

RESEARCH ARTICLE

The empirical analysis of the effectiveness of internal audit and sustainability practices in businesses during the 2018 Turkish economic crisis*

Kadriye Hilal Topal¹ 

Alper Deniz Demir² 

¹ İstanbul Nişantaşı University, Department of Computer Programming, Türkiye, e-mail: hilal.topal@nisantasi.edu.tr

² İstanbul Nişantaşı University, Graduate Education Institute, Department of Business, Türkiye, e-mail: alpdemizdemir@gmail.com

Abstract

The ability of businesses to survive in the competitive market and increase productivity depends on the strategies they implement. While businesses can achieve successful results under normal conditions, only businesses with good strategies can be successful in times of economic crisis. Some of these strategies are internal audit and sustainability. The main objective of internal audit is to effectively meet the requirements of business management. Due to the fact that businesses direct the economic life, their environmental and social responsibilities in other words, sustainability have become visible as well as their financial responsibilities. The aim of this study is to reveal the importance of internal audit and sustainability of businesses in times of economic crisis. For this purpose, the data is obtained as a result of surveys is conducted to businesses' employees within the scope of the research are examined. In this study, which is based on employees working as manager in businesses, simple random sampling method is used and surveys are conducted to 122 business managers. The 10 incomplete and incorrectly filled surveys are excluded from the study, and the remaining 112 survey data are used. Descriptive statistics of internal audit and sustainability scales are obtained and interpreted. In addition, normality tests are performed for these two scales, and as a result, Mann Whitey-U and Kruskal-Wallis tests are applied to examine the differences between the means according to demographic variables in the series that are not normally distributed. As a result, it has been determined that there are significant differences in internal audit and sustainability practices for businesses according to the demographic characteristics of employees working as manager during the economic crisis period. In particular, it is concluded that there are significant differences according to age in terms of both internal audit and sustainability and education level only in terms of internal audit. In conclusion, it has been determined that the conscious and effective use of internal audit and sustainability contributes to performance of businesses in time of the 2018 Turkish economic crisis.

Keywords: Sustainability, Internal Audit, Economic Crisis, Crisis Management, Non-parametric Tests

Jel Codes: Q56, M42, G01, H12, C14

* This study was produced from the master's thesis prepared by Alper Deniz Demir

Citation: TOPAL, KH. & DEMİR, AD. (2024). The empirical analysis of the effectiveness of internal audit and sustainability practices in businesses during the 2018 Turkish economic crisis. *Journal of Applied Microeconomics (JAME)*. 4(2),83-95, DOI: 10.53753/jame.2429

Corresponding Author:
Kadriye Hilal Topal
E-mail: hilal.topal@nisantasi.edu.tr



This work is licensed under a Creative Commons Attribution 4.0 International License.

1. INTRODUCTION

Today, rapidly developing technology and increasing globalization have caused various changes in the public and private sectors. The managerial practices such as widespread communication, transparency, strategic planning to increase risks and opportunities, performance and risk-based management, internal control and audit have started to gain importance. Businesses have been obliged to use their financial statements clearly and concisely in order to increase their value and security and to use their assets and resources more effectively. Since businesses' ability to achieve efficiency depends on having an effective internal control system, internal auditing in business is a tool used to ensure that management achieves its goals (Yurtsever, 2015: 90). The aim of internal audit: (i) Verification of compliance of the audited economic entity's policies, programs and their managerial decisions with legal regulations; (ii) Evaluation of financial and non-financial controls performed to increase economic efficiency; (iii) Evaluation of the adequacy of financial and non-financial data and information for management to know the reality of the economic entity; (iv) Determination of the measures to protect these assets off-balance sheet and prevent any fraud and loss (Daniela, 2010: 242).

Sustainability is the another effective practice in increasing the value of businesses. Sustainability for businesses is defined as the ability of businesses to achieve their financial goals with social and environmental sensitivity. Businesses dominated the international financial markets take social, environmental and financial responsibilities. Today, businesses have become responsible not only to their partners and investors, but also to everyone. These responsibilities have required businesses to create the necessary management policies by taking sustainability into account.

