states that “the independent auditor should use a systematic approach to determine the time and the reliance of external auditor on internal auditor results”.

Sabnz Oxley law enacted in 2002 dramatically enhance the role of auditor including sections 302 and 404 of the act, indicate the role of internal audit in reports management and evaluation the effect of internal control structures (Gramling *et al.*, 2004).

Public Company Accounting Oversight Board (PCAOB) clearly recommend use of internal audit staff activities result of boss company to the independent auditor. This board in 2007, considered to review its legislation with an emphasis on applying international accounting standard of No. 5.

According to auditing standard of No. 65, American Institute of Certified Public Accountants (AICPA) and international standard of No. 610 and set of Iran standards, the decision to rely on the work of internal auditor must be accompanied with an assessment of the internal audit function. Independent auditor should achieve knowledge about the internal audit function as a related component of study and evaluation of internal controls. Then, using the results of the assessment, planning to use the work of internal auditor.

Professional associations in other countries also consider that important subject and issued appropriate auditing standards. For example, the Canadian institute of certified public accountants states that the independent auditor may, in general, rely to the internal auditor performance, when includes the examining the internal control system.

Australian accounting research foundation has issued standard of No. 2 two of audit procedures to use of performances of internal auditor. This standard states that if an independent auditor is concerned to use the work of internal audit have to provide a dual assessment of its function. First, provide a general assessment of established criteria consist of the organization position, scope of duties, professional competence and professional care. Second, a special assessment of internal audit works by studding final worksheets and re-test the internal auditor performs.

Theoretical fundamentals and literature: The purpose of primary studies of the relation between internal and independent auditor, help to achieve a better understanding of the relative importance of each of the factors in the overall assessment of independent auditor from internal auditor function. However, not seeking the interactive understanding of the relationship between these factors and also how the relationship between these factors and the internal control structure. Two case of the most recent studies, identify the relationship between these factors clearly (Nasab and Esmail, 2011).

Malta11 is assessed the external auditor decision based to use of internal auditor as an assistant in the

audit process. During this study was founded that independent auditor use a complex process in decision about the issue that if internal auditor are used as assistant or not. It was also found that there is an interactive relationship between three factors affecting on strength function of IA (professional competence, work performance and impartiality). However, when the inherent risk was low, did not observe any interaction between work performance and impartiality (Brody and Lowe, 2000).

Krishnamurti 12 studied how these three factors relate to determine the strength of IA function. This study revealed the limitations of previous studies which used a descriptive and experimental approach and do not have any guidance model in research. The results of this study, at least in the discussed issue is very complex and incomplete. He concludes that the classification of these factors is farce. Because these factors has been mutual respect and none of them can be used in the independent auditor assessment from IA function, alone.

Using the belief functions in assessments has positive points as follows: In proposed contents about the contingency approach in assessing of IA function strength, Krishnamurti identified the limitations that indicate that expresses: “independent auditor comments in conditional probabilities it is very difficult”.

Experimental evidences in audit and psychology suggests that decision makers think to believe functions. For example Harrison was able to 100% modeling of judgments by auditor by using the belief functions. While only 20% of this judgments can be modeled using probability framework.

Independent auditor rely on the performance of the internal auditor

The method of independent auditor rely on the performance of the internal auditor: Independent auditor after determining the work scope and evaluation of efficiency of internal auditor work internal asset the reliability to internal auditor performances that up-to-date their evaluation every year. Even if independent auditor asset weak the results of internal auditor cannot rely to it but if his assessment states effectiveness of internal auditor assessments can rely to it in their considerations independent auditor assess internal control as a basis for determining the amount of required work that they do for the boss. Their assessment of the internal control system can affect the timing and extent of audit procedures. Quality of internal control can have a direct relationship with the test content, so that auditor generally in the presence of internal quality control, decrease the handling volumes of up to considerable limit. Study and evaluate

the internal control system as a part of audit test is affected by internal auditor as an important element of the internal control system.

Despite the differences in the roles of external and internal audit, there are works that are common to both. These works, create considerable space to a partnership with mutual benefits. The most common tasks performable by both auditor groups is evaluate the internal control system and the performance of financial reporting. Although specific goals may be vary based on their specific roles but the nature of the used tests is very similar (Srivastava *et al.*, 2007).

Independent auditor in two public sectors can rely on data audited by internal auditor. First, the involvement of internal auditor in evaluating internal accounting control system and a second, the internal auditor performance in the important audit procedures under the supervision and review by independent auditor.

