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The optimal pattern of selecting audit institutions with an emphasis on independence based on the fuzzy Delphi approach

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Abstract

The independence of audit institutions has an effective role in the quality of audit institutions' reports, the fees of audit institutions, and the disclosure of frank and open opinions of audit institutions, away from any financial and kinship relationships, etc. So far, the independence of the auditor and its criteria have been discussed more than the independence of the auditing institutions. In the current situation, the appearance of the auditor's choice is based on legal criteria, and this choice is often made by the managers who are responsible for the company's performance. Although the commercial law leaves the selection of the auditor to the general assembly and the charter of the audit committee of the Securities and Exchange Organization entrusts the task of examining and recommending the auditor to the audit committee, but the selection is made by the board of directors, the managing director, the director of the affairs of assemblies and companies and sometimes it is done in lower organizational levels, such as financial managers, which brings many problems. Therefore, our goal is to provide the optimal model for the selection of audit institutions by an independent institution and authority, with an emphasis on independence. For this purpose, we used the fuzzy Delphi method to collect the opinions of experts in this regard. The selection of the audit institute and the assignment of work to the audit institutes by an independent and reference body will increase the independence of the audit institutes. The results of this study show that we can increase and maintain the independence of the audit institutes and not the auditor in this way. Choosing audit institutions with this approach can have many positive effects, including proper distribution of work between audit institutions, increasing the quality of audit institutions' reports, increasing investors' trust and as a result increasing investment, preparing a reliable and independent report without the influence of the manager and the company, for the institutions to carry the executive and supervision of the country.

Keywords: independence of audit institutions, selection of audit institutions
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1 Introduction

At first, we should think about this question, what was the problem that the independence of the auditor was formed in the audit literature? And what problem did this concept help to solve? The auditor's independence is defined as the ability to resist the pressure and influence of the management [16]. If the auditor is not independent of the

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employer, his opinion will not add anything to the credibility of the financial statements, and without independence, the audit is meaningless. In fact, the importance of the auditor's independence is to the extent that it affects all other characteristics [10]. The auditor's independence in the previous texts was divided into two categories, external and internal, and the external independence of the auditor means determining the physical location of the employer and management, and the examples of external independence were considered to be the close relationship with the employer and the remuneration received from the employer, and the internal or mental independence is that which The auditor was honest and acted independently from the employer and his pressures during the audit [12]. But the auditor's independence in recent years has progressed to a point where the old division is no longer used as a criterion, and they do not consider it a state of mind and the meaning of impartiality, but they consider it to mean the destruction of material interests that the auditor cannot express his true opinion under the influence of these factors, that is, in The new perspective has started to move from the subjective and judgmental personality of the auditor to the commercial personality of the auditor [26]. Independence is like an umbrella that casts a shadow over other characteristics of the auditor, such as quality, honesty, integrity, etc., and it includes a large set of factors that other factors are a subset of it, and it is a function that other characteristics are variable [19].

Most auditors work in the form of audit institutions, so currently, our society is facing the issue of the independence of audit institutions, while more research has been done on the independence of the auditor. How can the independent characteristics of an auditor be developed and extended to a group of auditors who operate under the title of an auditing firm? If each individual has independence and maintains it, is the whole group also independent, or is it possible that individual independence will fade due to the interests and collective interests of individuals? What will happen if one person is independent and the other partner acts non-independently? Therefore, the independence of an institution will be maintained only if more partners are independent and neutralize the effect of non-independent partners with their majority. How can we extend the features of auditor independence to audit institutions and maintain the independence of audit institutions? What are the strategies for maintaining the independence of audit institutions? Are the same strategies for maintaining independence that have been listed by various scholars to maintain the independence of auditors for the independence of an institution? Is the audit also enough? Is the independence of the audit institutions respected and do the audit institutions act independently? We scrutinize and analyze one of the examples of the independence of the auditor, which is a solution to maintain independence, and by removing the weak points of this solution, we intend to develop and spread it to audit institutions.