In the 1987 United Nations report, "The 1987 Brundtland Report", also known as "Our Common Future" by the World Commission on Environment and Development (WCED), sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability for businesses is explained as a balance between environmental and social sensitivity depending on economic expectations. Because of their role in the international economy, businesses have social and environmental responsibilities as well as economic responsibilities. The reasons why businesses should consider sustainability in their management strategies: (i) To be more sensitive to the environment in their activities due to climate change; (ii) International trade and finance companies are obliged to fulfil the sustainability specifications in the contracts for use of credit; (iii) To include economic, social and environmental indicators within the integrated supply chain management; (iv) Social and environmental performance are as important as financial performance in investors' investment decisions; (v) To have gained a place international financial market terms such as "sustainable" and "responsible investment"; (vi) Customer and consumer sensitivity to environmental and social issues; (vii) Inclusion of social and environmental indicators in addition to financial statements in stock market trading conditions; (viii) The view that environmental and social sensitivity of businesses increases the value and reputation of their brands; (ix) The idea that the long-term sustainability of businesses depends on the optimum usage of resources in these three areas in order to gain competitive advantage in social, environmental and economic areas (Aksoy, 2013: 1-2).

Businesses are quite fragile during economic crisis periods. Directors of businesses need to be conscious and careful in the administrative decisions. In business science, crisis is defined as a difficult process that requires taking precautions about the future of the business in light of the current situation and current developments. The problems that the crisis has caused in the organizational and managerial structures of enterprises are; increased tension in organizational employees, deterioration in the quality of decisions and centralization of control, increase in organizational conflict, weakening of the ability to adapt to environmental changes, authoritarian tendencies brought about by the necessity of making quick decisions, shortness of time and stress (Öztürk, 2003: 390).

In August 2018, Turkish economy has gone through hard times because of the currency depreciation. The dollar exchange rate has reached 7.24 as a result of the currency crisis triggered by the priest Andrew Brunson crisis with the USA, along with the mistrust of economic policies. Afterwards, bankruptcies and concordat process have started to a significant decline in domestic demand consequence of high interest and inflation rates and companies' failure to meet their payment obligations (Sezal, 2020: 17). According to the statistics on companies established and closed by the Union of Chambers and Commodity Exchanges of Türkiye (TOBB) within the scope of the official statistics program, the number of individual proprietorship decreased by 20.6% in 2018 compared

to the previous year. The number of closed joint stock companies increased by 5.7% and the number of limited companies increased by 33.3% compared to the previous year. The number of bounced checks, which is the most one of the important factor in the appearance of commercial life, increased by 35.1% to 588 (TOBB, 2019: 31).

The sustainability practices aim to reduce the negative environmental and social impacts arising from companies' commercial activities are very important during crisis periods. Administrative mistakes made in company management during a crisis period in which economic instability negatively affects the real sector can lead to irreversible bad results. After the 2001 financial crisis, the total number of companies closed increased by 30.6% compared to the previous year (TOBB, 2006: 46). After the 2008 global economic crisis, a total of 10395 companies were closed in 2009, including 102 collective companies, 11 limited partnerships, 9151 limited companies, 888 joint stock companies, and 243 cooperatives. While the number of companies closed increased by 8.5% compared to the previous year, there was a 7.1% decrease in the amount of capital (TOBB, 2010: 46). Due to the 2018 Turkish economic crisis, the number of joint stock companies closed in 2019 increased by 5.4% and limited companies by 5.9% compared to the previous year, while the number of limited partnerships decreased by 25.0%, and the number of collective companies closed remained unchanged. The number of individual commercial enterprises closed increased by 34.3% and the number of cooperative companies decreased by 16.7% (TOBB, 2020: 65). Based on these statistics, this study investigates whether making effective managerial decisions to ensure sustainability and ensuring that these decisions are controlled by internal audit mechanisms plays an important role in the surviving of companies during crisis periods.