The effect of internal audit work on the independent audit process: Internal auditor activities can effect on the type, the nature and timing of independent auditor through the following ways:

Obtaining the recognition of internal control structure: In order to planning the independent auditing it is necessary to get enough recognition from plan and how to set the structure to internal controls. Check, monitoring and assessment the internal control structure is one of the main duties of internal auditing unit. The done tests in this issue by the internal auditing unit may provide useful information for independent auditor.

For example, the internal auditor may prepare a general overview of the computer system of sales and receives.

Risk assessment: Risk assessment is done at two levels.

Risk measurement in financial statements: The independent auditor do an assessment of important derivations that is effective on general strategy of auditing. In this assessment, the independent auditor note to that some methods which sat tin internal control systems may have comprehensive effect on financial statements. In most cases the control environment and accounting system have overall effect on account balances and transactions and therefore on financial statements. Internal auditor activities effect on independent auditor assessments of general mentioned risk and his decision in type, time scheduling and nature of executive tests. For example, if involve in internal auditor the auditing activities related to different locations, independent auditor will coordinate with internal auditor and will reduce the assessed locations.

Risk at the account balance or transactions group level: Independent auditor by gathering and evaluation the information about account remainder or group transactions evaluate the accuracy of management expressions about financial statements. Independent auditor estimated risk control for items and apply requirements compliance testing. During control tests (compliance performing) independent auditor can use from programming and the results of tests carried out by the internal auditor. For example, the internal auditor may provide control testing of being completeness of payables accounts and results obtained by the internal auditor will provide useful information about the effectiveness of implemented internal control procedures independent auditor.

Content exam: Some of the tests performed by internal auditor about to be or not to be or important misstatement in the accounts or transactions groups provide appropriate information. For example, the internal auditor may send for some certificates employs the machinery receivable or count the inventory counted. These tests can provide information to independent auditor that would reduce his estimate of the risk of no discovery.

Create harmony between internal and independent auditor: Certainly one of the factors that lead to the increasing reliance of independent auditor to internal auditor results is to create harmony between the two units. In the following refer to a few ways to increase this coordination (Maham, 1997).

- Holding periodic meetings
- Internal audit unit planning studies in collaboration with external auditor
- The ability to access of external auditor to internal auditor worksheets
- Improvement the documentation by internal audit unit
- Methods of general monitoring on the internal audit process

MATERIALS AND METHODS

This is an applied research. The spatial domain is Sepah Bank, temporal domain is FY of 1392 and discussed domain is the current situation of independent auditor performance in reliance on the results of the internal audit function based on belief functions.

In this study, first by referring to their dependent auditor of Sepah Bank collect their believe about the

impartiality, professional competence and work performance of the bank's internal auditor in forms of variable between zero and then according to the belief function definition is calculated the strength of IA function. Then, by drawing graphs based on collected data are determined the independent auditor reliance on each of the three components of research and the optimal level of independent auditor documenting on the results of the internal audit function. In summary, the present study processes are as follows:

Variable of IA function strength assessment: Table 1 define the factors that IA function strength as well as displayed a detailed description of the types of documents used in providing protection and support of matches factors. In this research, the considered professional beliefs and judgments of independent auditor from mental and descriptive states turn to quantitative and mathematical helping the belief functions it is obvious that concept analyzing is not consist of auditing documents.

Research questions: According to that in this research is considered to introduce a new method in auditing studies and there is no any knowledge or theoretical and experimental science background for the subject, it was selected three factor of effective factors on independence auditor reliance on internal auditor results by considering Iran's auditing standards and extracted conceptual model and three main questions have been formulated as follows:

- What is the relationship between work performances with the strength of IA function?
- What is the relationship between partiality and IA function strength?
- What is the interaction of three factors (partiality, work performance, professional competence) with the IA function?

Concept model of research: After reviewing the literature and background of the subject in this section, initially will be provided a theoretical framework for assessing of IA function on the basis of factors that have been implicated in previous research and professional principles (competence, work performance and objectivity) (Fig. 1).