As a proposed solution for the auditor's independence, Yeganeh says that the judgment should be taken from the auditor himself and given to audit judicial courts composed of professional accountants to judge. In other words, the auditor should collect the necessary evidence for the court and the responsibility of judgment and opinion should be entrusted to the judicial audit court [12]. organizations, etc., but this solution may seem like a good idea if audit institutions where several audit partners work in that institution are considered. An independent institution that is responsible for judgment and opinions It is even possible to entrust the selection of the auditor and the auditor's fee to this institution, and the right to choose and pay the fee and the conditional fee (the fee that must lead to a certain result) is taken away from the employer whose financial relations and influence are with the auditing institution. Audit institutions will not have various concerns, customer satisfaction, bargaining with customers and keeping them. It seems that the choice of audit institutions is tied to their independence and is an inseparable matter because if the choice is at the disposal of the company and management and the income of the audit institution is provided in this way, the audit institution will unconsciously tend to attract the opinion of the manager and the company [24, 28]. Also, the research and studies regarding the purchase of the auditor's opinion, shifting of reporting clauses and long-term employment (which occurs due to the retention of the client by the auditing firm) have warned that we have addressed it in the internal background section. Concerning the classification of internal and external research based on the subject of the research, it can be seen that research has been conducted in the field of auditor independence, and the problem of auditor independence has been addressed from various aspects and angles (influence of independence, examination of independence, obstacles to independence), but they have not been able to obtain practical knowledge. To produce auditing institutions for independence, the research gap and knowledge gap in this field are evident.

One of the innovations of this research and its difference from other research is that it has provided a model to solve the problem of selection and independence of audit institutions, and no research was observed about the presentation of the model of the selection of audit institutions considering independence criteria. Presenting a practical model in the field of selecting audit institutions with an emphasis on independence criteria is the main difference between this research with other research. Another innovation of this research is that it has expanded the independence from the level of auditor independence to the independence of audit institutions. Countless researchers and researchers have mentioned the issue of auditor independence, but the issue of independence of audit institutions has not been researched. This fundamental difference with other research and research, for the independence of audit institutions

and not the independence of the auditor, can be a good start for other researchers and new researchers in the field of providing more models and expanding and developing the concept of auditor independence to the concept of independence of audit institutions.

The most key criterion and the most effective measure of the independence of auditing institutions is the right to choose the manager and the company, which has a great effect on the independence of an auditing institution, so one of the reasons for the lack of independence of auditing institutions lies in the way these institutions are selected.

2 Theoretical foundations and research background

Since the purpose of this research is to present the optimal model of auditor selection and we want to examine the effect of this selection on the independence of audit institutions, therefore, we will deal with the selection of audit institutions on a theoretical basis, and in the background of the research, we will scrutinize issues related to independence. If the way of selecting auditing institutions is optimized and changed, we can witness more independent auditing institutions and we will be freed from non-compliance with the issues that affect independence. In most countries, the selection of an independent auditor is made by the proposal of the board of directors and the approval of the general meeting of shareholders. In developed countries, the independent auditor is selected by the audit committee. In the United States, according to the Sarbanes-Oxley Act, the audit committee is officially responsible for independent selection. However, in the report of the Blue Ribbon Committee, it was announced that despite emphasizing the greater role of the employer's audit committee in selecting or replacing auditors, still in the United States, employer management plays an important role in selecting independent auditors. If the management does not prepare the financial statements based on common accounting principles and asks the auditor to ignore the report, the auditor must choose between accepting the unreasonable demands of the management or maintaining his independence. If the auditor does not accept the management's request, the management may apply pressure to change the auditor or change the audit fee rates [26]. In our country, according to Article 2 of the regulations, "how to select an auditor for government companies", the auditor and legal inspector of these companies should be selected from among the auditing organization and member institutions of the official accountants society.

Also, according to Article 144 of the Trade Law, in joint-stock companies, the decision regarding the selection of a legal inspector is the responsibility of the ordinary general assembly, and the assembly can select one or more inspectors every year. In Iran's Trade Law, there is no discussion about the selection of an auditor, and only in the seventh section of articles 144 to 156 and article 117a of the March 1968 amendment of the Trade Law, the auditor's duties and auditor selection conditions are discussed.

