

FACTORS AFFECTING THE PRODUCTIVITY OF THE INTERNAL AUDIT, AT THE IRAN INSURANCE

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ABSTRACT

In this research, interviews and fuzzy hierarchical analysis method (FAHP) is used to determine the factors affecting internal audit productivity. With regard to the two-step questionnaire, the number of respondents is 55 men at the Iran insurance. After confirming the compatibility of research findings suggest that, the technology, information, perceived role and communication skills on improving internal audit productivity is confirmed. The use of standards, development of software and the use of computer-assisted audit tools and techniques are effective on internal audit productivity at the Iran insurance.

KEYWORDS: Fuzzy Hierarchical Analysis, Internal Audit Productivity & Iran Insurance

INTRODUCTION

Internal audit is vital organization management tools, to achieving organization's objectives. Periodic internal audit offers feedback, regarding the productivity of these activities, along with suggestions for improvement. Insurances and financial institutions routinely use internal audit function, to provide assurance of controls and ensure compliance with legal requirements or industry. Various factors affect the efficiency of internal audit, for example: Today, internal auditors play an important role to help ensure activities. A survey conducted by the Institute of Internal Auditors, suggests that, collaboration between internal audit and information technology, resulting in improved efficiency in the activities. Internal auditing should comment on the components relevant to financial issues, such as internal controls.

RESEARCH METHODOLOGY

In this study, a series of structured interviews are used in state-owned insurances, to find the factors influencing the productivity of internal audit.

In this research, interviews and fuzzy hierarchical analysis methods are used to determine the factors affecting information security. Fuzzy Analytical Hierarchy Process (FAHP) is one of the most efficient techniques in decision making. AHP first, rose in 1980 by Thomas L. Hierarchical analysis and it is based on paired comparisons and gives managers the ability to evaluate different scenarios. Analytical Hierarchy Process is a method in which, a complex situation is decomposed into smaller parts, and then these components are placed in a hierarchical structure. This process is a way of organizing information and making judgments, and applying them in decision making, on the basis of ability, emotion and logic, then these judgments, combined in the form of the results that are consistent with internal expectations, which is consistent with internal expectations. This process can be used for the options classification and allocate resources. This method was a management technique, developed by Professor "Thomas Saati", which was introduced in the United State in the early seventies. To use this process, the analyst must determine the overall goal and choose

objective criteria to achieve it. The process of analysis requires a comparison of the relative importance of different measures, to achieve the overall aim. Then, analyst must make a hierarchy of decision criteria or factors affecting the decision, so that, more detailed factors or more specific criteria place lower in the hierarchy. At the end of the hierarchy, the final decision options or goals are evaluated. This process determines each of the decision alternatives or evaluation purposes, by calculating the relative priority or weight at any level of hierarchy. Therefore, this process involves different options in the decision-making and has a possible sensitivity analysis of criteria and sub-criteria, in addition, paired comparison established, which facilitate judgment and calculations, also shows the compatibility and incompatibility of decision, which is an outstanding advantage of this technique, in multi-criteria decision. "Thomas Saati", in decision-making for the manager's book, enumerates details of the unity and uniqueness of the model, Complexity, solidarity and interdependence, hierarchy, measurement, adjustment, integration, balance and trade-offs, judgments and collective agreements and repeat the process for the Analytic Hierarchy Process. Analytic Hierarchy Process can be carried out in the main stages of the formation of hierarchical tree, pair comparison of alternatives and criteria for research and data calculation operation. On the other hand, most of the decision-making and solving problems are much more complicated, than being understood in a quantitative way, although individuals achieve success by using vague knowledge. The theory of fuzzy sets, in the use of this approximate and inaccurate information for making decisions, is similar to human justification.

RESEARCH MODEL

According to standard frameworks (eg: qubits, COSO, etc.), Internal audit should evaluate periodically, the productivity of internal controls, including those information technologies and Warehouse and asset management system. It's expected internal audit feedback could identify and provide opportunities, to improve the productivity of variety information management performance, but in practice, the relationship between internal audit and other management tools, often has been strained. (Dyten Hofer et al., 2010) One of the reasons for the need to examine the relationship, between internal audit and other management performance is differences, in their knowledge. Differences in size, culture, resources and management unit, is one of the potential causes of the problems internal audit productivity.