In this context, the theoretical circles, represents the variables that determine the strength of the IA (competence, work performance and objectivity). In the theoretical framework, the circles are indicators of determining variables of IA functions (competence, work performance and objectivity). The strength of IA

Table 1: Factors affecting on assessment of IA function strength

Index description	Evidences	Definition	Variables
Professional competence			
Professional competence and experience	Professional competence evidences	Professional competence is	Professional competence
Educational records	Planning and supervising evidences	Education and experience level	
Educational documents	During service evidence	Internal auditing unit staff and other relevant factors	
Internships programs			
During service education			
Planning and supervising of internal auditing			
Responsibility definition system			
Revision in processes and worksheets			
Work planning			
During service education			
Getting experience or education about company			
Getting experience or education about company auditing			
Objectivity			
Professional competence contact letter management	Documents relating to a management relationship. Documents concerning the depth and width of the field. Investors (the target group). The documents relating to implementation suggestions	Objectivity is as the following Organizational status of internal auditing and the organization's policies affecting on the objectivity of the internal auditor	Objectivity
Report recipient levels of the internal auditing			
Levels that have access to internal auditing reports			
Width and depth of reports			
Investors ability in each of fields			
Liberty in violation of obligations			
Implementation of recommendations			
The situation of recommendation			
Access of internal auditor to audit committee			
Quality of corporate governance			
The minutes of the audit committee			
Documentation of communications between internal auditing unit			
Audit committee			
Approval of independent directors			
Training and experience of the audit committee members			
Professional performance			
Internal audit activity	Evidence of internal audit activity	The quality of work is as follows	Professional performance
The time taken for internal audit	Evidence of implementation of internal audit program. Evidence of accuracy and quality of reports. The internal auditor	Internal controls and business risk assessment process that is done by internal auditor	
The number of tested accounts			
Used methods of investigation			
Accuracy of internal audit program			
The number of addressed areas			
The number of supplementary proceedings against the auditor programs of auditing			
Accuracy and quality of the internal auditor's report			
Completing the proceedings program and relevant worksheets			
The quantity and quality of documentation of worksheets			
Quality of corporate governance			
The minutes of the audit committee			
Communication documents of internal auditing unit			
Audit committee			
Approval of independent directors			
Training and experience of the members of the audit committee			

functions are depend on three factors: Competence (C), Work performance (W) and Objectivity (O). The relations between these three variables is modeled as a logical interrelationship between the strength of IA function (S) and three factors of C, W and O that is presented by hexagon shapes.

IA function is strong (SS) when the internal auditor have required qualification (CY), their performance be satisfactory (WS) and also be objective (OY):

$$SS = CY \wedge WS \wedge OY$$

In addition, it is expected that three factors of C, W and O be mutually connected. For example, work performance is related to professional competence which means that it is expected that an objective internal

auditor has a relatively high professional performance. Interrelationships in Fig. 1 have been modeled through hexagonal shapes that give them titles of R_1 and R_2 . Figure 1 shows the relationship between C and W and R_2 shows the relationship between W and. The strength of these relationship can be explained as parameters r_1 and r_2 which $0 \leq r_1 \leq 1$ and $0 \leq r_2 \leq 1$. The value of zero means that there is no relationship and the value of one means that the relationship between these factors are complete and in high level.

The main advantage of such an analytical model is to provide a tool for the evaluation of the possible analysis types in different positions for independent auditor. For example, can be consider to analysis the effects of a factor on other factors as a function of the strength of interaction.

