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The Impact of Technology Adoption on Financial Resources in the Internal Audit and Control Unit from an Accounting Point of View: The Intermediary Role of Governance

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Abstract

The current study aims to identify the impact of the adoption of technology on financial resources in financial companies, in addition to assessing the mediating impact of governance. The study relies on the quantitative approach to study the relationships between different variables, and applies the questionnaire as a tool for data collection, and the study population includes all workers in the field of accounting and auditing in financial companies in the Hashemite Kingdom of Jordan. A random sample method is selected from the study population, and the questionnaire is distributed to 150 people for statistical analysis purposes. The study reached a set of results most notably:

- There is a positive impact of the adoption of technology and governance on financial resources, as technology plays an important role in enhancing efficiency and reducing waste, which improves the optimal use of financial resources.
- The results showed that the adoption of technology positively affects governance practices, is reinforced by practices in these companies and increases the desire of management to apply different governance practices.
- The results showed that governance mediates the relationship between the adoption of technology and financial resources, and the promotion of their use, which leads to increased profitability.

The study recommended the need to focus on the use of the latest technologies among managers of financial companies, including: (artificial intelligence and big data) at work, due to their importance in improving the performance of companies, and also recommends the need to focus senior management in companies on the application of governance practices due to their importance in enhancing financial resources and achieving the greatest possible returns. The study proposes future studies focusing on other economic sectors.

Keywords: Technology, Financial Resources, Internal Audit and Control Unit Mediating Role, Governance.

Introduction

The current technological century is witnessing a qualitative leap in the field of work of financial companies that are based on technology Information and communication, technology is a tool that provides the most important solutions in determining and reducing the cost of general production cost and is also the main engine for the development of all activities and business, including financial and accounting work.

This, in turn, may impose major tasks and enormous costs on these companies that provide their technological services, as they are in the process of their development and continuity in the local and global market and their competition must work to evaluate themselves, and identify their status and the extent of their efficiency and ability that should be traded what development is taking place, and this is also accompanied by identifying competing companies and knowing everything contemporary that emerges in the field of information in order to fade weaknesses and have opportunities to reach more strength and facilitate services. and reduce Expenses (Tawfik et al.,2023).

Financial resources constitute several administrative activities carried out by the management of companies interested in making financial decisions to obtain funds from more than one source and work to develop them according to a specific time plan that takes into account the optimal employment of funds and guides their spending in line with the company's goals and the requirements of its employees. and the beneficiaries of it. (Behrend and Marc, 2019)

Financial institutions are looking forward in the current era to expanding the areas of accounting business, applying the principle of sustainability and keeping pace with developments in all technological, economic and social fields, and this can only be achieved when there is an internal operations base from which the plans developed by the administration emanate, and the internal audit and control system is considered the core of the functioning and organization of financial companies and achieving what they aspire to reach of visions and goals as a system that contributes to preserving the company's assets from waste, loss or theft of accounting data and information and mastery of attracting investors through clear data in its financial reports (Agomor et al., 2021).

Technological development has led to the emergence of major projects in all industries and increased competitiveness, and this will enhance the interest in the internal audit and control unit as a system that contributes to the management of the company and helps it achieve the set plans and objectives set for its operations (Ahmi et al., 2014).

The financial crises have recognized the importance of the effective role of audit and internal control in companies and the extent of their impact on their performance and make their financial and accounting reports more accurate, unlike the giant companies that were embodied by the company to address the crises that cause the collapse of the company, for example (Enron) (Vijayakumar, Nagaraja, 2012).

Internal audit embodies one of the internal control methods in the company and helps to evaluate all activities and functions related to internal control, as it is a pattern to ensure the degree of commitment of the company to the plans set to achieve its goals and in a manner that achieves high efficiency and effectiveness (Chan, 2008), so it is peak that internal audit is characterized by independence and be in contact with senior management, and work to reach credibility and accuracy in accounting information (Jarah et al., 2022a).

The Internal Audit and Control Unit is one of the units that affect the performance of the company and has an effective role in achieving the goal that it wishes to achieve the goals of companies, and it is a key condition for achieving accounting operations, and it has a comprehensive concept of all controls related to administrative operations to include the organization of activities and business (AL-Shbiel & AL-Zeaud, 2012).

