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AN EMPIRICAL INVESTIGATION OF THE ANTECEDENTS OF INDEPENDENT AUDIT QUALITY¹

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Abstract

The accuracy, impartiality, and consequently the quality of accounting information in businesses can be effectuated by the existence of the independent audit activity. The quality of an executed independent audit activity, on the other hand, is the degree to which this activity fulfills requirements formed by the legal regulations and standards. In recent years, independent audit quality has gradually attracted attention of both members of this profession and academic environments. The objective of the current study is to investigate the factors having an impact to execute a quality independent audit, and to identify the impact of these factors on independent audit quality. In this context, a research model on the factors impacting the independent audit quality has been suggested. Subsequently, this research model has been empirically tested by PLS-SEM method via SmartPLS software. In the context of the research model, the impact of auditee, independent audit firm, independent auditor, information technology (IT) use, and legal regulations and institutions on independent audit quality has been tested. The findings reveal that auditee, independent auditor, and legal regulations and institutions have a positive impact on independent audit quality, while independent audit firm and IT use does not have a significant impact on independent audit quality.

Keywords: independent audit, quality, independent auditor, auditee, information technology use

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1. Introduction

Independent auditing has been a research topic in Turkey and in the world since 2000's in both academic and sectoral area. Independent auditing can be defined as inspection and correction of financial information provided by the financial statements and annual reports of the companies with their evidences in accordance with the specific standards and principles and then presentation of the results of these reports to the relevant stakeholders of the companies (Haftacı and Badem, 2011: 10) Being independent while performing independent audit activity is closely related to the high reliability level of the accounting records and prepared financial statements.

On the other hand, independent audit quality is related to the accuracy and reliability level of the audit report which is the end product of the audit process. In other words, the higher accuracy and reliability of the audit report, the better the quality of the audit becomes. (Oktay, 2013: 47).

Determining the accuracy and objectivity of the financial information of the companies in order to produce quality accounting information can become true only by independent audit activity. It is a positive reference for the companies subject to the independent auditing to get an unqualified audit opinion at the end of the audit process and this fact increase the credibility of the companies.

Accounting scandals in the U.S.A. like Enron, Worldcom, Qwest and Global Crossing led to the questioning of the audit quality all over the world. To that end, Sarbanes-Oxley Act in 2002 in the U.S.A. and 8th Directive of European Union in 2006 were released. These regulations set a framework for performing auditing at higher quality and increasing the trust level of stakeholders (like investors, creditors, etc.) of the companies (Özçelik et al., 2014.; Yavuz, 2011: 148).

As for Turkey, New Turkish Commercial Code were released including the new legal regulations and practices about independent auditing in July 1st, 2012. According to this regulation, independent audit will be applied not only to joint stock corporations but also to all capital companies (Haftacı and Badem, 2011: 12-13) and to that end Public Oversight Accounting and Auditing Standards Authority will be the only institution in order to organize and audit the independent audit activities and to set and issue Turkish Accounting Standards compliant with the international standards (Özçelik et al., 2014: 57; www.kgk.gov.tr).

The aim of this study is to determine the factors affecting the independent audit quality and to explore to what extent these factors affect the quality of the auditing. For this purpose, the research model developed is tested using PLS-SEM (a structural equation modeling method) and SmartPLS statistical software (Ringle et al., 2005).

2. Hypothesis Development

Considering the literature review, factors affecting the independent audit quality can be categorized under main five groups:

- Auditee
- Independent Audit Firm
- Independent Auditor
- Information Technology Use
- Legal Regulations and Institutions

According to this research, five hypothesis are developed with regard to the factors mentioned above. The first hypothesis is about the impact of auditee on the independent audit quality.