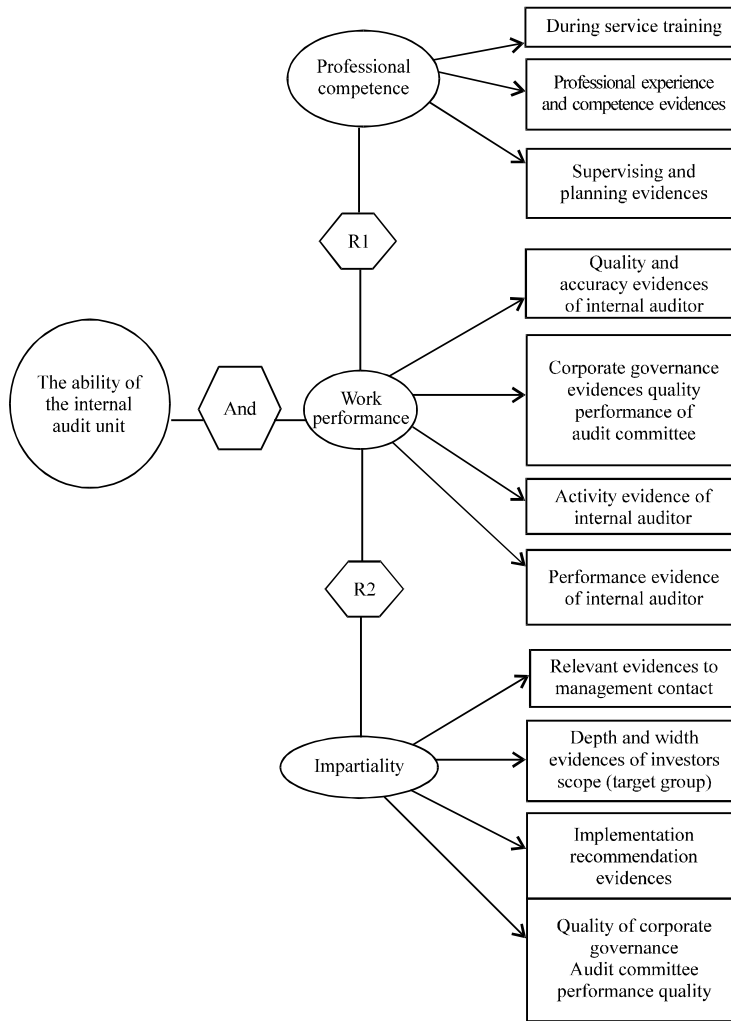


Fig. 1: Performance assessment framework of internal auditor by an independent auditor

Introduction to belief functions: Auditor generally described the risk possibility based on possibility factors. Possibility of risk is created by lack of information that leads to uncertainty (ambiguity). Uncertainty (ambiguity) is created when the information is incomplete and because the information become defect in so many ways, auditor also will face in different types to uncertainty (ambiguity). This research describes a different species of (ambiguity) and introduce a relatively new approach in dealing with uncertainty as the application of belief functions in intuitive judgments assessments of independent auditor that could help independent auditor in measurement and risk possibility management of auditing and lack of certainty in auditing environment and on the other hand be a tool to assessment the internal auditing unit and play a key role in performance improvement and internal auditing unit position in organizations.

Dempster-Shafer functions: Suppose that there are n possible values, a1, ..., a2, ..., an. variable of a make an exclusive and comprehensive set. Under the terms of probability, assign possibility sets to each variable values, then $P(a_i) \geq 0$:

$$\sum_{i=1}^n P(a_i) = 1$$

However, based on the belief function frame, the uncertainty that is provided by the values of m (the means of belief function sets is assignment of basic probability of 14th Schaeffer) is dedicated to any other subsidiary sets that consist of the general framework of $\{a_1, a_2, \dots, a_n\} = \Theta$ such that the sum of all values of $m = 1$:

$$\sum_{x \in \Theta} m(X) = 1$$

When only non-zero values of m is singleton, the framework of the belief function is reduced to a probability framework. In order to determine the meaning of the above, propose an example.

Suppose that an independent auditor has collected evidences about the competence of the internal auditor. After evaluating the evidences, the independent auditor will be based on the belief that the internal auditor with the level of 0.6 will be the competent that we display this competence by symbol C. In addition, the independent auditor thinks that achieved evidence does not support based on incapacity of internal auditor which display by symbol ~c.

The unallocated set of 0.4 is related to general framework of {c, ~c}. In other words, present uncertainty which is dedicated in value of 0.4 to general framework of {c, ~c} is such that $m_c^+ = m_{\sim c}^+ = 1 = m\{c, \sim c\}$ of the unallocated section of belief set is indicated the lack of awareness. Such distribution of uncertainty is not possible under the framework of the possibilities. When the amount of 0.6 set in assigned to 'c' value, based on definition, 0.4 is assigned to its violate means '~c'. Possibility framework for modeling of such uncertainty is not very proper.

Belief function: Believe in the subset of B of a Θ template determines the general belief that it can be had in B based on evidence presented by the values of m. It is defined as follows:

$$Bel(B) = \sum_{X \subseteq B} m(X)$$

where, X represents a set of Θ elements. The belief of being strong the internal auditing function, the belief of being strong the weakness of internal auditing and normalization constant are defined as bellow (Table 2):

$$(s_s) = [m_c^+ m_w^+ m_o^+ + r_1 m_c^{\ominus} m_w^+ m_o^+ + r_2 m_c^+ m_w^{\ominus} m_o^{\ominus} + (r_1 + r_2 - r_1 r_2) m_c^+ m_w^{\ominus} m_o^+ + r_1 r_2 (m_c^+ m_w^{\ominus} m_o^{\ominus} + m_c^{\ominus} m_w^+ m_o^{\ominus} + m_c^{\ominus} m_w^{\ominus} m_o^+)]/k$$

$$(s_w) = 1 - (m_c^+ + m_c^{\ominus})(m_w^+ + m_w^{\ominus})(m_o^+ + m_o^{\ominus})/k$$

