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Research Article

The Impact of Intangible Assets and Intellectual Capital on Audit Risk

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Abstract

The present study is concerned about the impact of intangible assets and intellectual capital on audit risk and fees in listed firms on the Tehran Stock Exchange.

Regression estimation with panel data method is used to estimate the model. This study's statistical sample comprises 128 listed firms on the Tehran Stock Exchange during 2012-2017.

The study results show a positive and significant relationship between the firm's audit fee and intangible assets ratio. The relationship between audit fees and intellectual capital is negative and significant. Moreover, results indicate that a positive relationship exists between audit fee and intangible assets ratio for firms with a high market rate to book value ratio. A positive and significant relationship is evident between audit risk and intangible assets of the firm. Finally, a negative and significant relationship is also found between audit risk and intellectual capital.

The current study may fill the gap in the study, and the study results give direct insight to policymakers.

Keywords: Intellectual Capital, Intangible Assets, Audit Risk

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1. Introduction

The emergence of the new knowledge-based economy has gained interest in the studies related to intellectual capital. In today's business world, commercial organizations, and firms, in addition to tangible assets, require intangible assets because they are among the main elements of success in every organization. Undoubtedly, intellectual capital is among the principal intangible assets of an organization and is considered a valuable tool for developing an organization's main assets. Intellectual capital originated from science and knowledge and played a significant role in organizations' success. It is the primary productive factor and the most important competitive advantage (Mark & Michel, 2007). In general, firm properties are divided into two groups of tangible assets and intangible assets. Intangible assets are the most critical assets of a firm. The main issue is measuring intangible assets' effectiveness, usually not available in balance sheets and financial statements (Ukiwe, 2011). The market value of firms is generally more than their book value. This occurs because the value of intellectual capital and intangible assets is not reflected totally in balance sheets, leading to the deterioration of information's value and effectiveness. Since most intangible assets are created inside the organization, and firms frequently use unofficial mechanisms such as marketing and confidential transactions to support their ideas, they cannot report such assets in their balance sheets (Salehi et al., 2020). On the other hand, it seems that firms are not generally willing to disclose more information about intangible assets and intellectual capital because this disclosure can affect their competitive advantage, the result of which is that the level of optional disclosure of such properties by firms is low at international level (Pulic, 2003). Hence, the presence of intangible assets would cause the creation of information asymmetry. Gunn et al. (2017) express that higher information asymmetry would lead to higher audit risk. Given the facts mentioned earlier, the question here is: "Is there a significant relationship between intangible assets, intellectual capital, and audit risk or not?". Hence, the present study's main objective is to assess the impact of intangible assets and intellectual capital on audit risk.

2. Theoretical principles, literature review, and hypothesis development

2.1. Intellectual capital

There are different definitions of intellectual capital in different resources. However, a factor that all authors reach a consensus about is that intellectual capital is a type of knowledge that create competitive advantage and shows the intangible value of an organization (Martín-de Castro et al., 2019); however, there is no single definition of the term and no transparent combination between theoretical aspect and practical application of intellectual capital. Most opinion leaders classify intellectual capital into three groups: customer capital, human capital, and structural capital (Xu and Li, 2019). Some of the definitions of intellectual capital are as follows:

Intellectual capital is a combination of four major components of market properties, human properties, spiritual ownership properties, and infrastructure properties (Dunmore, 2006). Intellectual capital is the organization's knowledge, staff, and capabilities to create value-added and lead to a frequent competitive advantage (Runi, 2007).

Intellectual capital is defined as applied information and knowledge for operating to achieve a value (Axtel, 2013).

Intellectual capital is the source of future profits (value) generated by innovation, unique designs of an organization, and human resources (Mark & Michel, 2007; Salehi et al., 2020).