In the literature, there are a limited number of studies on internal audit and sustainability practices of businesses during economic crisis periods. Most of these studies have focused on the determinants of internal auditing, except from the concept of sustainability. Bednarek (2018) examined the factors that determine the effectiveness of internal auditing by conducting a survey of 342 organizations in Poland. Bednarek (2018) stated that the characteristics of internal auditing are affected by auditing activities and inter-institutional relationships. Differ from Bednarek (2018), Musah et al. (2018)' study reveals that size, competence, support and relationships with external auditors have an impact on the effectiveness of internal auditing in state economic enterprises in Ghana. Shamki and Alhajri (2017) examined the extent to which internal audit effectiveness in the Omani public sector can be affected by selected factors such as internal audit coverage, internal auditor experience and senior management response. In addition to employees, managers were also included in the study. Multiple regression analysis and correlation analysis were used to examine the relationships between the variables. They found that there is no significant relationship between internal audit effectiveness and senior management's response. However, managers are concerned with the performance of the organization by evaluating the results and observations of internal auditing practices. Similar to other studies in the literature, Hailemariam (2014) investigated the determinants of internal audit effectiveness in selected public sector offices in Ethiopia. However, in this study, the research was conducted by focusing on 15 selected public sector departments of all other sectors. Hailemariam (2014) revealed that direct relation effects of management perception, management support, organizational independence of internal auditors, adequate and competent internal auditor's staff and the presence of approved internal audit charter with the internal audit effectiveness on the public sector. While the studies in the literature focus only on internal audit, the concept of sustainability is also mentioned in Özcan (2019)'s study. Özcan (2019) aimed to reveal the importance of internal audit and sustainability in businesses and for this aim made a survey with business employees. This study determined that the importance of internal audit and sustainability for differences of businesses are significantly depending on the demographic characteristics and experinces of the managers.

In the literature, studies generally focus on the effectiveness of internal auditing in businesses. Bednarek (2018) differs from these studies by focusing on private sector business rather than public sector business. Shamki and Alhajri (2017), unlike other studies, included not only employees but also managers in the research. Özcan (2019) study, similar to this study, examined the importance of internal auditing and sustainability in businesses in Türkiye. Although Özcan (2019) evaluated the effectiveness between both internal audit and sustainability, the research was conducted on employees. Unlike Özcan's study, this study investigates the auditing of decision-making mechanisms regarding sustainability from the perspective of company managers. The 2018 Turkish economic crisis started in the second half of 2018 and its effects continued until 2023. Therefore, this study reveals the how important the internal audit and sustainability practices by taking into account the crisis period 2018-2023 when this research is conducted.

1.1. Internal Audit, Sustainability in Economic Crisis Periods

The economic sustainability is based on the development of strategies to ensure a beneficial relationship between business and society by using current resources in the optimum way. This concept covers the asset allocation processes carried out by institutions to create value maximization by adopting the principle of managing their organizational resources in the manner of optimum and sustainable (Selimoğlu & Saldı, 2021: 8).

In times of crisis, it is very important to make strategic management decisions to prevent companies from going bankrupt and to ensure sustainability. In crisis periods, the results of internal auditing practices are very important in terms of creating long-term value for sustainability purposes in order for businesses to survive, predicting social, environmental and financial risks, taking precautions, and establishing appropriate management policies.

Internal audit reports provide businesses with useful information during times of crisis. To identify the risks of businesses, to report them to senior management and thus to make functional management decisions are important contributions of internal audit in crisis periods. Internal audit reports provide guidance for achieving financial targets during crisis periods, establishing appropriate investment policies, and solving liquidity problems to businesses. It can be said that businesses that take the necessary precautions in a crisis environment thanks to internal audit get through the crisis period with less loss (Uzun & Yurtsever, 2009: 7).

In addition, fraudulent activities by malicious personnel may increase in businesses during times of crisis. Thanks to internal audit, business assets are protected by preventing abuse and fraud, and losses of money and goods are prevented (Uzun, 2008).

Businesses need effective strategies and practices to survive in times of crisis. In this context, theoretical and practical information is required to develop and implement different strategies for time of crises. This study aims to reveal how important internal audit and sustainability practices can be in businesses in times of 2018 Turkish economic crisis.

There are not enough studies in the literature on both sustainability and internal auditing practices. The studies generally are not focused on sustainability, but only attempted to determine the effectiveness of internal auditing. In addition, within the scope of the research, company managers, who are the decision-making mechanism of the businesses, are not included in the sample, but employees in general are included in the sample. The purpose of this study is to reveal how important internal audit and sustainability practices can be in businesses in times of 2018 Turkish economic crisis. To this aim, the importance of internal audit and sustainability practices is examined and 112 business managers are taken as a sample. In the study, a model is created that reveals that the effectiveness of internal audit and sustainability practices will differ in terms of employees' demographic characteristics and experiences. In addition, this study differs from other studies in the literature that it covers the 2018-2023 period, when the effects of the 2018 Turkish economic crisis continued, in order to reveal the impact of the crisis on sustainability and internal audit practices in Turkish businesses.

To evaluate the benefits of internal audit and sustainability, which businesses generally use as a strategy, during economic crisis periods, through an application, and to make the necessary contribution to meet the need for information in this field.