$$k = 1 - r_1 m_o^{\ominus} (m_c^+ m_w^- + m_c^- m_w^+) - r_2 m_c^{\ominus} (m_w^+ m_o^- + m_w^- m_o^+) - r_1 r_2 m_w^{\ominus} (m_c^+ m_o^- + m_c^- m_o^+) - r_1 (m_c^- m_w^+ m_o^+ + m_c^+ m_w^- m_o^-) - r_2 (m_c^+ m_w^+ m_o^- + m_c^- m_w^- m_o^+) - (r_1 + r_2 - r_1 r_2) (m_c^+ m_w^- m_o^+ + m_c^- m_w^+ m_o^-)$$

Based on the theoretical framework that is presented in Fig. 1, these values of m are as a result of the combination of three different judgments about independent auditor beliefs.

Because of the relationship between agents, even if we do not have information about one of the factors we can consider present that factors. The reason is the presence of two other factors. Even if we do not have information about two of the factors but because of the reaction between the three factors, consider presence of one of the agents could provide enough information about the presence of two other factors.

Table 2: Introduction of the effective factors in the analytical model

Symbols	Description
S {S _s , S _w }	S represents the strength of the internal audit function that has two values of S _s . S _w that represent the strengths and weaknesses of the internal audit function, respectively
C {C _Y , C _N }	C represents the professional competence of the internal auditor that has two values: C _Y , C _N that represent the competence and of competence of the internal auditor
W {W _s , W _U }	W represents the professional performance of internal auditor which has two values, W _s , W _U that represent the satisfaction and lack of satisfaction from professional performance of internal auditor
O {O _Y , O _N }	O represents the professional objectivity of the internal audit that has two values O _Y , O _N which represent the internal auditor's professional objectivity and siding
R ₁ , r ₁	R ₁ represents the relationship between C and r ₁ and represents the strength of the relationship between them
R ₂ , r ₂	R ₂ represents the relationship between the C, W and r ₂ represents that the relationship between them is strong
m(...)	(m-value) represents the value of the belief function for a variable power
Θ..	Represent different modes of each symbol
m _c ⁺	Belief function amount based on professional competence of internal auditor
m _c ⁻	Belief function amount based on lack of professional competence of internal auditor
m _w [⊖]	Belief function amount based on the internal auditor has or has not professional competence
m _w ⁺	The belief function amount based on satisfaction from professional performance of internal auditor
m _w ⁻	The belief function amount based on lack of satisfaction from professional performance of internal auditor
m _w [⊖]	Belief function amount based on there is or not professional performance satisfaction of internal auditor
m _o ⁺	Belief function amount based on internal auditor objectivity
m _o ⁻	Belief function amount based on internal auditor siding
m _o [⊖]	Belief function amount based on internal auditor may be are objective or siding
Bel(S _s)	Belief of being strong the internal auditing function
Bel(S _w)	Belief of being weak the internal auditing function
K	A normal concept

Combination values of m or overall values of care determined by combination of three above sets of m values:

$$m_c^+ = 1 - \prod_{i=1}^3 (1 - m_i(C_Y)) / K_C$$

$$m_c^- = 1 - \prod_{i=1}^3 (1 - m_i(C_N)) / K_C$$

$$m_c^\ominus = 1 - \prod_{i=1}^3 m_i(\{C_Y, C_N\}) / K_C$$

Wherein:

$$K_C = \prod_{i=1}^3 (1 - m_i(C_Y)) + \prod_{i=1}^3 (1 - m_i(C_N)) - \prod_{i=1}^3 (m_i(\{C_Y, C_N\}))$$

Similar to that mentioned above, can be calculated the total amount of m for Work performance (W) and Objectivity (O) according to the individual judgment of independent auditor.

Data analyzing: In this study, we consider to present three sensitivity analysis about the internal audit unit of Sepah Bank.

The effect of objectivity on the strength of IA function:

Objectivity is the organizational position of internal auditor unit and effective organizational policies on internal auditor. Studying the effect of objectivity on strength of IA function is done in two state of positive and negative belief of independent auditor than the internal auditor objectivity (Table 3 and 4).

Independent auditor may be having positive evidence on the objectivity of internal auditor. For example, independent auditor may be aware that the internal auditor have direct access to the audit committee. Calculated values for belief function based on strength of IA function by positive belief assumption of independent auditor on objectivity of internal auditor is displayed by blue color. In the second case, independent auditor may be find challenger objectivity evidences of internal auditor that is displayed by red color (Fig. 2).