In this study, according to research Framework, investigation of audit various factors affecting internal audit productivity, through the interview and research model, becomes conclusive. For example, the knowledge and characteristics of the Internal Auditors are a primary factor, affecting the productivity of internal audit. In general, the research schematic model follows that for each index will be considered sub-index, entering the fuzzy hierarchical analysis stage.

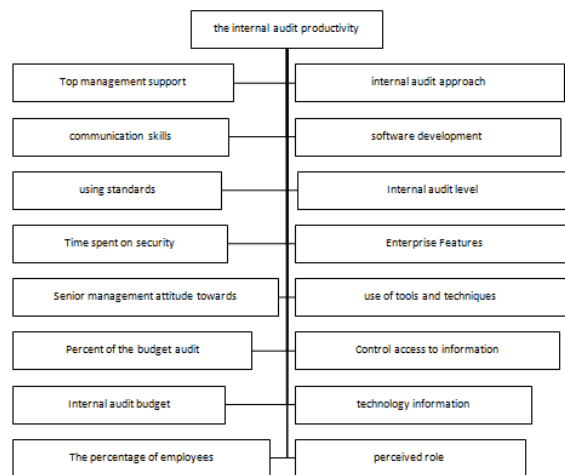
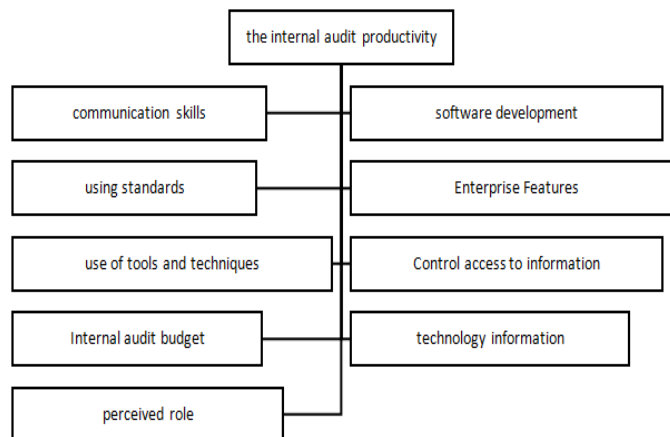


Figure1: Factors Affecting the Internal Audit Productivity

Determination the Final Model of Internal Audit Productivity

The aim of FAHP is to determine the internal audit productivity at the Iran insurance that is based on the research model various indicators have been defined for it. In this section, using expert opinion and available specialized activities, first criteria using the Delphi method numerical value were determined each criterion in the range of “1-not relevant” and “10-fully relevant.” And to prevent large amounts of questionnaires, selecting alternatives were determined, before the data collection for considering indexes. For the personnel audit and IT specialists of the Iran insurance, 55 professional judgments were selected deliberately, to determine the numerical value of each criterion. Here, using the arithmetic mean, mean of each criterion and the average of each criterion were calculated for 55 experts, with experience and academic qualifications. Finally, by recording reliability and privileges under the selection criteria, the final tree for average rates higher than 7 are as follows:

Chart 2: Final Research Model



The result of the analysis

After recording sub-criteria standard, since these criteria are qualitative, its data obtained from the cognitive attitude.

To collect the data, three stages drawn and implemented: using sub-criteria standard, fuzzy questionnaire is

designed to collect data. In this questionnaire, the number of questions is proportional to the number of sub-criteria. Due to the high volume of sub-criteria matrix questionnaires are designed. And using an intentional sample, 55 people answered questions so, it can calculate and measure effectiveness of the criteria and sub-criteria associated with each set or each cluster with each other and on the operation. Finally, after making geometric mean of respondent's priority or weight of sub-criteria standard compared to other sub-criteria are determined by two steps "normalization" and the calculation of "weighted average."

The results of criteria, priority are as follows.