Following the introduction of the study, section 2 describes empirical results with dataset and hypothesis. Finally, section 3 provides the conclusion of the study.

2. METHODOLOGY OF THE RESEARCH

2.1. Data and Hypothesis

In this study, research is conducted on business managers in order to reveal the importance of internal audit and sustainability for businesses during economic crisis periods. In this context, large enterprises are used as the basis,

and a survey is conducted among employees with managerial status in these enterprises.

To obtain values that will prove the model and hypotheses of the study, the opinions of business employees in terms of internal audit and sustainability are needed and in this context, standard scale surveys existing in the literature are used. In this study, the survey used by Özcan (2019) is revised and conducted. The survey consists of two parts. While the first part of the survey contains questions revealing the characteristics of employees such as gender, age, educational status and professional experience; the second part contains questions about internal audit and sustainability. 20 questions about internal audit and 8 questions about sustainability are created with a 5-point Likert Scale. To get more accurate results, face-to-face survey studies are conducted and the data analyzed by using the IBM SPSS Statistics program. In the study, which is based on employees working as managers in businesses, simple random sampling method is used and surveys are conducted to 122 business managers. The 10 incomplete and incorrectly filled surveys are excluded from the study, and the remaining 112 survey data are used.

The limitations of this study are that it is not easy to communicate with company managers because of their workload and the number of managers in the companies is less than the number of employees. Under these conditions, a limited sample size is obtained. However, sufficient sample size ($n=112>30$) is reached for the normal distribution and comparison tests applied in the study (Krithikadatta, 2014: 97). Based on established relationship found by previous scholars, research model is developed for these demographic variables involved in this study, which is exhibited in Figure 1.

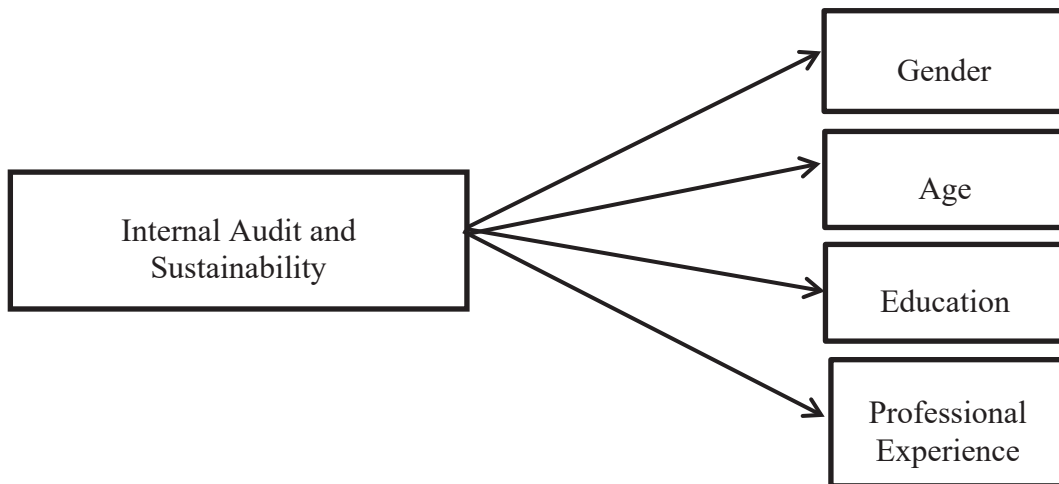


Figure 1. Research Model

In this research model, altogether four hypotheses are developed to test the relationships among the various variables. The hypotheses that reveal that internal audit and sustainability will differ according to the demographic characteristics of business managers (employees) and professional experience are presented below.

$H_0^{(1)}$: Internal audit and sustainability do not differ according to the gender in businesses.

$H_0^{(2)}$: Internal audit and sustainability do not differ depending on the age in businesses.

$H_0^{(3)}$: Internal audit and sustainability do not differ according to the educational level in businesses

$H_0^{(4)}$: Internal audit and sustainability do not differ according to the professional experience in businesses

2.2. Empirical Findings

In this study, Kolmogorov-Smirnov and Shapiro-Wilk normality tests are applied to the dataset to investigate the assumption of normal distribution, and Cronbach's alpha value is calculated to test the reliability of the scales. Frequency analyzes are performed and Mann Whitney-U and Kruskal-Wallis tests are applied to test the hypotheses of the study. To determine whether the variables used in the study would be suitable for parametric or non-parametric analyses, the normality tests are applied and presented in Table 1.