As shown in Fig. 2, the strength of IA function in Sepah Bank is in the middle value of (0.4.), even when the internal auditor are qualified and all activities performed by them are in high quality. Because there is no evidence about their objectivity. However, the assessment of IA function strength increase rapidly, because independent auditor can obtain more and greater insight about objectivity of the internal auditor. Also, it should be noted that if the internal auditor be lack the objectivity concept in the cases that independent auditor have negative

Table 3: Values of belief function assuming positive belief of independent auditor on the objectivity of the internal auditor

Bels _s	M _s ⁰	Obtained values from samples				
		m _s ⁻	m _s ⁺	m _w ⁺	m _c ⁺	r ₁ = r ₂
45.0	1.0	0	0.0	9.0	9.0	5.0
4975.0	0.9	0	1.0			
545.0	0.8	0	2.0			
5925.0	0.7	0	3.0			
64.0	0.6	0	4.0			
6875.0	5.0	0	5.0			
735.0	4.0	0	6.0			
7825.0	3.0	0	7.0			
83.0	2.0	0	8.0			
8778.0	1.0	0	9.0			
925.0	0.0	0	1.0			

Table 4: The values of belief function assuming the negative belief of independent auditor on internal auditor objectivity

Bels _s	M _s ⁰	Obtained values from samples				
		m _s ⁻	m _s ⁺	m _w ⁻	m _c ⁻	r ₁ = r ₂
45.0	1.0	0.0	0	9.0	9.0	5.0
405.0	9.0	1.0	0			
36.0	8.0	2.0	0			
315.0	7.0	3.0	0			
27.0	6.0	4.0	0			
225.0	5.0	5.0	0			
18.0	4.0	6.0	0			
135.0	3.0	7.0	0			
09.0	2.0	8.0	0			
045.0	1.0	9.0	0			
0	0.0	1.0	0			

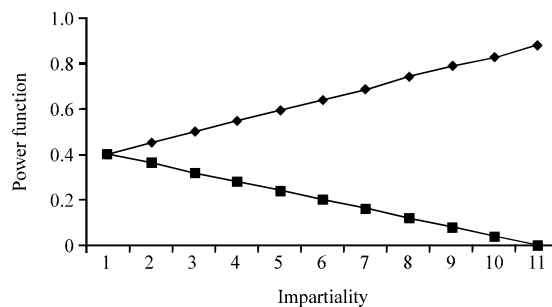


Fig. 2: The effect of objectivity on strength of IA function in terms of positive and negative belief of independent auditor

documents and evidence about objectivity of internal auditor, competence and work performance have trivial impact on the assessment of IA function strength.

Impact of work performance on the strength of IA function:

Quality of work doing is the Internal controls and risk assessment and work processes that performed by internal auditor. Study of work performance impact on IA function strength in both positive and negative independent auditor belief about the objectivity of the, internal auditor are done (Table 5 and 6).

Table 5: Values of belief function by assuming the positive belief of independent auditor on performance of internal auditor

Bels _s	M _o ^o	m _o ⁻	m _o ⁺	Obtained values from samples		
				m _w ⁺	m _c ⁺	r ₁ = r ₂
6525.0	1.0	0	0.0	9.0	9.0	5.0
6775.0	9.0	0	1.0			
7025.0	8.0	0	2.0			
7275.0	7.0	0	3.0			
7525.0	6.0	0	4.0			
7775.0	5.0	0	5.0			
8025.0	4.0	0	6.0			
8275.0	3.0	0	7.0			
8525.0	2.0	0	8.0			
8775.0	1.0	0	9.0			
9025.0	0.0	0	1.0			

Table 6: Values of believe function by assuming the negative belief of independent auditor on internal auditor performance

Bels _s	M _o ^o	m _o ⁻	m _o ⁺	Obtained values from samples		
				m _w ⁺	m _c ⁺	r ₁ = r ₂
0.6525	1.0	0.0	0	9.0	9.0	5.0
0.58725	9.0	1.0	0			
0.522	8.0	2.0	0			
0.45675	7.0	3.0	0			
0.3915	6.0	4.0	0			
0.32625	5.0	5.0	0			
0.261	4.0	6.0	0			
0.19575	3.0	7.0	0			
0.1305	2.0	8.0	0			
0.06525	1.0	9.0	0			
0	0.0	1.0	0			