Higher audit fees for larger auditees and more strict and effective public auditing for larger auditees increase the independent audit quality (Cahan and Sun, 2015; Eddine, 2015). Another auditee related factor that impact the audit quality is the type of firm. If it is a family firm and has a strong financial structure, higher audit quality is expected (Ghosh and Tang, 2015; Deis and Giroux, 1992). In addition, reliable and effective internal audit structure of auditee reduces the audit risks (Tunçay, 2011) and corporate culture that imposes the awareness of duty and responsibility to the employers increase the audit quality (Senal, 2011). These features of the auditee enable us to suggest the following hypothesis:

Hypothesis 1: Auditee is positively related to independent audit quality.

The other factor that affect the independent audit quality is the independent audit firm. If the audit firm is large, its activities would be more objective and independent. Larger audit firms also have necessary and sufficient sources to execute the qualified independent audit activity (DeAngelo, 1981; Al-Ajmi, 2009). Having a long audit tenure (Al-Ajmi, 2009) and lower audit costs because of the non-audit services that the audit firms provide their customers also have a positive impact on the audit quality (Dopuch et al., 2001). Mandatory rotation of the audit firms also increases the independent audit quality by making the audit more independent and unbiased (Oktay, 2013). The independence of the audit team and its collaboration with the managers of the auditee are the other supportive factors for the impact of independent audit firm on independent audit quality (Carcello et al., 1992). Therefore, we suggest the following hypothesis:

Hypothesis 2: Independent audit firm is positively related to independent audit quality.

Auditor who is the main actor of the audit activity has also influence on the independent audit quality in a positive way. Auditors' professional care and diligence while working on an audit project (Göger, 2006), auditors' work experience and their follow up the recent national and international developments, regulations, courses and workshops (Özyurt, 2010; Oktay 2013) are the facts that make a positive change on audit quality. In addition, independent auditor's industrial experience increases the audit quality by completing the audit activity within a shorter time (Tepalagul, 2012; Dantas and Medeiros, 2015; Gul et al., 2009). One more feature of the auditors is their independence. Independence means here to prepare a reliable and objective audit report (Göger, 2006; Oktay, 2013). In consideration of the literature about the the relation between the auditor and audit quality the hypothesis below can be suggested:

Hypothesis 3: Auditor is positively related to independent audit quality.

Hypothesis 4 is about the information technology use in an audit process. Using computer based audit techniques in an independent audit process can facilitate recognizing the inaccurate financial operations (Oktay, 2013). In addition, due to the information technology use, more data can be analyzed in a shorter time and the effective use of time gets rise to the cost effectiveness and higher audit quality (Ciprian-Costel, 2014; Ertaş and Güven, 2008).

Hypothesis 4: Information Technology Use is positively related to independent audit quality.

Finally, legal regulations and institutions impact independent audit quality. If the independent auditor knows that s/he will be subject to inspection and has information with respect to the sanctions and penalties due to low audit quality, s/he will be more careful when performing an audit (Deis and Giroux, 1992). In addition, the quality of the independent audit increases, if Public Oversight Accounting and Auditing Standards Authority ensures the transparency by disclosing the audit reports to the public; is perceived as an authority to avoid the flaws and manipulations in audit activities; and continuously provides training programs for auditors (www.kgk.gov.tr). Therefore, the following hypothesis is suggested:

Hypothesis 5: Legal regulations and institutions is positively related to independent audit quality.

3. Methods

3.1. Sample

A structured survey was conducted with the independent auditors in Turkey in order to collect the data. An online survey software was used to conduct the survey. 111 independent auditors participated in the survey. After the examination of the data collected, 80 of the surveys were used in the final data analysis.

The results from the analysis of demographic variables are presented in Table 1. Of the 80 independent auditors participated in the survey, 10% are female, whereas 90% are male. The majority of the sample (34%) is composed of people aged 40 to 49, with 16% of the sample between 20 to 29, with 24% of the sample between 30 to 39, with 20% of the sample between 50 to 59, while 6% of the sample is 50 years and older. 52% of the survey responders holds an undergraduate, while the remaining responders hold a graduate (Master's and Ph.D.) degree. 82% of the independent auditors in the sample possess the title of CPA, while 18% of the responders have the title of Sworn in CPA. The majority of the responders (56%) owns independent audit authorization between 1 to 5 years, while 10% have between 6-10 years and 9% have more than 10 years of independent audit authorization. 25% of the independent auditors own independent audit authorization less than one year. Finally, 46% of the independent auditors participated in the survey Works for or is a partner of an independent audit firm, while the other independent auditors works independently.