Table 1. Tests of Normality

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Test Statistics	d.f.	p-value	Test Statistics	d.f.	p-value
Internal Audit	0.132	132	0.000	0.916	112	0.000
Sustainability	0.131	132	0.000	0.922	112	0.000

Contrary to the null hypothesis, which is based on the assumption that the series are normally distributed, the alternative hypotheses advocating the assumption that they are not normally distributed are tested with Kolmogorov-Smirnov and Shapiro-Wilk normal distribution tests. Since [$p < 0.05$], the null hypothesis is rejected, and it is concluded that the series do not follow a normal distribution. The Cronbach's alpha value, which shows reliability of the scales with the internal consistency measure of the items, is presented in Table 2.

Table 2. Test of Reliability

Variables	Number of Items	Cronbach's Alpha
Internal Audit	20	0.857
Sustainability	8	0.696

In Table 2, Cronbach's alpha values of internal audit and sustainability are 0.857 and 0.696, respectively. As seen from the results, reliability of internal auditing is at a good level and reliability of sustainability is at an acceptable level.

In the study, in order to demonstrate how important the internal audit and sustainability practices of businesses are during periods of economic crisis, the distribution of the statements from the surveys conducted with employees with managerial status in the businesses are examined according to their agreement levels. The scale statements about taking risks during crisis periods such as "Internal audit contributes to the business in risk management" and "Our business's sustainability practices are effective during economic crisis periods" are used to ensure that survey respondents made their assessments with economic crisis periods in mind. The average value ranges of the survey statements consisting of 28 statements, which have been created with a 5-point Likert scale (1- Strongly Disagree, 2- Disagree, 3- Neither/Nor Agree, 4- Agree, 5- Strongly Disagree). It is classified as very high level in the value range of 4.20-5.00; high in the range of 3.40-4.19; medium in the value range of 2.60-3.39; low in the range of 1.80-2.59; very low in the range of 1.00-1.79 (Özcan, 2019: 79). The average values of internal audit and sustainability are presented in Table 3.

Table 3. The Average Values of Internal Audit and Sustainability

Variables	N	Mean	Standard Deviation
Internal Audit	112	4.09	0.49
Sustainability	112	4.17	0.60

As seen in Table 3, the means of both internal audit and sustainability scales in businesses are greater than 4. In addition, the mean of sustainability scale is greater than mean of internal audit ($4.17 > 4.09$). It is revealed that the answers “Agree” are more in both scales and the level of agreement in the sustainability scale is greater than the internal audit scale. The level of agreement with the statement of the participants for internal audit practices and sustainability practices in businesses are presented as Table 4 and Table 5.

Table 4. The Statistics of Internal Audit Practices

Item	Question	Strongly Disagree	Disagree	Neither / Nor Agree	Agree	Strongly Agree	Mean
1	An internal control and internal audit system compatible with the policies and objectives of the business will increase the effectiveness of the management of the business.	5	4	6	23	74	4.40
2	The duties, authorities and responsibilities of the employees in the enterprise are clearly known to the employees.	1	6	4	19	82	4.56
3	The business has procedures to ensure that accounting transactions are carried out completely and accurately.	3	7	10	19	73	4.35
4	Registries made in our business are approved separately by the person performing the transaction and the person controlling it.	5	6	7	21	73	4.34
5	All activities in our business are carried out are checked in accordance with the legislation, articles of association and internal company regulations.	1	3	15	13	80	4.50
6	Administratively, who is responsible for financial and monetary matters is determined by a formal delegation of authority.	4	7	12	25	64	4.23
7	The reporting system in the business allows management to evaluate whether the main goals of the business have been achieved.	3	2	13	12	82	4.50
8	It is important to create a database for auditing and reporting business activities and to prepare the necessary technological infrastructure for this.	2	9	16	21	64	4.21
9	Risks to the goals and objectives are determined and evaluated and updated at least one time in a year and/or according to changing conditions.	9	12	8	24	59	4.00
10	The effectiveness of the internal control system is constantly evaluated and supervised by management.	3	7	12	21	69	4.30
11	Internal audit aims to prevent and detect erroneous and fraudulent transactions.	2	7	12	24	67	4.31
12	Internal audit ensures to comply with ethical values in the company.	5	3	4	25	75	4.44