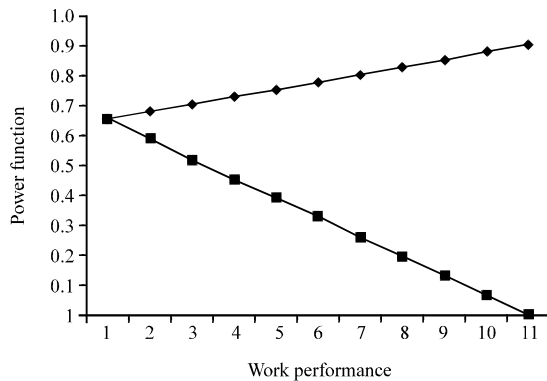


Fig. 3: Impact of the work performance on the strength of IA function by assuming the positive and negative belief of independent auditor

Independent auditor may be having positive evidence and documents about the performance of internal auditor. Calculated values for belief function based on strength of IA function by assuming positive belief of independent auditor on work performance of internal auditor is displayed by blue color (Fig. 3).

On the other hand, the independent auditor may be find evidence and documents that challenges the objectivity of internal auditor. The calculated values for

Table 7: Levels of mutual relationship of factors affecting on the performance of internal audit unit assessment

R-values	Communication type	Relevant chart
r ₁ = r ₂ = 0	Without	Blue
r ₁ = r ₂ = 0.2	Weak	Red
r ₁ = r ₂ = 0.8	Strong	Green
r ₁ = r ₂ = 1	Full	Violet

the belief function based on strength of IA function by assuming the negative belief of independent auditor on work performance of internal auditor is displayed by red color.

We can see that even in the absence of evidence and documents about the work performance, the strength of IA function in the Sepah Bank is at a high level of 0.6525 and quickly, increase by increasing the evidence and documents about work performance of internal auditor. These results show us that current believe in the strength of IA function oppositely affected more of the lack of information about the objectivity of internal auditor than the lack of sufficient information about work performance. In addition when the activities carried out by the internal auditor are below standard, significantly reduced the strength of the IA function.

Objectivity impact on strength of IA function at different levels of communication:

Strength of the interactive relationship between the factors of competence, objectivity and work performance is an empirical issue and can only be resolved based on expert supervision of independent auditor and in action. However, it is very important. Because the different strength of mutual relationship between the, have different effects on the assessment of the IA function strength. Wrong and non-subtly estimation of independent auditor from amount of this interactive relation can cause additional or defect estimation of IA function strength. In this can provide assessments for different strengths of mutual relationships between agents which would lead to the creation of more realistic ideas and issues (Table 7).

In this study, consider the effect of objectivity on the strength of the IA function at different levels of communication in the levels of without communication, poor communication, strong relationship and complete connection. the independent auditor in terms of conditions can also runabout two other factors (Table 8).

The highest line in Fig. 4 above shows the maximum strength of the relationship among the factors. This means that assumed that there is a complete relation between competence and work performance and between work performance and objectivity. It can be seen that the strength of IA function about perfect relationship between agents is always in a strong level, even if we

Table 8: The effect of objectivity on IA function in communication levels in case of positive belief of independent auditor

Bels _s	Obtained values from samples					
	$r_1=r_2=1$	$r_1=r_2=0.8$	$r_1=r_2=0.2$	$r_1=r_2=0$	m_w^+	m_s^+
0.99	7632.0	0.1692	0	0.9	0.9	0.9
0.991	78436.0	0.23836	0.81			
0.992	80552.0	0.30752	0.162			
993.0	82668.0	0.37668	0.243			
0.994	84784.0	0.44584	0.324			
0.995	869.0	0.515.0	0.405			
996.0	89016.0	0.58416	0.486			
997.0	91132.0	0.65332	0.567			
998.0	93248.0	0.72248	0.648			
999.0	95364.0	0.79164	0.729			
1	9748.0	0.8608	0.81			

Table 9: Impact of objectivity on the IA function in communication levels in case of a negative belief of the independent auditor

Bels _s	Obtained values from samples					
	$r_1=r_2=1$	$r_1=r_2=0.8$	$r_1=r_2=0.2$	$r_1=r_2=0$	m_w^-	m_s^-
99.0	7632.0	1692.0	0	9.0	9.0	9.0
891.0	68688.0	15228.0	0			
792.0	61056.0	13536.0	0			
693.0	53424.0	11844.0	0			
594.0	45792.0	10152.0	0			
495.0	3816.0	0846.0	0			
396.0	30528.0	06768.0	0			
297.0	22896.0	5076.0	0			
198.0	15264.0	03384.0	0			
099.0	7632.0	01692.0	0			
0	0	0	0			