Alnajjar (2017) addressed in his study that the audit and internal control unit is important for the company and that any weakness may lead to raising the risk to the financial information provided to investors, which raises the cost of capital for the company, and increases unsuccessful business operations, which pose a threat and damage to the company in earning profits, and also the weakness of the audit and internal control unit in the company may lead to its deterioration and loss of value.

While Mohamud (2013) indicates in his study that the internal audit and control system has become an essential part of the work of any company, it is an integrated system and includes many sub-control systems such as the accounting, financial, and administrative control system, which obliges companies to work with them if they want to achieve quality and transparency in their financial and accounting reports.

On the other hand, governance has a prominent role in financial companies, because it is one of the most important topics spread in the current era, as it is still at the forefront of the attention of most regulatory authorities and relevant international companies such as financial, banking and financial institutions, and the Organization for Economic Cooperation and Development, and this interest came in response to facing the financial crises faced by the global economy (Srivastava, 2023).

The adoption of governance contributes to the revival of the economy of financial companies and their long-term continuity, as it is one of the most important pillars of a successful business environment because of its prominent impact in attracting capital and investors, supporting confidence in the national economy and preserving the rights of stakeholders and shareholders in the financial markets, in addition to emphasizing the importance of achieving transparency and financial disclosure and consolidating integrity in financial transactions through the development of specific laws to serve the public interests and the rights of private shareholders (Douglas et al.). 2018.

The study of Kaawaase et al. (2021) and Larckar and Tayan (2016) confirms that the main objective of managing financial companies is to protect the interests of shareholders, reduce the risks they face, and avoid the recurrence of crises that may affect them, as governance is applied as a contemporary working mechanism that has many features to activate the role of technology and the extent of its impact on financial resources, develop and improve it, support internal audit and control, and ensure the extent to which it applies disclosure and transparency.

Hence, this study came to reveal the impact of technology adoption on financial resources in the Internal Audit and Control Unit from an accounting point of view: the mediating role of governance.

Problem Statement

The application of information and communication technology in accounting companies helps to dispense with the purchase of technological devices and equipment with a high cost to store data and files, which requires maintenance in addition to the need for those equipment to continuous periodic maintenance, which leads to increased costs, in addition to that these equipment face the risk of possible damage, which leads to the cost of companies, and in this area ICT can provide solutions that provide many options through the Internet for those companies (Fakhimuddin, 2018).

The internal audit and control system as a unit in financial companies is one of the necessary pillars to achieve progress and success, especially in light of the intense competition between financial companies and their ability to support their place in light of the tremendous technological development (Zuo and Lin 2022).

Financial companies may be exposed to some challenges that lie in the financial mismanagement of their resources, the occurrence of some abuses, whether financial or administrative and the theft and manipulation of financial statements to achieve a profit, which is a departure from the plan and giving false information to future investors and based on which the special decisions associated with it are made (Balaciu & G. 2011).

Vladu & Bogdan (2009) added in their study that the low and weak regulatory legislation may contribute to the seizure of power to serve personal ends, which will affect decision-making at the level of companies that are supposed to be subject to legislation that may gain legal force, but its provisions have not been applied due to weak scrutiny and internal control of units and stakeholders in companies.

One of the most prominent challenges facing accounting companies is the availability of sufficient financial resources to secure their needs appropriately, and the dependence of these companies on their financial resources to cover their successive expenses led to the creation of many problems and the loss of their financial and administrative independence; Achieving its goals and raising its quality levels

A study (Al-Sayyed, Al-Aroud & Zayed, 2021) recommended increasing interest in artificial intelligence technologies by audit offices operating in Jordan because of their scientific importance in improving the process of collecting audit evidence.

The good and effective application of governance may contribute to helping the Internal Audit and Control Unit to reduce the risks it is exposed to, and it can continue and compete with the rest of the competing companies, which is reflected in its financial resources, as a study (Larcker, D. and Tayan, B. 2011) showed that governance has an impact on improving the volume of the company's financial resources, as well as improving the nature of the disclosed financial reports in terms of quality and impartiality to ensure equal opportunities for investment decision makers.

This was confirmed by a study (Srivastava, 2023) and (Douglas et al., 2018), which concluded that governance came to constitute a qualitative leap in terms of disclosure and transparency as it was applied to protect the rights of stakeholders, an effective solution to stay away from financial crises, combat financial and administrative corruption, manage risks and support transparency disclosure of financial information.

Through the above, the researcher believes that the problem of the study emerges by answering the main question, which is: What is the impact of the adoption of technology on financial resources in the audit and internal control unit from an accounting point of view: the mediating role of governance?