Estvart (1997) classified intellectual capital components into human capital, structural capital, and customer capital. In this classification, human capital is, in fact, the staff of an organization that is the main property of an organization. He referred to the applied

knowledge in information technology and are authorities, and commercial designs and marks by structural capital. By customer capital, he referred to information related to the market for attracting and preserving customers. To some extent, this classification is similar to the primary classification of Bontis (1998) (Jones, 2013).

2.2. Intangible assets

Accounting standard No. 17 defined intangible assets as a discernable nonmonetary property with no objective nature. Intangible assets are those assets that their very nature is no physical. Intangible assets (including brand, intellectual ownership, ideas, business method) are different from monetary and physical properties (like property, vehicles, instruments, securities, and cash). Presently, a considerable proportion of organizational properties are intangible assets that the traditional accounting methods cannot measure. Intangible assets indicate a set of potentialities of an organization that applies as a resource for sustainable competitive advantage, growth, and economic development. In the 1980s, tangible assets account for about 80% of U.S firms' market value (Dunmore, 2006). Along with the knowledge-based economy's dominance, tangible assets' significance declined potentially, and intangible assets gained interest instead. Intangible assets illustrate future growth and profitability opportunities that can increase the firm's market value and be a criterion for major competencies and qualifications and competitive advantage that elucidates the gap between market value and the firm's book value (Han and Han, 2004). Lev (2001) defines intangible assets as a claim for future economic interests with no physical and financial nature. Marr and Schiuma (2001) consider intangible assets a set of knowledge properties that create a chance for an organization's competitive position by creating value-added for main shareholders. Such properties include human capital, relational capital, cultural capital, and intellectual ownership properties.

2.3. Audit risk

One of the main processes in auditing is to determine audit risk. Audit risk means a risk that involves a significant deviation in financial statements, and the auditor did not consciously modify his/her opinion about that. Or in other words, a risk probability that an auditor is unconsciously unable to modify his/her opinion about financial statements with significant error. Risk-based auditing has been the pioneer of a fight against corruption. Correct and scheduled evaluation of risk is the cornerstone of risk-based auditing (Khorwatt, 2008). Audit risk evaluation by auditors can contribute directly to auditing effectiveness and efficiency. The process of evaluating this risk, as the pivotal framework, enhances the audit quality and the effectiveness of total auditing and leads to an essential change in auditing operations (Bell et al., 2005). Risk analysis affects the nature, scheduling, and content of audit policies.

In the main stage of audit planning, inappropriate evaluation of audit risk may result in incorrect and inefficient distribution of resources or ineffective auditing outcomes. Hence, risk analysis in auditing is a crucial function (Leung & Harding, 2008). Decision-making theorists point that even the analysts have difficulties in risk analysis because there is a difference between perceived risk, actual risk, and objective risk and realized risks enjoy from an objective judgmental element (Imoniana & Gartner, 2007). Moreover, a series of complicated qualitative factors affect the audit risk, and auditors cannot keep in mind the relations and mutual interactions. Most of the studies are uncertain about the professional judgment capacity of auditors and declare that professional judgment is under the influence of training and experience of auditors that relies on other complicated temporal issues and is considerably different from person to person and is even under the influence of personality characteristics of auditor and his/her psychological problems,

like optimism and pessimism (Choi, 2008). Different types of audit risk include Alpha type risk (rejecting incorrect) and Beta type risk (accepting incorrect) (Mark & Michel, 2007). Audit risk components also involve intrinsic risk, control risk, and no exploratory risk.