13	Internal audit provides objective guarantee to management by measuring and evaluating the effectiveness of control systems.	2	5	13	15	77	4.42
14	Internal audit and internal control systems ensure cooperation (coordination) between other participants of the corporate governance process (board of directors, audit board and external audit).	2	11	10	26	63	4.22
15	Information whose integrity, accuracy and impartiality has been inspected and verified by internal audit units is considered reliable information by decision makers.	2	3	10	23	74	4.46
16	Internal auditing in the business improves the transactions and activities in the organization and adds value to the business.	7	5	21	18	61	4.08
17	Internal audit has a certain impact on the input, output, result, efficiency, effectiveness and quality elements that are performance indicators in businesses and provides a significant contribution or support to the development of these elements.	6	7	7	34	58	4.16
18	The internal audit system plays an active role in ensuring that the business achieves its goals.	2	5	11	21	73	4.41
19	The internal audit system ensures that business activities comply with legal regulations.	12	8	14	19	59	4.93
20	Internal audit contributes to the business in risk management.	3	5	6	19	79	4.48

It is understood from the Table 4, the 9th statement, 16th statement and 17th statement are at a high agreement level [mean <4.20] and the other statements are at a very high agreement level [mean >4.20] for internal audit practices in businesses. In addition, it is observed that the 5- Strongly Agree value is accepted more frequently than other values in the agreement levels of the statements. In this regard, it is understood that internal audit practices in businesses are generally at a very high level.

Table 5. The Statistics of Sustainability

Item	Question	Strongly Disagree	Disagree	Neither/Nor Agree	Agree	Strongly Agree	Mean
1	Business employees are aware of the sustainability approach.	2	3	16	14	77	4.43
2	Business managers are sufficiently concerned with sustainability issues.	8	10	14	27	53	3.95
3	The Information flow is provided between business employees and managers regarding sustainability.	5	6	16	16	69	4.23
4	Training is provided to explain the importance of sustainability within the institution.	25	26	11	20	30	3.03
5	There is a separate department or manager for sustainability in our business.	2	5	14	11	80	4.44
6	Our business prefers appropriate strategies to reflect sustainability practices to society and stakeholders.	2	5	13	28	64	4.31
7	Our business regularly publishes sustainability reports.	4	4	8	12	84	4.50
8	Our business's sustainability practices are effective in times of economic crisis.	4	2	10	13	83	4.50

In Table 5, it is seen that the level of agreement for the 2nd statement is at a high level [mean<4.20], the 4th statement is at a medium level [mean<3.40], and the other statements are at a very high level [mean>4.20]. In addition, it is observed that the 5- Strongly Agree value is accepted more frequently than other values in the agreement levels of the statements. It can be said that from the results internal audit practices in businesses are generally at a very high level.

Since the internal audit and sustainability variables do not have a normal distribution, non-parametric Mann Whitney U and Kruskal Wallis tests are used to compare the means. The Mann Whitney-U test is applied for gender and the results are presented in Table 6.

Table 6. Mann Whitney-U Test Results

Variables		N	Mean of Ranks	Mann-Whitney U Test Statistics	p-value
Internal Audit	Female	61	58.30	1446	0.522
	Male	51	54.35		
Sustainability	Female	61	58.25	1448	0.531
	Male	51	54.40		
	Single	54	60.61		

The results of the Mann Whitney-U test given in Table 6 show that the differences between the means are not statistically significant. It is understood that the " $H_0^{(1)}$: Internal audit and sustainability do not differ according to the gender in businesses" hypotheses cannot be rejected [$p>0.05$]. The Kruskal Wallis test results are applied for age, educational status and professional experience variables are presented in Table 7.

Table 7. Kruskal Wallis Test Results

Variables		N	Mean of Ranks	Kruskal Wallis Test Statistics	p-value	
Internal Audit	Age	26-35	28	62.41	36.030	0.000
		36-45	29	73.79		
		45-55	26	57.35		
		56+	12	56.83		
		Total	112			
Sustainability	Age	18-25	17	28.35	18.893	0.001
		26-35	28	64.21		
		36-45	29	67.76		
		45-55	26	51.52		
		56+	12	61.96		
		Total	112			
Internal Audit	Educational Status	High School	11	36.82	35.168	0.000
		Associate Degree	27	45.87		
		Undergraduate	36	43.94		
		Postgraduate	38	81,64		
		Total	112			
Sustainability	Educational Status	High School	11	43,55	4.645	0.200
		Associate Degree	27	53,19		
		Undergraduate	36	54,29		
		Postgraduate	38	64,70		
		Total	112			
Internal Audit	Professional Experience	0-5	20	41.75	6.383	0.170
		6-10	21	60.6		
		11-20	19	52.68		
		21-30	38	63.14		
		31+	14	58.57		
		Total	112			
Sustainability	Professional Experience	0-5	20	47.48	3.495	0.480
		6-10	21	59.29		
		11-20	19	50.97		
		21-30	38	62.33		
		31+	14			
		Total	112			