3.2. Data analysis

In order to test the research hypotheses, Structural Equation Modeling (SEM) is used as the data analysis method. Since the data in this study is not normally distributed, a non-parametric SEM method, called PLS-SEM, was selected. This analysis was done by using Smart PLS 3.2.4 software (Ringle et al., 2005).

The reliability analysis of all of the measurement items in the research model was done by examining Cronbach's Alpha values. In order for the measurement items to ensure the reliability Cronbach's Alpha values should be higher than 0,70 (Nunnally, 1978). According to the results from the reliability analysis done by SmartPLS software, Cronbach's Alpha value of Auditee (AUD) scale is 0,80; Cronbach's Alpha value of Independent Audit Firm (IAF) scale is 0,70; Cronbach's Alpha value of Independent Auditor (INA) scale is 0,83; Cronbach's Alpha value of Information Technology Use (ITU) scale is 0,81; Cronbach's Alpha value of Legal Regulations and Institutions (LRI) scale is 0,87; and Cronbach's Alpha value of Independent Audit Quality (QLT) scale is 0,87. These findings confirm the reliabilities of the scales of the research model constructs.

Table 1. Demographic results

Demographic variables	Frequency	Percentage (%)	
Gender	Female	8	10
	Male	72	90
Age	20-29	13	16
	30-39	19	24
	40-49	27	34
	50-59	16	20
	60 and older	5	6
Education level	Undergraduate	42	52
	Master's	23	29
	Ph.D.	15	19
Title	CPA	66	82
	Sworn in CPA	14	18
Number of years as an authorized independent auditor	Less than one year	20	25
	1-5 years	46	56
	6-10 years	8	10
	11-15 years	2	3
	16-20 years	2	3
	More than 20 years	2	3
Independent auditor works for or is a partner of an audit firm	Yes	37	46
	No	43	54

N=80

Convergent validity of the scales was tested using SmartPLS by extracting the factor loadings of all the measurement items to their respective constructs. The results presented in Table 2 reveal that all of the measurement item loadings on the intended constructs were at an acceptable level (Gefen and Straub, 2005). In addition, each item's factor loading on its respective construct was significant ($p < 0.01$). Therefore, the loadings of the measurement scales confirm the convergent validity of the measures for research constructs.

In order to test whether or not research constructs empirically measure different concepts, discriminant validity of the scales was analyzed. The discriminant validity of the scales are computed via Heterotrait-Monotrait (HTMT) ratio. HTMT ratios should be less than 0,90 in order to confirm the discriminant validity (Henseler et al., 2015). According to the findings,

HTMT ratios are less than 0,90 for all of the research model constructs. Therefore, the discriminant validity of the scales is confirmed.

Tablo 2. Factor loadings

Constructs/Items	Loadings	Constructs/Items	Loadings
Auditee (AUD)		Information Technology Use (ITU)	
AUD1	0,53	ITU1	0,71
AUD2	0,39	ITU2	0,74
AUD3	0,59	ITU3	0,79
AUD4	0,74	ITU4	0,74
AUD5	0,70	ITU5	0,70
AUD6	0,62	ITU6	0,61
AUD7	0,79	Legal Regulations and Institutions	
AUD8	0,71	LRI1	0,72
Independent Audit Firm		LRI2	0,84
IAF1	0,56	LRI3	0,88
IAF2	0,34	LRI4	0,61
IAF3	0,68	LRI5	0,58
IAF4	0,44	LRI6	0,63
IAF5	0,72	LRI7	0,65
IAF6	0,39	LRI8	0,78
IAF7	0,40	Independent Audit Quality	
IAF8	0,73	QLT	0,36
IAF9	0,43	QLT	0,89
Independent Auditor		QLT	0,76
INA1	0,90	QLT	0,93
INA2	0,88	QLT	0,82
INA3	0,73	QLT	0,76
INA4	0,49	QLT	0,63
INA5	0,83	QLT	0,34
		QLT	0,73

Notlar: (i) $p < 0.01$; (ii) Measurement items are available from authors upon request.