In the Charter of the Audit Committee of the Stock Exchange Organization, it is the responsibility of the Audit Committee to make a proposal regarding the selection, rotation or change of the independent auditor and legal auditor in the board of directors according to the investigations and requirements.

3 Research background

Soleimani et al. [27] examined the effect of threats on the independence of auditors and concluded that it indicates the negative effect of five important factors of threats on the external and internal independence of auditors and the expertise and experience of auditors affect the relationship between threats and internal independence and on the relationship There is no effect between threats and apparent independence. Saeedi et al. [25] investigated the effect of individual characteristics on the disclosure inclinations of independent auditors. They concluded that independent auditors' view of internal disclosure is preferable to external disclosure. Also, individual characteristics are effective on the disclosure tendencies of independent auditors. Malekian et al. [17] studied the effect of auditor independence on the weakness of internal controls after the approval of the internal controls directive. They concluded that the disclosure of weakness in the internal control of companies is not related to the independence of auditors, and auditors with any degree of independence in their report. They indicate significant weaknesses in internal controls. Bakhtiari et al. [5] researched the supervisory relationship and auditor independence: testing the theory of social bonds. They concluded that the higher the tendency of the auditors to have a supervisory relationship, the more likely the auditors will compromise their independence even with professional supervision. step, the relationship culture is considered as an influential factor in the relationship between the auditor and the employer in the auditing market of the country. To maintain relationships with their clients, auditors try to make their judgments consistent with their relationships with their clients. This issue indicates that communication and social links can hurt the independence and quality of the audit. Nikbakht et al. [22] developed the auditor independence model. In this research, 22 semi-structured interviews have been used through experts in the auditing profession. They concluded that the quality of human