Questions of the study

1. What is the impact of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the audit and internal control unit from an accounting point of view?
2. What is the impact of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on governance in the audit and internal control unit from an accounting point of view?
3. What is the impact of governance on financial resources in the Internal Audit and Control Unit?

4. What is the impact of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the audit and internal control unit from an accounting point of view through governance as an intermediate variable?

Importance of the study

Theoretical importance: This study derives its importance through the importance emanating from the impact of adopting technology on financial resources in the Audit and Internal Control Unit, and the mediating role of governance, which is one of the most important and latest topics that will enable accounting companies to develop their business, improve their performance, and work to reduce their costs through the many services and options that technology will provide in the Audit and Internal Control Unit.

Scientific importance: This study will be one of the modern references that touched on the impact of the adoption of technology on financial resources in the audit and internal control unit, which is one of the rare topics that need continuous and in-depth study, as this study serves accounting companies in adopting technology, and also about governance, and the importance of technology will be clarified in the audit and internal control unit, and draw the attention of researchers to conduct more studies on the variables of the study.

Objectives of the study

The study aims to identify:

1. The impact of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the audit and internal control unit from an accounting point of view.
2. The impact of adopting technology in terms of its dimensions (equipment, human resources, software, control) on governance in the audit and internal control unit from an accounting point of view.
3. The impact of governance on financial resources in the Internal Audit and Control Unit.
4. The impact of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the audit and internal control unit from an accounting point of view through governance as an intermediate variable.

Hypotheses of the study

The study is based on the following main hypotheses:

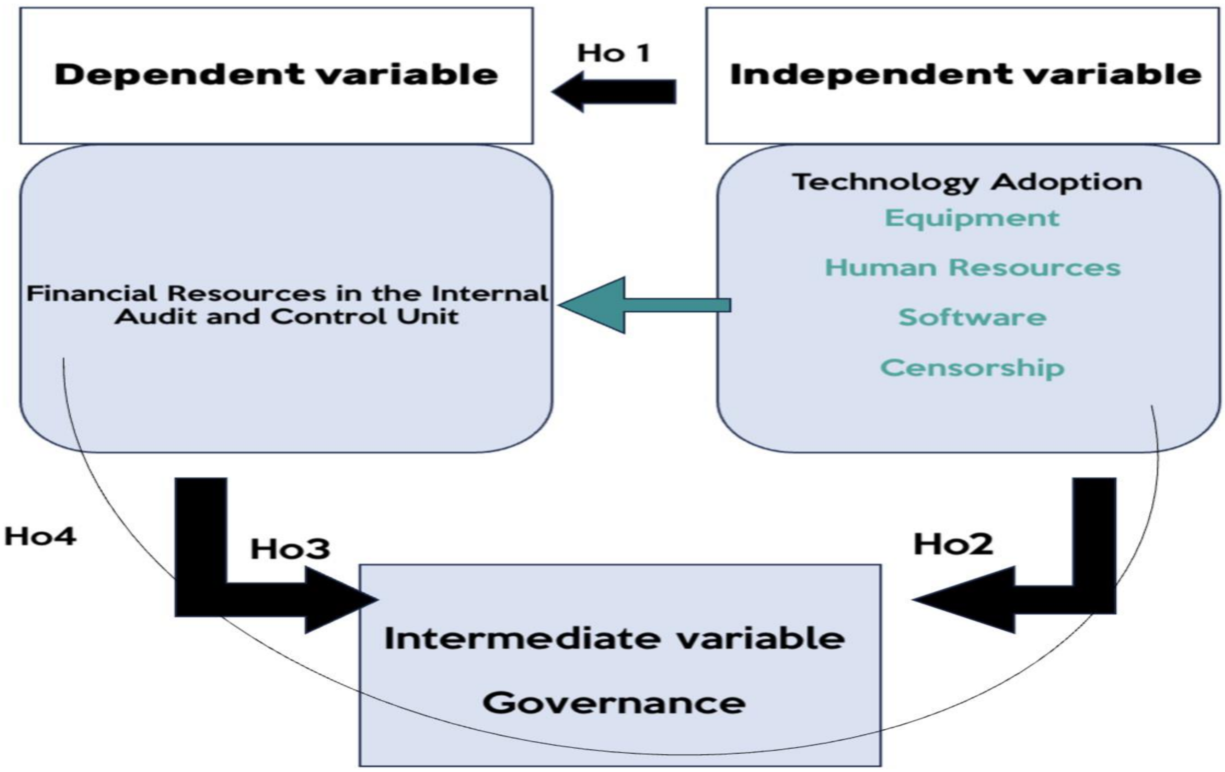
H01: There is no statistically significant effect at a significant level ($\alpha \leq 0.05$) of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the Internal Audit and Control Unit.