Table 1

Index	Rating
Technology information	1
perceived role	7
Control access to information	5
Internal audit budget	8
use of tools and techniques	6
Percent of the budget audit	9
Enterprise Features	10
using standards	3
software development	4
communication skills	2

Source: research findings

Assess Compatibility Rate

To calculate adjustment rate comparison matrices for 55 respondents based on the geometric mean, the answers of respondents are done with the calculation of 'vector of weight ', 'compatibility vector ', 'compatibility mean vector ', 'compatibility index ', 'random index ' and 'incompatibility rate'. So, the results assessment of compatibility, which implies use of logical answers validity from the inconsistency ratio less than 1.0, in these study responses, demonstrates answers compatibility.

SUMMARY AND CONCLUSIONS

Managers should know that the scope of internal audit unit activities, without any restrictions, is all company activities. And internal auditing authority can access to the all documents, assets and staff in order to the effectively audit and internal auditors can perform responsibilities in an appropriate manner. Internal auditors should ensure that measures taken on the internal auditing recommendations or management are aware of the risks of not applying them. Different levels of managers and internal auditors should have mutual understanding and mutual recognition of each other's role in establishing close working relationships work. Managers to have an effective internal audit should always be sensitive to the assessment of internal audit units and take action to strengthen and overcome its weaknesses.

Given the results of the FAHP, variables such as features such as technology information, communication skills, using standards, software development, Control access to information, use of tools and techniques, perceived role, Internal audit budget, Enterprise Features & Percent of the budget audit, the results of being an internal auditing productivity.

For this purpose the use of standards (national or international) such as ISO, development of software and security standards and the use of computer-assisted audit tools and techniques are important, it is clear what makes internal audit reports more usable and valuable that the internal auditor's knowledge of the subject and considering solutions to eliminate the shortcomings. This requires that auditor detect main causes of failures in the work precisely and express in his/her report, therefore the level of IT knowledge by internal auditor is one of topics affecting information security and David et al (2013) and Bart Stein (2013) researches confirms this. The internal audit budget, regarding the budget of the entire organization (as % of revenue) and top management support, of internal auditors is necessary for any success, so the experts have emphasized these factors on the internal Audit productivity.

Suggestions

Internal audit must be done to achieve information knowledge, so as to improve performance. Internal audit experts should be given the limitations of their different responsibilities and based on the specific capabilities of each trust, and rely on each other's work, thus independent auditors and internal auditors should work in consultation with each other, and consider each other.

Internal auditors, according to the nature of their work, in addition to their technical features that is necessary, according to the Standards and Code of Ethics, must have non-technical features appropriate to their audit work. Those who want to always work as an internal auditor must be flexible and adaptable.

They should study different theme and keep their general knowledge, especially in the area of business in which they work up to date. They must also keep their technical skills updated in their areas of specialization. Inadequate transfer of information between levels of management within the insurance, especially in the transition from lower levels to higher levels of problems:

For efficiency of policies and procedures is imperative that notice to all employees engaged in an activity. Some insurance losses occur because the respective employees of insurance are not aware of the policies or did not understand it properly. In many cases, information about inappropriate activities that should be reported to higher organizational levels to the board or senior management was not informed until the problems become more difficult. In other instances, information in management reports is not complete or is not sufficiently accurate and, therefore, good understanding of the business is not created.

For this reason, and given the importance of information to improve the productivity of internal audit, suggested that the insurance has always considered and issued codified instructions to the public. For success in improving the security of information for internal audit, it is necessary to allocate budget, therefore it is recommended that in the budget for this sector has always considered this issue in particular. Also one of the problems in units is the lack of sufficient force that this issue also has been emphasized in managing performance of National insurance and one can employ, and access to qualified human resources for internal a section audit

REFERENCES

1. Aria -Nasser, (2001), computer network auditing, Corporate Audit Publication No. 152, first edition
2. Azar, Adel, Rajab Zadeh, Ali., (2002), practical decision-making, Tehran, "Nehag-e- Danesh"