resources, the lack of influence of the employer on the auditor, the lack of financial dependence on the employer, the quality of distribution of audit work, compliance with professional regulations and the adequacy of professional supervision are factors affecting the independence of the auditor. Hatamian [13] investigated the effect of the auditor's tenure and independence on the number of paragraphs in the auditor's report and concluded that the tenure of the auditor has an inverse and significant effect on the number of paragraphs in the audit report, and the independence of the auditor has a direct and significant effect on the number of paragraphs in the audit report. Bakhtiari et al. [4] social capital and independence of auditors; examined the approach of professionalism, and they concluded that social capital has a positive effect on the auditor's independence. This issue will promote and improve positive moral values. Yousefi Sharmai et al. [31] studied the effect of individual emotions on the auditor's impartiality. They concluded that the psychological characteristics of auditors are among the influential factors in complying with professional ethics. Mohammadi et al. [20] investigated the factors that threaten the independence of the auditors of the National Accounts Court. The result of their research indicates the identification of four main themes that threaten the independence of the auditors of the National Accounts Court, including individual threats, organizational threats, extra-organizational threats, and environmental threats. Fakhari and Amiri [11] researched the causes and consequences of purchasing an auditor's opinion. They concluded that the purchase of an auditor's opinion leads to adverse consequences, including reducing the quality of auditing and the quality of financial reporting. It also damages the auditor's independence and leads to fraud in the financial statements. Tawakolnia et al. [29] designed a model to estimate the fear of losing the employer of auditors. They concluded that the most important obstacles to the independence of auditors arise from financial issues. The fear of losing a business that pays for audit or non-audit services has a significant impact on the auditor's judgments. Darabi et al. [7] studied the explanation of the relationship between audit quality, auditor independence, audit fees, and the quality of financial reporting in insurance companies and concluded that this relationship indicates the existence of a significant and direct relationship between audit quality, the independence of the auditor and the audit fee with the quality of financial reporting in insurance companies in Iran. Bahrami et al. [3] investigated the impact of stress on auditors' professional independence. They concluded that the research indicates the negative effect of five important factors of stress on the external and internal independence of auditors. Also, the findings indicate that the expertise in the industry and the experience of the auditors have an effect on the relationship between stress and intrinsic independence and do not have an effect on the relationship between stress and apparent independence. Bekhardi Nasab [6] investigated the role of downward pressure on the auditor in the deviations in financial reporting based on the theory of audit fee pressure, an auditee and government auditor theory, and concluded that the size of the audit firm exerts downward pressure on The auditor with deviations in financial reporting confirms the theory of audit fee pressure with the positive effect of downward pressure on the auditor with deviations in financial reporting. Desoky and Khasharmeh [8] in Bahrain investigated whether the provision of non-audit services affects auditor independence and audit quality. They claim that the respondents support the idea that the auditor's independence is impaired by providing non-audit services. Kang et al. [15] studied non-audit services and auditor independence dependent on client performance and concluded that the motivation of audit clients' earnings management (based on their performance) changes the effect of the simultaneous provision of audit services and non-audit services on auditor independence. Jenkins andStanley [14] studied the current assessment of independence as an essential element of the auditing profession in the United States. They argue that the auditor should use the increased resources and authority of audit committees under the Sarbanes-Oxley Act to allow the audit committee more responsibility and flexibility to manage auditor independence. Second, further disclosure of threats and protections to auditor independence may be instructive. Arniati et al. [2] investigated the implementation of the good corporate governance model and auditor independence in improving profit quality and found that by placing auditor independence in the corporate governance model, the effect of independent variables on the quality of income increases, but the independence of the auditor is influenced by the structure of the board of directors. It does not moderate the performance of internal audit and internal control activity on the quality of profit. Onulaka et al. [23] studied non-audit fees and auditor independence in Nigeria. They found that auditors are allowed to provide non-audit services and that auditor competition for appointment may reduce audit fees below the market price required for an effective independent audit. Therefore, non-audit services compromise independence. Yen et al. [30] studied the strengthening of independence of auditors in auditing companies in Vietnam. The results of their research show that the observed factors related to the working environment of the independent auditor affect the independence of the auditor. Marx and Harber [18] conducted a study titled auditor independence and professional scepticism in South Africa. They stated that respondents do not believe that auditor independence and professional scepticism have been harmed, as well as regulations and codes of practice. The existing ones do not need to be modified, and the auditor's independence and professional scepticism, as well as the longer tenure of the auditing firm, do not harm the independence and professional scepticism. Doan et al. [9] studied the effect of non-audit services on auditor independence in Raderwitnam and concluded that two factors directly affect auditor independence, tax services and management consulting services. Aqel et al. [1] the understanding of loan disbursers and auditors of factors affecting

auditor independence: researched evidence from Palestine and found that the results indicate a significant difference in the understanding of independent auditors and loan disbursers in most of the statements related to the provision of non-audit services is.

4 Research method

This research is descriptive in terms of purpose, applied in terms of research results, and inductive reasoning in terms of logic, and the process of its implementation is qualitative.

The statistical population of this research is made up of auditors who are members of the official Accountants Society of Iran, provided that they are partners of the auditing institute, which at the time of the research, there are 1124 people. It states that this group is more familiar with the concept of independence [26].

According to Cochran's formula, we calculate the sample size for a certain population and consider the level of confidence equal to 0.95 (in other words, we tolerate 5% error), the statistical population is equal to 1124 people. Therefore, the optimal sample size is equal to 286 people. will be. Considering that 197 people answered the questionnaires, the return rate of the questionnaires is 68%, which is an acceptable rate. In this research, we use the random sampling method. Thus, in the Excel software, a number was assigned to each audit institution in a separate table, for example, "An audit institution, number one, audit institution B, number two, audit institution C, number 3 and so on, then using the RandBetween function In Excel software, in another and separate table, we generated random numbers. We matched the randomly generated numbers with the number of the audit firm that was determined in advance, in a separate table, and extracted the name of the firm. Questionnaires for Audit firm partners who were randomly selected were sent.