It is seen that from the Table 7, the internal audit and sustainability variables have statistically significant differences according to the age variable. The mean of ranks of individuals between the ages of 36-45 is found to be higher. The " $H_0^{(2)}$: Internal audit and sustainability do not differ according to the age in businesses" hypothesis is rejected [$p < 0.05$]. It is seen that the internal audit variable has statistically significant differences according to the educational level variable ($p < 0.05$), whereas the sustainability variable does not have any difference [$p > 0.05$]. According to the mean of ranks, it is seen that postgraduate education category has the highest value in terms of

the internal audit variable. It is understood that the test results in Table 7 “ $H_0^{(3)}$: Internal audit and sustainability do not differ according to the educational level in businesses” is rejected for the internal audit variable, but is confirmed for the sustainability variable. There is no difference between the means of the professional experience variable for internal audit and sustainability. It is found that the “ $H_0^{(4)}$: Internal audit and sustainability does not differ according to the professional experience in businesses” hypothesis cannot be rejected [$p>0.05$].

3. CONCLUSION

The study investigates the importance of internal audit and sustainability for businesses during 2018 economic crisis periods through an application. In this study, a survey was conducted with a random sampling method on 122 business managers in Türkiye to reveal the opinions of businesses according to internal audit and sustainability practices during the crisis period in 2022, when the effects of the 2018 economic crisis continue. Since 10 surveys were incorrect and/or incomplete, 122 surveys were included in the study. Reliability test was performed on the internal audit scale consisting of 20 sentences and the sustainability scale consisting of 8 sentences. It is found that reliability of internal auditing is at a good level and reliability of sustainability is at an acceptable level. The differences between the means of the internal audit and sustainability for the demographic variables of age, gender, education level and professional experience were investigated with the Mann Whitney-U and Kruskal-Wallis non-parametric tests since they were not normally distributed.

In order to understand the importance of internal audit and sustainability for businesses in times of economic crisis, firstly the distribution of agreement levels regarding the statements was examined. As a result, it was observed that most of the participants in the surveys answered that they strongly agree with the positive aspects of internal audit and sustainability. It was investigated whether there were differences in internal audit and sustainability according to the gender, age, educational status and professional experience of the employees working as manager.

Although there are not enough similar studies in the literature, the results obtained from the study are similar to Özcan (2019) as determined that the importance of internal audit and sustainability for differences of businesses are significantly depending on the demographic characteristics of participants. However, unlike Özcan (2019) study, no significant difference is found in terms of internal audit and sustainability studies according to gender. While the perspective on sustainability during the crisis period does not differ according to the education status, as Özcan (2019), the evaluation of internal audit differs. As the level of education increases to postgraduate, the importance of internal auditing also increases. In this study it is revealed that experience is not a distinguishing feature in internal audit and sustainability. Although Özcan (2019) reached the same conclusion, when only the management team is evaluated expect of employees, it can be said that business managers have the same perspective regardless of their professional experience. In this study, unlike Özcan (2019), the age variable is also examined. It is found that there are significant differences according to age for both of internal audit and sustainability. In addition, this situation reveals that the importance of internal audit and sustainability practices in businesses during periods of economic crisis is evaluated by individuals between the ages of 36-45.

In conclusion; The study has partially revealed that internal audit and sustainability practices are important for businesses in times of economic crisis. The fact that each crises have different effects shows that some strategies can be partially successful. From this perspective, it seems necessary to diversify the studies according to different businesses, sample size or type of crises experienced. It is recommended that a study that would evaluate employees at different levels of work in different times of crisis for example, before, during and after the crisis in businesses.

Conflict of Interest

The authors declare no conflict of interest.

Funding

No funding was received for conducting this study.