H02: There is no statistically significant effect at a significant level ($\alpha \leq 0.05$) of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) in the governance of the Internal Audit and Control Unit.

H03: There is no statistically significant effect at a significant level ($\alpha \leq 0.05$) of governance in financial resources in the Internal Audit and Control Unit.

Study Form

H04: There is no statistically significant effect at a significant level ($\alpha \leq 0.05$) of the adoption of technology in terms of its dimensions (equipment, human resources, software, control) on financial resources in the Audit and Internal Control Unit, through governance as an intermediate variable.



Methods

Study Procedures

For the purposes of reaching the objectives of the study, a test of the relationships between the independent, intermediate, and dependent variables of the study was conducted through the use of the Structural Equation Modeling SEM technique using Smart PLS software version 3. Before conducting the related tests between the variables, the researchers developed the measurement tool, which is the questionnaire, by referring to the most important existing studies. In the literature, the Adopted items that were adopted in the previous studies of this study were adapted. After developing the scale, the questionnaire was presented to a group of arbitrators working in Jordanian universities. Then the questionnaire was translated into Arabic for distribution to the study sample.

The questionnaire items were developed using a five-point Likert scale; the lowest value represents strong disagreement (1), and the highest value represents strong agreement (5). The questionnaire, in its final form, included (29) items related to the items of the questionnaire and related to the variables of the study.

The study population and sample

In this study, the quantitative approach was relied upon to study the relationships between the different variables, as the quantitative approach is considered one of the most suitable approaches for this study, as this approach allows the use of hypothesis testing to find out causality between the variables (Lowry and Gaskin, 2014), and simple random sampling was used in the process of distributing The questionnaire in order to represent the population in a correct and appropriate way and to reach accurate results that can be circulated to the study population.

The population included all workers in the field of accounting and auditing in financial companies in the Hashemite Kingdom of Jordan. As for the study sample, the questionnaire was distributed to a random group of the study population. (175) questionnaires were collected and for the purposes of the initial sorting, 25 questionnaires were excluded due to the presence of irrational answers or for not completing the filling Thus, 150 questionnaires were used for the purposes of statistical analysis.

The number of males in the sample was 110, with a percentage of 73.3%, while the number of females in the sample was 40, with a percentage of 26.7%. According to the variable of experience, the majority of respondents whose years of experience were 10 years or less were 133 individuals, or 88.7%, while the number of respondents whose years of experience were more than 10 years was 17, or 11.3%.

Analysis of data and results

For the purposes of reaching the objectives of the study, Partial Least Squares PLS were employed, as this statistical methodology can be considered one of the most powerful and flexible techniques in estimation and does not require a large sample size or linear basic assumptions, as is the case in other statistical methods (Fornell and Larcker, 1981) and according to the literature. Statistics (Hair et al., 2014) that before testing the hypotheses through SEM-PLS, the Measurement model must be checked first and then an evaluation of the relationships should be made.

Measurement model

SEM-PLS provides the required tests to ensure the measurement model through convergent validity and discriminant validity, where the values of factor loadings and average variance extracted AVE were calculated, as factor loadings for each Items must exceed a limit of (0.70), as the values of factor loading Low should be omitted, and the value of AVE should exceed a threshold (0.50) as recommended by (Hair et al.,2019; Hair et al.,2014), and the values of Cronbach alpha coefficient and composite reliability coefficient were calculated to ensure the internal consistency of the items as the acceptable limit at (0.70) for each of these two factors. Table (1) analyzes the values of AVE, composite reliability, and Cronbach alpha factor loadings. If the statistical values were within the acceptable range, the paragraphs whose factor loadings were less than (0.70) were deleted.