4.1 Fuzzy Delphi method

We intend to use this method to reveal the relationship between the criteria and the subject of the research, as well as the importance of each criterion. 1- The first stage: In this stage, we ask the experts to determine the relationship of the aggregated criteria with the research subject through the Likert scale. 2- The second stage: In this stage, we ask the experts to confirm and screen the relevant criteria, in the sense that they choose the most important criteria with their opinion. 3- The third stage: the less important criteria that were not approved by the experts based on the threshold value of 5. They are removed in the sense that if the average score of each criterion is less than 5, that criterion is removed. In the following, the fuzzy Delphi method is explained mathematically.

4.1.1 Fuzzy Numbers

Let R and I stand for the set of all real numbers and the closed real interval $[0,1]$, respectively. A fuzzy set on R is an arbitrary function $A : R \to I$ (no additional assumptions are supposed on a fuzzy set). However, although a fuzzy number is a fuzzy set, there is no unique definition associated with the notion of fuzzy numbers because distinct properties can be considered. As a consequence, several notions about the idea of fuzzy numbers can be found in the literature (see, for instance, [17, 18, 19]). For our purposes, we will employ the following one.

A fuzzy number A (for short, a FN) of the real line R is a fuzzy set of the real line, $A : R \to I$, satisfying: (1) normality ($A(x_0) = 1$ for some $x_0 \in R$), (2) fuzzy convexity ($A\lambda x + 1 - y \geq \min\{A(x), A(y)\}$ for $x, y \in R$ and $\lambda \in [0,1)$, and (3) upper semicontinuity (if $x_0 \in R$ and $\varepsilon > 0$, there is $\delta > 0$ such that $A(x) - A(x_0) < \varepsilon$ whenever $x - x_0 < \delta$). Some researchers replace the normality condition with the existence of an absolute maximum. Function A is usually referred to as the membership function of the FN. Each real number $A(x) \in [0,1]$ can be interpreted as the uncertain degree that the point x belongs to the FN A.

For each $\alpha \in (0,1]$, the a-level set (or a-cut) of the FN A is the crisp set $A_\alpha = \{x \in R : \ A(x) > a\}$, and the kernel (or core) of A is $ker\ A = A_1$. Each level set is a (bounded or unbounded) closed interval of the real line (involving the Euclidean topology). In general, when A is an FN, the set $\{x \in R : \ A(x) > 0\}$ can be closed, open, or none of them. To maintain the closedness of the level sets, we define the support of an FN A as the set $supp(A) = cl(\{x \in R : \ A(x) > 0\})$, where $cl(\Omega)$ denotes the closure of a subset R in the Euclidean topology. In such a case, its support is also a closed interval. Notice that $A_\alpha \subseteq A_\beta \subseteq supp(A)$ for all $\alpha, \beta \in (0,1]$ such that $\beta \leq \alpha$.

Each level set and the support of an FN can be bounded or unbounded in R. For our purposes, we will only consider FNs whose supports are bounded in R. Coherently, we will denote by F the set of all FNs of the real line with bounded support. In such a case, if we use the convention $A_0 = supp\ A$, then each level set is a non-empty, closed,

and bounded real interval, so it can be denoted by $A_\alpha = [\underline{a_\alpha}, \overline{a_\alpha}]$ for each $\alpha \in I$, where $\underline{a_\alpha}$ and $\overline{a_\alpha}$ are, respectively, the inferior and superior extremes of the α-level set A_α of the FN A.

Although FNs can be represented by very general functions, we prefer to restrict our study to FNs (general enough) with simple shapes because, in practice, these are the FNs that are most frequently used in practical applications. For instance, given four real numbers $a_1,\ a_2,\ a_3$, and $a_4 \in R$ such that $a_1 \leq a_2 \leq a_3 \leq a_4$, a trapezoidal fuzzy number (for short, a TFN), denoted by $A = (a_1/a_2/a_3/a_4)$, is the FN defined by (as shown in Figure 1):