REFERENCES

- AKSOY, Ç. (2013). *Sürdürülebilirlik Performansının Değerlendirilmesine Yönelik Ölçek Önerisi ve Türkiye'deki İşletmelerde Uygulaması*. Thesis (PhD). Marmara University.
- BEDNAREK, P. (2018). Factors affecting the internal audit effectiveness: A survey of the polish private and public sectors. In *Efficiency in Business and Economics*. Eds: T. Dudycz, G. Osbert-Pociecha, & B. Brycz. Cham: Springer.
- DANIELA, P. (2010). Internal audit: Defining, Objectives, Functions and Stages. *Studies in Business and Economics*. 5(3), 238-246.
- HAILEMARIAM, S. (2014). *Determinants of Internal Audit Effectiveness in The Public Sector; Case Study in Selected Ethiopian Public Sector Offices*. Thesis (PhD). Jimma University.
- KRITHIKADATTA J.(2014). Normal Distribution. *Journal of Conservative Dentistry*. 17, 96-7.
- KOLMOGOROV A. (1933): Sulla Derminazione Empirica di Una Legge di Distribuzione. *Ist. Ital. Attuari G. 4*, 1-11. KRUSKAL, W. H., & WALLIS, W. A. (1952). Use of Ranks In One-Criterion Variance Analysis. *Journal of the American Statistical Association*. 47, 583–621.
- MANN, H. B., & WHITNEY, D. R. (1947). On a Test of Whether one of two Random Variables is Stochastically Larger than the Other. *Annals of Mathematical Statistics*. 18, 50–60.
- MUSAH, A., GAPKETOR, E. D., & ANOKYE, F. K. (2018). Determinants of Internal Audit Effectiveness in State-Owned Enterprises (SOEs) in Ghana. *The Journal of Accounting and Management (JAM)*. 8(1), 52-68.
- ÖZCAN, B. K. (2019). *İşletmelerin Sürdürülebilirliği Açısından İç Denetimin Rolü ve Önemi*. Thesis (PhD). İstanbul Okan University.
- ÖZTÜRK, A. (2003). Kriz Yönetimi ve Tekstil Sektörüne Etkileri ile İlgili Bir Araştırma. *Sosyal Ekonomik Araştırmalar Dergisi*. 10(20), 387-410.
- THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TÜRKİYE (TOBB). *2005 Economic Report*. Ankara: Nurol Press and Packaging Industry Inc., 2006.
- THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TÜRKİYE (TOBB). *2009 Economic Report: 65th General Assembly*. Ankara: Özyurt Press, 2010.
- THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TÜRKİYE (TOBB). *2018 Economic Report: 75th General Assembly*. Ankara: Gökçe Press, 2019.
- THE UNION OF CHAMBERS AND COMMODITY EXCHANGES OF TÜRKİYE (TOBB). *2019 Economic Report: 76th General Assembly*. Ankara: Gökçe Press, 2020.
- KARDEŞ SELİMOĞLU, S., & SALDI, M. (2021). Covid-19 Etkisinde Sürdürülebilirliğin Sağlanması ve İç Denetimin Değişen Rotası. *Denetim* (22), 5-14.
- SEZAL, L. (2020). 2018 Ağustos Krizinin Türk Bankacılık Sektörüne Etkisi. *Journal of Economics and Research*. 1(1), 17-32.
- SHAMKI, D., & ALHAJRI, T. A. (2017). Factors Influence Internal Audit Effectiveness. *International Journal of Business and Management*. 12(10), 143-154.
- SHAPIRO S.S., WILK M.B. (1965): An Analysis of Variance Test for Normality (Complete Samples). *Biometrika*, 52, 591-611.
- SHAPIRO S.S., WILK M.B. (1968): Approximations for the Null Distribution of the W Statistic.

Technometrics. 10, 861-866.

- UZUN, A.K. (2008). İşletmelerde İç Denetim Faaliyetinin Rolü ve Katma Değeri. <http://www.denetimnet.net>.
- UZUN, A. K., & YURTSEVER, G. (2009). Kriz Yönetiminde İç Denetim'in Rolü. *Kriz Yönetimi içinde. İstanbul: İstanbul Bilgi Üniversitesi Yayınları*, 489-513.
- WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT. *Our Common Future*. Oxford, UK: Oxford University Press, 1987.
- YURTSEVER, G. (2015). İç Denetimin Fonksiyonları ve Katma Değeri. *Finans Politik ve Ekonomik Yorumlar*. 52(602), 89-101.