2.4. The relationship between intangible assets and intellectual capital and audit risk

One of the main processes in auditing is to determine the audit risk. Audit risk means a significant risk significant deviation exists in financial statements, and the auditor is not conscious of modifying his opinion about that. In other words, it is a risk probability that the auditor is unconsciously not able to modify his opinion about financial statements with significant error (Lari Dashtbayaz et al., 2020). Risk-based auditing has been the pioneer of a fight against corruption. Correct and scheduled evaluation of risk is the cornerstone of risk-based auditing (Khorwatt, 2008). Audit risk evaluation by auditors can contribute directly to auditing effectiveness and efficiency. The process of evaluating this risk, as the pivotal framework, enhances the audit quality and the effectiveness of total auditing and leads to an essential change in auditing operations (Bell et al., 2005). Risk analysis affects the nature, scheduling, and content of audit policies. In the main stage of audit planning, inappropriate evaluation of audit risk may result in incorrect and inefficient distribution of resources or ineffective auditing outcomes. Hence, risk analysis in auditing is a key function (Leung & Harding, 2008). According to Bontis and Hulland (2002), intellectual capital is knowledge storage in an organization at specific times. In this definition, the relationship between intellectual capital and organizational learning is significant (Choi, 2008). Lavson and Wang (2005) showed a negative relationship between audit fee and profit sustainability in firms with higher stock profit, and paying dividends will cause the decline of a positive relationship between earnings management and audit cost. Moreover, their study results show that auditors receive a lower fee from those firms that pay higher stock profit than firms with lower stock profit. Abdul-Aziz & Nadal (2016) show a negative relationship between internal auditors' budgets and audit fees. A study on the impact of audit partners on audit pricing and audit quality of the U.S., Zimreman & Negi (2016) indicates that experienced audit partners with female gender are more successful in interactions for receiving payment in initial auditing in smaller markets. Hence, reputation (experience) and female gender have a considerable impact on audit fees. However, no significant association was evident in the results between partner experience and gender and audit quality. Within a study entitled "the significance of information asymmetry for selecting auditor, audit costs, and opinion stability: evidence of exploiting external changes in covering analysts," Gun et al. (2017) attempted to figure out whether information asymmetry contributes to three major aspects of the audit process. The study results reveal that information asymmetry, with a higher (lower) chance, would lead to firm demand for high (low)-quality audits. This means that information asymmetry instigates the demand for high-quality audits. Information asymmetry would lead to higher audit costs. That is to say. Worse information asymmetry is an audit risk. Viswanatan (2017) carried out a study on intangible assets in the balance sheet and audit costs to assess the way auditors analyze those intangible assets recorded in the balance sheets. This study was carried out using a sample of COMPUSTAT firms during 2010-2015. The results show that auditors ask for higher fees from firms with a higher proportion of intangible assets. Liu et al. (2017) conducted a study on the impact of human capital on the relationship between the firm's export and innovation to assess human capital's effects, like managers and the best staff on the relationship between firm innovation and export. This study indicates that, firstly, export increases the firm innovation considerably, and secondly, different types of human capital show frequent effects and different mediation. More specifically, retired managers play a determining

and mediatory role in the relationship between export and innovation, while well-educated employees have negative moderating and mutual impacts. Della Torre et al. (2018) carried out a study on workforce erosion, human capital interruption, and organizational performance in different technological areas in 1911 productive Italian firms. They discovered that regardless of organization technology's intensity, negative voluntary turnover contributes to the relationship between human capital and work efficiency. In contrast, no voluntary turnover increases the relationship between human capital and work efficiency and is even more effective in organizations with more condensed technological operations. Debrah et al. (2018) analyzed the relationship between human capital, innovation, and international competition in southern African countries. They figured out that the long-term outlook of Africa relies on the development of human capital. South African countries' sustainability in the world relies on education and work training in the World Market Skills Center. Mthanti and Ojah (2018) carried out a study on firms, human capital, and entrepreneurship orientation: the consequences of growth policies at a macro level in 93 countries during 1980-2008. This study shows that human capital relation is at an appropriate level in different levels of economic development. Akhtardin et al. (2018) assessed the impact of internal control weakness and investment opportunities on audit fees in 194 listed firms on the American Stock Exchange. They revealed a positive and significant relationship between internal control weakness and investment opportunities and audit fees. Regarding the above-said facts, research hypotheses are as follows:

H_1: There is a significant relationship between intangible assets and audit risk.

H_2: There is a significant relationship between intellectual capital and audit risk.