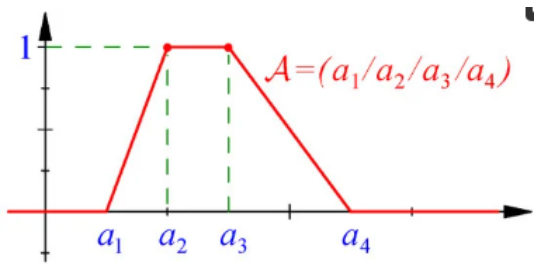

Figure 1: An example of FNs

The real numbers $a_1,\ a_2,\ a_3$, and a_4 are usually called the corners of the FN A because, when $a_1 < a_2 < a_3 < a_4$, they correspond to the vertices of the trapezoid that we obtain when the real function A is plotted. Triangular FNs, denoted by $(a_1/a_2/a_4)$, are trapezoidal FNs such that $a_2 = a_3$. The previous definition extends the notion of a real number to the fuzzy setting because when $a_1 = a_2 = a_3 = a_4 = r \in R$, the FN $r = (r/r/r/r)$ (which takes the value 1 if $x = r$ and the value 0 in any other case) represents the real number r.

TFNs are appropriate tools in order to represent both the imprecision that is necessarily associated with each measuring instrument and the subjective opinions that several experts could express about a finite set of items. For instance, the TFN (8.5/8.7/8.8/9) could represent a very good, but imprecise, opinion about the quality of a wine when the range interval 0, 10 is considered.

Basic operations on the real line can also be extended to the family F by Zadeh's Extension Principle [20], that is, by defining

$$(A \diamond B)(x) = \sup(\{\min(A(s), B(t)) : s \diamond t = x\}) \text{ forall } x \in R,$$

where $\diamond = \{+, -, \cdot, /\}$ is a traditional operation (notice that the division can only be considered when the real number 0 does not belong to the support of the divisor, see [18, 21, 22]). This definition is equivalent to that obtained by the interval arithmetic with the a-level sets [23]: for instance, if $A, B \in F$, then

$$\begin{aligned} &C = A + B, A + B_{[\alpha]} = \underline{a_\alpha} + \underline{b_\alpha}, \overline{a_\alpha} + \overline{b_\alpha},\ \underline{c_\alpha} = \underline{a_\alpha} + \underline{b_\alpha}, \overline{c_\alpha} = \overline{a_\alpha} + \overline{b_\alpha} \\ &C = A + B, A + B_{[\alpha]} = \min \Delta^\alpha_{AB},\ \max \Delta^\alpha_{AB}, \\ &\quad \text{where } \Delta^\alpha_{AB} = \underline{a_\alpha}\ \underline{b_\alpha},\ \underline{a_\alpha}\ \overline{b_\alpha},\ \overline{a_\alpha}\ \underline{b_\alpha},\ \overline{a_\alpha}\ \overline{b_\alpha}. \end{aligned}$$

4.2 Methods and steps of data collection

Table 1: Summary of data collection method and steps

Description of the stage and method of data collection	levels
Extracting auditor independence criteria from researchers' articles and books	First
Deriving criteria of auditor independence by interviewing experts	Second
Extracting auditor independence criteria from current standards (status quo)	Third
Aggregating the criteria of independence from the above three sources and removing repetitive and unmeasurable criteria and extracting the final criteria of independence by the researcher	Fourth
Determining the weight, importance and screening criteria by experts with a questionnaire	the fifth

4.3 Descriptive statistics of experts

Table 2: Frequency distribution related to general demographic characteristics of experts

Frequency	Abundance	Description	Variable
93	12	Man	gender
7	1	Female	
46	6	35 to 45 years	Age
38	5	45 to 55 years	
16	2	Above 55 years	
46	6	10 to 15 years	work experience
38	5	15 to 20 years	
16	2	Above 20 years	
38	5	Masters	education
53	7	Masters	
7	1	P.H.D	