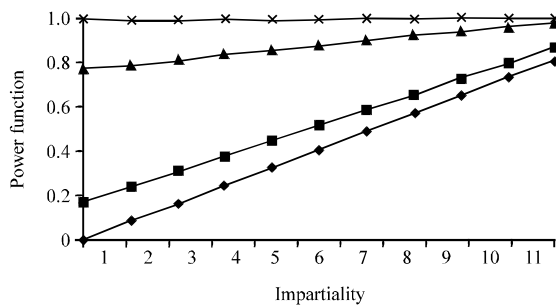


Fig. 4: Sensitivity of objectivity effect on IA function in communication levels in case of positive belief of independent auditor

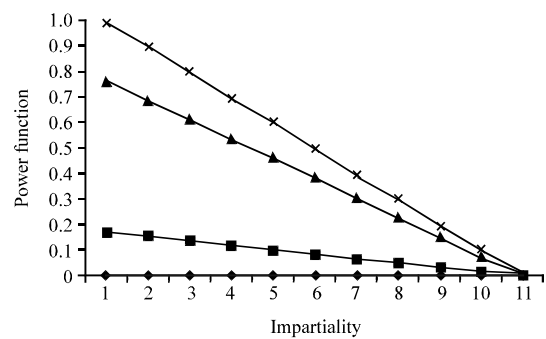


Fig. 5: Sensitivity of objectivity impact on IA function at communication levels in case of negative belief of the independent auditor

have no good available information about one of the factors. As the interaction became weaker, the strength of function is also lower. In fact when there is no communication between agents, if independent auditor have no enough information about at least one of the agents will not be able to access the strength of the IA function (Table 9).

The interesting finding in part of above (Fig. 5) where we evaluate the sensitivity of IA function is about the strong or complete relationship between factors. It can be seen that the evaluation is very high, even when obtain more negative reasons about one of the factors. About the perfect relationship, when the negative belief about one of the factors (e.g., objectivity), increase from 0.7, by knowing that the positive opinion for competence and objectivity is 0.7, the strength of IA function will fall sharply. These results have intuitive sense. If auditor about this subject that the objectivity of auditor is defect have complete certain will realize that the strength of the IA function is very weak, even if there are high levels of beliefs about competence and work performance of internal auditor and this is despite the fact that they think that the work performance and objectivity have very high correlation.

RESULTS AND DISCUSSION

In this approach, by using identified factors under the professional guidance of and previous studies was found the IA function strength to provide a theoretical model for decision-making processes.

Present study enables independent auditor to evaluate the strength of IA function without possibilities restrictions. In addition this study consider to modeling the relationship between factors affecting on IA function to assess the sensitivity of IA function at different levels of beliefs of independent auditor about the objectivity and work performance and professional competence. This approach of assessment improves the assessment of independent auditor of IA function in accordance with the auditing standards.

The results of the sensitivity analysis revealed that objectivity is one of the important factors in assessing the strength of the IA function. Even when there are high levels of professional competence and work performance of internal auditor when there is not available appropriate information about the objectivity of the internal audit the IA function strength placed in very low position. On the

other hand when there is high levels of belief in objectivity and professional competence, the strength of IA function will be relatively high, even if there is no proper information on the performance of the IA function.

The reason of these findings is the nature of the interaction between factors affecting on strength of IA function. Previous studies have registered the absence of any relation between professional competence and objectivity. Therefore, any belief about professional competence, does not obtain directly any beliefs about the objectivity of IA function. However, the belief in the work performance directly provides beliefs about IA function. Conversely, due to the direct relationship between work performance and professional competence (r_1) and between work performance and objectivity (r_2) belief about the professional competence and objectivity directly provide the beliefs about work performance of IA function.

Therefore, it can be said that finding evidence about the objectivity of IA function is crucial and important for independent auditor so that reach a level of quality assessment of IA function.

As far as is concerned to the interaction, the analysis revealed that when three factors have a very strong and complete relation, IA function will be very strong, even if we have the positive and negative evidence about one of the factors (until are available very strong levels of two other factors). However, as soon as the negative belief about the objectivity becomes one, very strong belief will

be reduced to zero. In other words, independent auditor will make sure that will violate the objectivity of the internal audit unit.

CONCLUSION

On the other hand, when exist high levels of belief in impartiality and professional competence, the strength of IA function will be relatively high, even if there is no proper information on the performance of the IA function.

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