3. Chen T., Zhang, J., Lai, K., K.(2009), An Integrated Real Options Evaluating Model for Information Technology Projects under Multiple Risks. *International Journal of Project Management* ; 27(8): 776–786
4. Dhillon, G., Tejay, G., Hong, W.(2007), Identifying governance dimensions to evaluate information systems security in organizations. *Proceedings of the 40th Hawaii International Conference on Systems Sciences*,
5. Dickinson, (2013), the relationship between risk management and Internal auditing- Conflicting or complementary, Morteza Asadi, auditor, Number 65
6. Dittenhofer, M. A., Ramamoorti, S., Ziegenfuss, D. E., Evans, R. L., (2010), Behavioral dimensions of internal auditing: a practical guide to professional relationships in internal auditing. The Institute of Internal Auditors Research Foundation
7. Gahigus, Frederick, Sanfat, Sandra, (2011), the importance of IT control and auditing, Loghman Pakravan and aynaz Khamseh, auditor
8. Grabski S., (2012), Discussion of “The relationship between internal audit and information security: An exploratory investigation”, *International Journal of Accounting Information Systems* 13, 244–247
9. Hristidis, V. (2010). *Information Discovery on Electronic Health Records*. New York: Taylor and Francis Group.
10. Liu P., Zhang X., Liu w. (2010), bA Risk Evaluation Method for the High Tech Project Investment Based on Uncertain Linguistic Variables. *Technological Forecasting & Social Change*, 273-284.
11. Mishra, S., Dhillon, G., (2006), Information systems security governance research: a behavioral perspective in 1st Annual symposium on information assurance, Academic Track of 9th Annual NYS Cyber Security Conference, New York, USA, 18-26.
12. Modarresi-Ahmad, Bidari, Mohammed Ali, (1390), examines the role of value-added internal audit, *Quarterly Journal of Management Accounting*, Issue XI
13. Ozkan S., Karabacak B., (2010), Collaborative Risk Method for Information Security Management Practices: A Case Context within Turkey. *International Journal of Information Management*, 567–572
14. Paul John Steinbart, Robyn L. Raschke, Graham Gal, William N. Dilla, (2012), The Relationship between Internal Audit and Information Security: An Exploratory Investigation, *International Journal of Accounting Information Systems* Volume 13, Issue 3, Pages 228–243
15. Phelps, D, Milne, K. (2008), Leveraging IT controls to improve IT operating performance. The Institute of Internal Auditors Research Foundation
16. Rajabi, Rashid al-Din, Saberi, Maryam, (1391), the structure of financial reporting and the audit report, the auditor, (62)
17. Rajabi, Rouhollah, Mahodi hoshodi, Hamzah, (2008), agency costs and pricing independent auditing, *accounting and audit investigations*, (53), 35-52
18. Ransbotham, S., Mitra, S., 2009, Choice and chance: a conceptual model of paths to information security compromise. *Information Systems Research*; 20: 121-139
19. Sameti-Majid, Sameti Morteza Asghari, M., (1382), based on the priorities of development of the industry sector and Analytical Hierarchy Process (AHP), *Quarterly Journal of Commerce*, No. 27, p. 59
20. Smith, S., Winchester, D., Bunker, D., Jamieson, R.(2010), Circuits of power: a study of mandated compliance to an information systems security de jure standard in a government organization. *MIS Quarterly*;34: 463-486

21. Steinbart P. J., Raschke R. L., Gal G., Dilla W. N., (2012), The Relationship between Internal Audit and Information Security: An Exploratory Investigation, International Journal of Accounting Information Systems Volume 13, Issue3, Pages 228–243
22. Tejero, A. De la Torre, I. (2011). Advances and current state of the security and privacy in electronic health records: survey from a social perspective. J Med Syst. 36 (5): 3019-27.
23. Wadie, Mohammed Hussein, Mousvynezhad, Seyyed Ruhollah, (2007), auditing in the era of e-business, 41, 53
24. Wallace, L., Lin, H., Cefaratti, M. A.(2011), Information security and sarbanes-oxley compliance:an exploratory study. Journal of Information Systems, 25: 185-212.