Table (1): convergent validity and reliability of study variables

Variable	Item code	Loadings	Cronbach alpha	Composite reliability	AVE
Hardware	HARD1	0.839	0.853	0.902	0.697
	HARD2	0.886			
	HARD3	0.862			
	HARD4	0.746			
Human resources	HR1	0.863	0.700	0.827	0.617
	HR2	0.812			
	HR3	0.708			

	HR4	-			
Software	SOFT1	0.700	0.765	0.850	0.588
	SOFT2	0.773			
	SOFT3	0.807			
	SOFT4	0.788			
Control	CONTROL1	0.862	0.795	0.881	0.713
	CONTROL2	0.908			
	CONTROL3	-			
	CONTROL4	0.756			
Financial resources	FR1	0.732	0.852	0.901	0.696
	FR2	0.845			
	FR3	0.890			
	FR4	0.860			
Governance	GOV1	0.726	0.905	0.924	0.603
	GOV2	0.758			
	GOV3	0.798			
	GOV4	0.753			
	GOV5	0.775			
	GOV6	0.827			
	GOV7	0.837			
	GOV8	0.730			

The assessment of discriminant validity is one of the prerequisites for verifying the Measurement model, as Discriminant validity is a necessary requirement to ensure that there is a statistical difference between variables (Hair et al., 2019). Discriminant validity was evaluated by the method of Fornell and Larcker, 1981, where the square root values of the AVE values must be greater than all other values, which express the correlation coefficients between the variables. Table 2 summarizes the test results, which show that the requirements of discriminant validity were met, and therefore there is a statistical difference between the variables.

Table (2): Discriminant validity (Fornell and Larcker,1981)

No	Variable	1	2	3	4	5	6
1	Control	**0.844**					
2	Financial resources	0.796	**0.834**				
3	Governance	0.708	0.764	**0.776**			
4	Hardware	0.559	0.547	0.573	**0.835**		
5	Human resources	0.615	0.575	0.608	0.759	**0.786**	
6	Software	0.528	0.512	0.558	0.468	0.586	**0.767**

Structural Model

In order to achieve the objectives of the current study, which tests the impact of adoption of technology on governance and financial resources, in addition to evaluating the indirect effects on this relationship. Four hypotheses were developed and tested by the bootstrapping method provided by SEM-PLS (Hair et al., 2014).

The results presented in Table 3 show the results of evaluating and testing the hypotheses, where all hypotheses H1-H4 were accepted, as each of the beta values, t-values and p-values shown in Table 3 were calculated.

H1, H2 and H3 were accepted, as there was a positive effect of adoption of technology on financial resources, where the results were ($\beta = 0.366$, $t = 4.154$, p-value = 0.000), and the effect of adoption of technology on governance was also positive, and therefore it was accepted H2 (β=0.734, t=15.493, p-value=0.000) Finally, H3 was accepted, as Table 3 reported that the impact of governance on financial resources was positive and statistically significant (β=0.494, t=5.525, p-value=0.000).

Table (3): Results of testing the study hypotheses

Path	Beta values	t-Statistic	P-Value	Result
Adoption of technology ⇒financial resources	0.366	4.154	0.000	Supported
Adoption of technology ⇒governance	0.734	15.493	0.000	Supported
governance ⇒ financial resources	0.494	5.525	0.000	Supported

For the purposes of the H4 evaluation, which examines the indirect effect of governance on the relationship between the Adoption of technology and financial resources, where, according to the recommendations of (Preacher and Hayes, 2008), confidence intervals were calculated for the indirect effect, where the values were positive, and this confirms the emergence of a statistically significant effect of the indirect effect. Where the results were (β=0.363, t=4.804, p-value=0.000), and with reference to Table 4, it can be said that governance mediates the positive relationship between the Adoption of technology and financial resources.

Table (4): Results of testing the mediation analysis

Path	Beta	t-Statistic	P-Value	Result
Adoption of technology ⇒ governance ⇒ financial resources	0.363	4.804	0.000	Supported
	95%LL	95%UL		
	0.214	0.518		

Discussion the results

The main objective of the current study was to identify the effect of adoption of technology on financial resources in financial companies, in addition to evaluating the mediating effect of governance. The study reached a variety of empirical results, the most important of which were the following:

1- There was a positive effect of the adoption of technology on financial resources, where technology plays an important role in enhancing efficiency and reducing waste, which improves the optimal use of financial resources, and companies can also, through the adoption of technology, work to raise the quality of business and this enhances profitability and thus Improving corporate finances. The results of the study agreed with a group of published research such as (Kaawaase et al. (2021) and Larckar and Tayan (2016)) which emphasizes the importance of adopting technology in improving financial resources.