3. Research methodology

This paper is causal-correlational, and in terms of methodology, it is quasi-experimental and retrospective in the realm of positive accounting studies carried out with real information. This paper is practical in terms of nature and objectives. Practical studies aim to develop knowledge within a particular field. In terms of data collection and analysis, however, this paper is causal-correlational.

3.1. Population understudy

The statistical population of this paper is limited to the firms that:

Their financial information is available;

1- Are not affiliated with financial firms (e.g., banks, financial institutions), investment companies or intermediaries; and,
2- Are active during the period of the study.

Hence, the study period includes 5 consecutive years from 2012 to 2016 for listed firms on the Tehran Stock Exchange.

Concerning these limitations, a number of 129 firms were selected for testing the hypotheses of the study.

3.2. Data collection method

The required data of the study are collected based on their types from different resources. The information related to the study's literature and theoretical facts were gathered from library resources, including Persian and Latin books and journals, and Internet websites. The information related to firms (balance sheets and profit and loss statements) is used as the research instrument.

The primary and raw information and data for hypothesis testing were collected using the information bank of Tehran Stock Exchange, including Tadbir Pardaz and Rah Avard-

e Novin, and also the published reports of Tehran Stock Exchange via direct access (by analyzing the released reports in Codal Website and manually collected data) to CDs and also by referring to rdis.ir website and other necessary resources.

3.3. Data analysis method

The data analysis method is cross-sectional and year-by-year (panel data). In this paper, the multivariate linear regression model is used for hypothesis testing. Descriptive and inferential statistical methods are used for analyzing the obtained data. Hence, the frequency distribution table is used for describing data. At the inferential level, the F-Limer, Hausman test, normality test, and multivariate linear regression model are used for hypothesis testing.

3.4. Research model

The following multivariate regression model is used for hypothesis testing:

Model (1)

$$A.Risk_{i,t} = \beta_1 Intang_{i,t} + \beta_2 Big1_{i,t} + \beta_3 Ln\ Asset_{i,t} + \beta_4 Lev_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Ln\ Vers_{i,t} + \beta_7 Loss_{i,t} + \beta_8 New\ Audit_{i,t} + \varepsilon_{i,t}$$

Model (2)

$$A.Risk_{i,t} = \beta_1 VAIC_{i,t} + \beta_2 Big1_{i,t} + \beta_3 Ln\ Asset_{i,t} + \beta_4 Lev_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Ln\ Vers_{i,t} + \beta_7 Loss_{i,t} + \beta_8 New\ Audit_{i,t} + \varepsilon_{i,t}$$

Where

Intangible assets in the balance sheet (Intange): in this paper, intangible assets are computed by dividing the balance sheet into the firm's total assets. Visvanatan (2017) declared in his study that this ratio could be calculated via reported intangible assets in the balance sheet divided by total assets and/or reported goodwill in the balance sheet divided by total assets or intangible assets, except the reported goodwill in the balance sheet divided by total assets.

Intellectual capital (VAIC): it is a group of knowledge properties specific to an organization that is considered the organization's characteristics and leads significantly to enhancing the organization's competitive status by increasing value to key shareholders of that organization. Pulic presented value-added to intellectual capital efficiency to measure the intellectual capital of firms. Pulic believed that intellectual capital consists of three main components interacting with each other for value creation (Pulic, 2004). The Pulic model is used to calculate and measure intellectual capital. To calculate the intellectual capital, first, the value-added of the firm should be computed via the following formula:

VA = Out – IN = OP + EC + D + A

Where

VA: value-added

OUT: outputs

In: inputs

OP: operational earnings

EC: employee costs

D: depreciation of tangible assets

A: depreciation of intangible assets

After calculating the value-added of the firm, intellectual capital is computed via the following formula, where intellectual capital is divided into three components:

VAIC = VAHC + VACE + STVA

Where

VAHC: value-added of human capital

VACE: value-added of applied capital

STVA: value-added of structural capital

Each component of intellectual capital is calculated as follows:

Value-added of human capital:

$$\mathrm{VAHC} = \frac{\mathrm{VA}}{\mathrm{HC}}$$

Where

VAHC: value-added of human capital

VA: value-added

HC: total expenditure of firm employees

Value-added to physical capital applied:

$$\mathrm{VACE} = \frac{\mathrm{VA}}{\mathrm{CE}}$$

Where

VACE: value-added of capital applied

VA: value-added

CE: book value of net tangible assets

The book value of net tangible assets is computed by subtracting total assets from tangible assets

Added-value of structural capital

$$\mathrm{STVA} = \frac{\mathrm{SC}}{\mathrm{VA}}$$

$$\mathrm{SC} = \mathrm{VA} - \mathrm{HC}$$

STVA: added value of structural capital

SC: structural capital

VA: value-added

HC: total expenditure of firm employees

Structural capital is computed by subtracting value-added from total employee costs.

A.Risk: audit risk which is equal to total accounts receivable and good inventory divided by total assets;

Big1: if the audit firm is an audit organization or Mofid Rahbar 1, otherwise, 0;

Lnasset: natural logarithm of firm assets;

Roa: the return of assets which is equal to net profit divided by total assets of the firm;

Lev: financial leverage, which is equal to total debts divided by total assets of the firm;

Lnvers: natural logarithm of firm inventory;

Mtb: book to the market value of equity;

Loss: firm loss which is equal to 1 if the firm under study is losing, otherwise, 0;

New audit: if the auditor is changed within the year under study 1, otherwise, 0.

4. Data analysis

4.1. Descriptive statistics

This section is concerned with the descriptive analysis of research data and presents descriptive statistics for research variables. Descriptive statistics include a set of methods for collecting, summarizing, classifying, and describing numerical facts. Descriptive statistics indices presented in the Table include mean median, maximum, minimum, standard deviation, and Jarque-Bera Test. The main central index expresses the equilibrium and center of gravity, which is an appropriate index for showing data centrality. Standard deviation is one of the most important dispersion parameters and a criterion for the range of dispersion of observations from the mean. One of the main functions of descriptive statistics Table is judging data normality or abnormality. Jarque-Bera is a general test. Regarding the following Table, some variables of the study are

normal, and some are abnormal.

Table 1. Descriptive statistics of quantitative variables

Sing	Variable	No. of observation	Total mean	Standard deviation	Minimum	Maximum
LnAuditFee	Audit fee logarithm	706	7.6050	1.8619	3.2453	14.3905
AuditRisk	Audit risk	768	0.0691	0.1052	0.000	0.9979
Intange	Intangible assets ratio	768	0.2613	0.1796	0.000	0.8619
LnAsset	Assets logarithm	768	14.2469	1.5265	10.5330	19.3743
LEV	Financial leverage	768	0.6113	0.2636	0.0902	4.0027
ROA	Return on assets	767	0.0912	0.5835	-12.2733	2.6182
LnVars	Inventory logarithm	768	0.2418	0.1409	0.000	0.8836
Vaic	Intellectual capital	768	1.5529	0.2893	-0.8400	5.6022
MTB	Market to book value	767	3.3270	8.3363	-114.4768	103.1528

Note: research database

Table 2. Descriptive statistics of qualitative variables

Sing	Variable	No. of observation	Total mean	Standard deviation	Number of 1	No.
LnAuditFee	Large auditor	768	0.2982	0.4578	229	539
AuditRisk	Dummy variable for loss	768	0.1328	0.3396	102	666
Intange	Dummy variable for initial auditors	768	0.3464	0.4761	266	502

4.2. Unit root test

By evaluating all variables' unit-roots, they are at no unit root level (stationary). The obtained LM statistic for each variable is reported in Table 3.