4.4 Extracting independence criteria in an integrated way

In this part, the criteria extracted from 1- background review 2- interview of informants 3- existing standards (current situation) are aggregated and by removing duplicate items and removing criteria that could not be measured and evaluated such as acceptance of gifts, social trust, competition, political pressure, ethics Professionalism, social conservatism, as well as the elimination of criteria that go beyond the rating model, such as the non-interference of the executive branch in the administration and management of the supervisory body in institutions, the existence of supervisory institutions in audit institutions, the relationship between audit institutions and regulatory bodies, the provision of evidence of independence in the law, etc. Finally, the independence criteria include 34 items as follows: 1- Deferred fees 2- Long-term tenure 3- Fees for non-audit services 4- Ratio of fees received from an employer to total income 5- Requirement to communicate with the previous auditor 6- Requirement of the employer to disclose the reason for changing the auditor 7- Establishment of punitive systems 8- Completion of independence form by partners and employees before work 9- Requirement to disclose kinship relationship 10- Evidence and documents of timely reporting of conditions threatening independence 11- Stock or non-stock company 12- Certified auditor of the stock exchange 13- Non-interference of the company in the selection of the auditor 14- Documents and evidence of warnings during the work for the auditor team 15- Investigation of low fees 16- Requirement to disclose fees 17- Pursuing the manager responsible for the violation of independence 18- The audit committee of the employer 19- The size of the company under investigation 20- The right Selection of the manager 21- Written confirmation from the employees about compliance with the policies and procedures of the institution 22- Size of the audit institution 23- Law-oriented 24- Full compliance with the code of professional conduct 25- Card allocation by legal authorities 26- Failure to pay attention to the audit standard 27- Type of auditor's opinion during a year separately 28- Number Shareholders 29- Private or public company 30- Auditor training regarding independence 31- Evidences and documents examined in accepting and continuing work 32- Informing the employees of the requirements related to the independence of the institution 33- Identifying and evaluating the conditions of threats to independence and adopting appropriate safety measures 34- Taking appropriate action about threats Independence, since the topic of this article is the selection of audit institutions with an emphasis on independence, therefore, only the following criteria were selected: 1- no involvement of the company in the selection of the auditor, 2- assignment of work by legal authorities, and 3- no right to choose the auditor by the manager for the purpose of the article and drawing conclusions. Fuzzy Delphi method has been used for weighting and importance of independence criteria and including it in the rating model of audit institutions. In this research, fuzzy Delphi was conducted in two rounds, which are given below.

5 Findings

At this stage, a questionnaire including 34 criteria of independence was given to the members of the expert group to express their opinion in the questionnaire. To fuzzify the numbers, first we convert them into a fuzzy number based on their specific spectrum, then the fuzzy average is obtained from the scores and the fuzzy average is converted into a definite number. The results of all the fuzzification calculations in the first stage of Delphi are in Table 3. is brought In this research, the threshold value is 5.

In Table 4, the fuzzy and definitive mean of the second phase of fuzzy Delphi is given, and in this step, the difference between the definite mean of the second and the first phase is also given. According to Cheng Lin and his colleagues, if the difference between the two stages of polling is less than the very low threshold (0.1), the polling process is stopped,

Table 3: The results of the first phase of fuzzy Delphi

Condition	**Definite average**	**Fuzzy average**			**under the criteria**
confirmation	0.613	0.857	0.607	0.375	Non-interference of the company in the selection of the audit firm
confirmation	0.690	0.875	0.714	0.482	Card allocation by legal authorities
confirmation	0.625	0.857	0.625	0.393	Lack of the right to choose an audit firm by the manager

that is, we have reached a consensus. Table 4 shows that in all the extracted criteria, the average difference is less than 0.1, so we have reached a consensus.