2- The results showed that the adoption of technology positively affects governance practices, as the use of technology and its adoption in business operations in financial companies enhances governance practices in these companies and increases the desire of management to apply various governance practices (Srivastava, 2023) and (Douglas et al., 2018.

3- The results also revealed that governance has a positive impact on financial resources, and this is consistent with previous literature such as (), which emphasized the importance of governance and its practices in working on the optimal use of financial resources, which reflects positively on companies' business from a financial point of view.

4- The results also confirmed that governance mediates the relationship between the adoption of technology and financial resources, and this contribution is considered one of the innovative and important contributions of this study, as there are not many studies that confirm this relationship, and therefore it is possible that governance practices and technology adoption enhance the use of financial resources, which leads to increase profitability.

Recommendations

Based on the discussion of the results and data analysis, the study recommends that the managers of financial companies should focus on using the latest technology such as artificial intelligence and big data in the work of their companies due to the importance of this technology in improving the use of financial resources. Also, this study recommends that senior management in companies should focus on applying governance practices due to their importance in enhancing financial resources and thus achieving the largest possible returns and benefits. In addition, this study calls for conducting future studies that focus on other economic sectors, such as the service or industrial sectors, and conducting comparative studies between these studies.

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Appendix (A) The Questionnaire Statements

First section includes the primary data, kindly put a (√) in front of the phrase that applies to you.

1- Gender:

□ Male □ Female

2- Years of Experience

□ 10 and below □ 10 years and above

The second section includes the axes of the study, please put a (√) in front of the appropriate selection

Number	Paragraph text	Very high	High	Medium	Low	Very low
First Theme: Technology Adoption						
	The first dimension: equipment and devices:					
1	The Internal Audit and Control Unit has modern and advanced technological devices (devices, means, tools).					
2	The Internal Audit and Control Unit has a sufficient number of electronic payment booths.					
3	The Audit and Internal Control Unit updates the specifications of the devices according to the requirements and development of the work.					
4	The number of devices used in the internal audit and control unit is sufficient and appropriate for the workload.					
	Second Dimension: Human Resources:					
1	The staff of the Internal Audit and Control Unit has the ability to efficiently handle existing technology					
2	The Internal Audit and Control Unit is keen to activate the method of teamwork among employees					
3	The Internal Audit and Control Unit engages employees in training courses from time to time.					

4	Management in the Internal Audit and Control Unit works to enhance trust between it and employees by giving them more powers					
	The third dimension: software:					
1	The Audit and Internal Control Unit has an electronic wallet and electronic payment system					
2	The Audit and Internal Control Unit has a BOT simulation system on social media pages to answer users' requests at any time					
3	You can contact the Audit and Internal Control Unit through the website					
4	The Audit and Internal Control Unit issues electronic bulletins that include ways to deal with various technological tools					
	Fourth Dimension: Censorship:					
1	The internal control system in the Audit and Internal Control Unit, which depends on the applied information technology systems, has the characteristic of reliability and credibility					
2	The IT-based control system that is implemented has the right and timely feature					
3	The IT-based control system implemented in the Internal Audit and Control Unit is effective and convenient for making operational and investment decisions.					
4	The electronic control system applied in the Audit and Internal Control Unit is comprehensive and highly efficient					
Second Theme: Financial Resources in the Internal Audit and Control Unit						
1	The Internal Audit and Control Unit uses financial resources to pay production costs and wages.					
2	The Internal Audit and Control Unit uses financial resources to form incentive and development funds.					
3	The financial resources of the Internal Audit and Control Unit contribute to budget control and analysis.					
4	The Internal Audit and Control Unit contributes to solving the financial problems facing auditors with regard to unstructured accounts.					

Third Theme: Governance						
1	The Audit and Internal Control Unit seeks to define its objectives and work philosophy so that they are clear.					
2	The Internal Audit and Control Unit contributes to clarifying the information necessary for it to enhance its performance.					
3	The Internal Audit and Control Unit engages employees in decision-making.					
4	The Audit and Internal Control Unit distributes tasks to all employees fairly according to competence and specialization.					
5	The Internal Audit and Control Unit has a clear accountability system					
6	The existence of a flexible system of communication between the employees of the Audit and Internal Control Unit					
7	The Internal Audit and Control Unit provides a clear management system that facilitates employees to access information on an ongoing basis.					
8	The Audit and Internal Control Unit seeks to apply modern technological methods to develop the performance of employees					

Thank you