F-Limer test

To estimate the pattern, we should first analyze using the F test whether the data are pooled or panel. This test's null hypothesis expresses that data are pooled, and hypothesis 1 declares that data are panel. After performing the F test, H0 is rejected. The question is that based on which models of fixed effects or random effects does the model is analyzable, determined by the Hausman test. Regarding the pooled test results reported in Table 4, the null hypothesis concerning the pooled data is ejected for both models at 99%. Hence, the model with panel data should be used for estimating the coefficients of these five models.

Table 3. The results of the Hadri unit root test

Variable	Level	Variable	Level
LnAuditFee	0.1785	LnVars	0.1861
AuditRisk	0.9220	Vaic	0.2235
Intange	0.9998	MTB	0.6540
LnAsset	0.2805	Big1	0.8749
LEV	0.7760	Loss	0.2303
ROA	0.3895	NewAudit	0.8965

Note: the null hypothesis is the absence of unit root in variables. LM statistic is reported.
Resource: research findings

Table 4. F-Limer test

	Calculated statistic	p-value
Model 1	4.43	0.0000***
Model 2	5.94	0.0011***

Note: *** is a significant level of 99%; resource: research findings

Hausman test

Table 5 illustrates the results of this test. In this Table, the Hausman test statistic, based on estimation for models 1 and 2, is equal to 57.38 and 25.96, which is larger than χ^2 the table's value, so the null hypothesis is rejected. Hence, the model with fixed effects is more appropriate.

Table 5. Hausman test

	Calculated statistic	p-value
Model 1	57.38	0.0000***
Model 2	25.96	0.0011***

Note: *** is a significant level of 99%; resource: research findings

4.3. Inferential statistics

Model one estimation

The regression equation of model one is as follows:

Model (1)

$$Audit\ Risk_{i,t} = \beta_1 Intang_{i,t} + \beta_2 Big1_{i,t} + \beta_3 Ln\ Asset_{i,t} + \beta_4 Lev_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Ln\ Vers_{i,t} + \beta_7 Loss_{i,t} + \beta_8 New\ Audit_{i,t} + \varepsilon_{i,t}$$

Regarding the estimated regression, the intercept of this model is not significant. In contrast, the impact of intangible assets variables, financial leverage, return on assets, inventory logarithm, and a dummy variable for firm loss on audit risk is positive and significant because its p-value is equal to 0.001, smaller than the significance level of 0.05 with a positive coefficient of 0.1283 which shows that there is a positive and significant relationship between these two variables. In contrast, the effect of variables of assets logarithm, dummy variable of large audit, and the initial auditor's dummy variable on audit risk is negative and significant. It is worth mentioning that the descriptive power of the model is 21.38 %.

Table 6. The results of model one estimation

Variable	Coefficient	Standard deviation	T statistic	p-value
Constant	0.1680	0.0612	2.75	0.006
Vaic	-0.0641	0.0172	-3.72	0.000
Big1	-0.0100	0.0044	2.25	0.025
LnAsset	-0.0116	0.0048	-2.44	0.015
LEV	0.1070	0.0144	7.42	0.000
ROA	0.0044	0.0010	4.49	0.000
LnVars	-0.0033	0.0010	-3.24	0.002
LOSS	0.1100	0.0340	3.24	0.002
NewAudit	-0.0087	0.0043	-2.04	0.041
Number of obs.	767			
Adj. R - squared	14.12			

Resource: research findings

Model two estimation

The regression equation of model two is as follows:

Model (2)

$$Audit\ Risk_{i,t} = \beta_1 VAIC_{i,t} + \beta_2 Big1_{i,t} + \beta_3 Ln\ Asset_{i,t} + \beta_4 Lev_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Ln\ Vers_{i,t} + \beta_7 Loss_{i,t} + \beta_8 New\ Audit_{i,t} + \varepsilon_{i,t}$$

In model 2, the variable of intellectual capital is an independent variable. The results of the estimation of this model are depicted in Table 7.