4. Findings

According to the results from testing the structural model (Table 3), *Auditee* is positively related to *Independent Audit Quality* ($\beta = 0,29$; $p < 0,05$); *Independent Auditor* is positively related to *Independent Audit Quality* ($\beta = 0,66$; $p < 0,01$); and *Legal Regulations and Institutions* is positively related to *Independent Audit Quality* ($\beta = 0,15$; $p < 0,10$). The findings of the current study reveal that there is no statistically significant relationship between *Independent Audit*

Firm and Independent Audit Quality as well as *Information Technology Use and Independent Audit Quality*. Therefore, Hypothesis 1, Hypothesis 3, and Hypothesis 5 are supported, but Hypothesis 2 and Hypothesis 4 are rejected.

Table 3 also shows the effect sizes of the relationships tested in the context of the structural model. As can be seen in the model, there are variables in the model having low, moderate, and high levels of effect sizes. As for the R^2 value, it is at an acceptable level ($R^2=0,70$). Put differently, five independent variables in the model (*Auditee, Independent Audit Firm, Independent Auditor, Information Technology Use, Legal Regulations and Institutions*) explains 70% of the variation in the dependent variable (*Independent Audit Quality*).

Table 3. Structural model results

	β	f^2
AUD → QLT	0,29*	0,18
IAF → QLT	-0,04	0,002
INA → QLT	0,66**	0,90
ITU → QLT	-0,10	0,03
LRI → QLT	0,15^	0,06

Notlar: ^ $p < 0,10$; * $p < 0,05$; ** $p < 0,01$

5. Conclusion

The objective of the current study is to broadly investigate the factors having an impact on independent audit quality and identify at what extent these factors influence independent audit quality. In this context, a research model was initially developed. Subsequently, this research model was empirically tested by using PLS-SEM method and SmartPLS software, which is one of the methods of structural equation modeling.

In the research model proposed in this study, the impact of auditee, independent audit firm, independent auditor, information technology use, and legal regulations and institutions on independent audit quality was examined. According to the results from testing the structural model with PLS-SEM method, there is a positive and statistically significant impact of auditee, independent auditor, and legal regulations and institutions on independent audit quality. The findings also reveal that independent audit firm and information technology use do not have a significant impact on independent audit quality.

The findings show that the factor having the largest impact on independent audit quality is the independent auditor. In fact, the quality of an independent audit is directly related to independent auditor's professional qualification, careful attention and meticulousness, independence, sectoral specialty, etc. Considering this finding, it goes without saying that the independent auditors should receive necessary and adequate attention by the authorities in order to increase quality and the reliability of the independent audits. For example, independent auditors should be provided training programs at the national as well as

international levels. Also, deterrent sanctions and penalties should be applied for ensuring the independence of the auditors.

The factor having the second largest impact on independent audit quality is the auditee. The quality of the independent audit and the effectiveness of the independent auditors are directly and positively influenced, if the auditee possess a robust internal control structure, strong financial structure, and experienced audit committee. The auditee, as a factor impacting independent audit quality, is of great importance due to the fact that the auditee is able to select the independent audit firm and the auditors.

The factor having the least impact on independent audit quality is legal regulations and institutions. Because of the accounting scandals occurred in the U.S. and Europe, new legal structures and regulations in the field of independent audit were constituted. Such legal regulations and institutions enforce sanctions and penalties required for ensuring the independence and objectivity of the independent audit process, which in turn improves the quality of the independent audit.

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