Table 4: The results of the second phase of fuzzy Delphi

difference	Condition	Definitive average of stage 1	Definitive average of stage 2	Phase 2 fuzzy average			under the criteria	
0.02	confirmation	0.61	0.64	0.88	0.64	0.39	Non-interference of the company in the selection of the audit firm	Selection of audit firm by another authority
0.03	confirmation	0.69	0.72	0.91	0.75	0.50	Card allocation by legal authorities	
0.01	confirmation	0.62	0.64	0.86	0.64	0.41	Lack of the right to choose an audit firm by the manager	

6 Discussion and conclusion

As stated, independence is one of the most important characteristics of an auditor, in the absence of which the audit report is of poor quality and lacks necessary credibility. We also listed the problems due to the lack of independence and said that the auditor under the conditions of lack of independence is forced to seek opinions. He becomes an employer and between the dilemma of complying with the standard and the opinions of the employer, he tends to implement the opinions of the employer, which we provided evidence for in past research. One of the other cases that the lack of independence caused is the constant stress of auditors or their conscious conscience, which auditors face due to non-observance of some professional matters and violation of independence, and besides themselves, their families, investors. And in general, society is worried about what crimes and punishments await them in case of issuing an audit report that is contrary to reality, and on the other hand, shareholders are worried about investment and society is worried about corruption and incompetence in an official profession. We presented the auditor's opinion and the transfer of report clauses. So far, we clarified the issue of lack of independence, but it was not enough to conduct research, so we went to the scrutiny and factual errors of the issue of independence and stated that most of the researchers have investigated the effect, relationship, factors and obstacles of independence. In the continuation of the work, we wanted to see how the experts and researchers of the auditing profession emphasize the issue of independence, and what is the implementation status of this keyword in the selection of audit institutions. Given that we found that the selection of audit institutions is still in the hands of companies and management, which reduces the independence of audit institutions. According to the opinions of experts, it seems that the selection of audit institutions should be entrusted to an independent institution and an independent authority so that the interference and influence of the employer on the audit institution are reduced. If this is done, audit institutions will literally have independence in planning, execution and reporting and can express their opinion without stress and pressure from the employer.

The method that can be used in this regard is that companies and managers submit their request for audit through a system to an authority and an independent institution, and that authority selects the audit institution according to the type of activity volume of activity and other factors. chooses, in this method, the payment of the fee is not made directly to the auditing firm through the employer, the receipt of the report is subject to the payment of the fee and the deletion and relocation of some report items will not be done, because the employer sends his fee to the audit institution through the system. And the independent authority will deposit and the audit institution will receive the relevant fee from the independent institution.

Considering that this research is not comparative, but in terms of comparing the results with similar research and whether there is a practical example of this approach in other countries or not, we state that it is only related to the research "Development of the selection model of independent auditors in Iran". We came across Moradi [21], which has been done with a qualitative method and various factors such as background conditions, intervening factors, strategies and consequences of auditor selection have been presented.

The result of this research is that in this model, very important strategies for choosing an auditor are mentioned, which include choosing an auditor based on communication, mutual recognition, simple search, financial interests, etc., which can have consequences at the company, and market level. to bring capital at the macro level of the economy. Also, in comparison with other countries, to find a practical example of this approach, it is stated that because the ranking and selection of audit institutions is not done by professional institutions in different countries, they simply publish a report of the highest income of audit institutions. Therefore, a practical example of this approach was not found in other countries for selecting audit institutions, because in other countries there are large audit institutions or international audit institutions that have issues and problems such as the influence of the manager and the employer, non-disclosure, dependence of income and fees on the employer and to maintain their position, reputation and credibility.

Iran is the only country in which the ranking of auditing institutions has been done by a professional organization such as the Iranian Society of Official Accountants (with the problems it brings). This ranking brings the problems of choosing audit institutions because the choice of audit institutions by most managers or audit committees is formed based on the ranking announced by the public accountants community, which has nothing to do with the higher quality and greater independence of the institutions. It seems that this selection should be done based on the criteria of independence and by an independent institution so that the problems of choosing audit institutions in the absence of large audit institutions or international audit institutions and interference in the ranking of audit institutions should be minimized.

7 Suggestions for future research

Considering that the change in any group and organization may face some resistance, the researchers should find the obstacles to the implementation of the selection of audit institutions by the authority and other independent bodies.

Another suggestion is whether it is possible to transfer the right to choose audit institutions instead of companies and managers through a system to the Society of Official Accountants of Iran (to increase the independence of audit institutions and appropriate and fair distribution of work) as an independent institution and authority or not?

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