Table 7. The results of model two estimation

Variable	Coefficient	Standard deviation	T statistic	p-value
Constant	0.1680	0.0612	2.75	0.006
Vaic	-0.0641	0.0172	-3.72	0.000
Big1	-0.0100	0.0044	2.35	0.025
LnAsset	-0.0116	0.0048	-2.44	0.015
LEV	0.1070	0.0144	7.42	0.000
ROA	0.0044	0.0010	4.49	0.000
LnVars	-0.0033	0.0010	-3.24	0.002
LOSS	0.1100	0.0340	3.24	0.002
NewAudit	-0.0087	0.0043	-2.04	0.041
Number of obs.	767			
Adj. R - squared	14.12			

Resource: research findings

Regarding the estimated regression, an intercept of this model is 0.1680, which 99% significant. In contrast, the impact of financial leverage variables, return of assets, and virtual variable of firm loss on audit risk is positive and significant. This is while the effect of intellectual capital variables, intangible assets ratio, assets logarithm, inventory logarithm, dummy variable of large audit, and dummy variable of the initial auditor on audit risk is negative and significant. The second hypothesis of the study states that a significant relationship between intellectual capital and audit risk is accepted. This type of relationship is negative. Its p-value is 0.000, smaller than the significance level of 0.05 with a negative coefficient of 0.064, which shows a negative and significant relationship between intellectual capital and audit risk.

It is worth mentioning that the model's descriptive power is 14.12%, and virtual variables of industry and year were also considered in both models, the coefficients of which are not significant. By comparing the two models, we can say that the first model

has priority over the second one. The first and second model calculated is 0.2138 and 0.1412%, so the first model has more descriptive power than the second one.

5. Conclusion

The present study is concerned about the relationship between intangible assets and audit risk. The results of model testing show that a positive and significant relationship exists between these two variables, which is in line with Zimreman and Negi (2016), Viswanatan (2017), and Akhtardin et al. (2018) because an increase in intangible assets increases the risk of not exploring the auditor which is equal to accepting higher risk from auditor's side. Hence, the auditor asks for a higher fee. Audit fee determines based on the estimated risk of the auditor from an employer, competition in the market, and negotiation between auditor and employer. When planning, the auditor should detect and estimate the risk of significant deviation (including evaluating management qualification, ethical mode of the organization, accounts capabilities, and significant deviation). These factors contribute to the auditor's competency in exploring significant deviations in financial statements, which is considered a significant risk for the audit firm. Auditors usually collect more evidence to lower the risk of not exploring significant deviation. This would cause an increase in audit costs. Such increased cost can be imposed on employers; however, this issue is under the influence of competition limitations in the audit market and bargaining power between auditor and employer (Simonic, 1980).

Moreover, the present study analyzed the relationship between intellectual capital and audit risk. The hypothesis testing results show a negative and significant relationship between intellectual capital and audit risk, which conforms with that of Zimreman and Negi (2016), Viswanatan (2017). Akhtardin et al. (2018) declare a significant association between intellectual capital and intangible assets and audit fees. As mentioned previously, an increase in intellectual capital and intangible assets contributes to an acceptable range of auditors' risks. Since auditing depends on the human workforce, they called "user," the more complicated employers' operation, the higher the need for an experienced and adroit workforce and the higher the workforce's cost. Hence, to supply this cost increase, the auditor asks for higher fees.

Another noteworthy factor in this paper is audit risk. Iranian auditors are negligible about the concept of audit risk when making judgments for determining the fee, which can be due to government dominance over the economy or governmental economy. It can be said that those risks referred to as contributing components to audit risk in related books are not evident in Iran. This occurs due to cultural weakness in responding and asking and the presence of a governmental economy. There is almost no direct beneficiary to reprimand the auditors for their probable errors and negligence. Therefore, we can declare a negative and significant relationship between intellectual capital and intangible assets and audit risk regarding the hypothesis testing. That is to say, audit risk becomes relatively lower, along with an increase in intellectual capital and intangible assets due to the firm's growth.

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