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Assistance Professor, College of Business Administration, Al-Jinan University, Tripoli, Lebanon The impact of information technology on predisbursement audits, a field study at Wasit University

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Abstract

Present study aimed to identify the impact of information technology on the work of the predisbursement control and determining its impact on the performance strength of the internal auditor. Main objective of this research is to urge the use of modern technology in the implementation of control and internal auditing, Where the concept of technology and its types were addressed in the theoretical aspect. The analytical descriptive methodology was adopted in this study. For this reason, a questionnaire of 27 questions was created. Five Likert scale was used. The questionnaire was organized to find out the opinions of specialists and stakeholders of accountants, auditors and other employees, from the owners of Wasit University. The (82) electronic copies of the questionnaire were distributed, and retrieved 100%. Statically tools are used to examine the collected answers. The result should that there is a significant impact of information technology on pre-disbursement audits, a field study at Wasit University.

Keywords: Information technology (IT), pre-disbursement audits, audition, internal auditor, effective control

Introduction

The great importance of internal control and auditing systems, which must be given attention by the legislative and executive departments in the country. Mainly because they are considered the effective tool for control for the purpose of diagnosing imbalances in the conduct of administrative and financial work on a timely basis and to express assistance to departments in identifying deviations in financial matters and working to provide appropriate suggestions to ensure workflow (Hanim Fadzil, F. et al., 2005) [14]. Since the emergence of technological development in all parts of the world and in all areas of life (Gal, G. et al., 2020) [11]. Institutions and departments have sought to use this technology optimally for the purpose of advancing their work, as the oversight and accounting work had the best luck in the independence of this development and the transition from the traditional manual work that was permeated by the occurrence of errors, waste of time, effort, inaccuracy, and others. The main objective of this study is to clarify the role of information technology in the operations of control and internal audit prior to disbursement and to introduce the information technology required in the control and accounting work (Dewi, Y. A., et al., 2021) [8]. Noting that governmental and non-governmental institutions now have purchase and sale operations with the local and international markets of service and commodity requirements, assets and their maintenance, and thus the work of the oversight bodies has become not limited to serving the administration only, but has become serving the external parties as well. It should be noted that the correct use of information technology tools in accounting programs and in various fields enables a competitive environment to be achieved, but the manner and method in which this technology is used to support accounting work is one of the most prominent obstacles that universities face (Yolanda, F. et al., 2020) [24].

This paper is organized as follow. First, the research questions will be presented in Section II. The hypotheses adopted in this study will be illustrated in Section III. The methodology and the conceptual framework associated with this study will be described in Section IV. A literature review will be done in Section V. The questionnaire will be illustrated in Section VI. The result of the SPSS will be shown and discussed in Section VII. This paper will be end by a conclusion in Section VIII.

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Study Questions

The problem of the study revolves around the following main questions:

- 1. The first main question: What is the impact of using information technology on the effective control?
- 2. The second main question: What is the impact of using information technology on the pre-disbursement audit work?

Study Hypotheses

Based on problem of the study and its objectives, several questions are asked through which the hypothesis is transformed into an answer to it, and this is done by conducting statistical tests for all hypotheses and can be determined by influence hypotheses and according to the following details:

- 1. The first hypothesis, there is a statistically significant relationship between the use of information technology and effective control.
- 2. The second hypothesis, there is a statistically significant relationship between the use of information technology and pre-disbursement audit.

Methodology

Based on these hypotheses the following variables will be used:

- Dependent variable: Effective control and predisbursement Audits.
- Independent Variable: Information Technology

The following conceptual framework can be deduced:



Fig 1: Conceptual Framework

The authors adopt in this paper an analytical descriptive methodology. The following steps will be followed accordingly:

- Build a questionnaire to collect data related to the research problem
- 2. Distribute the questionnaire to the society of the study (Wasit university In Iraq)
- 3. Collect the answers
- 4. Analyze the collected answers using SPSS and specific statically tools.
- 5. Proof or reject the hypotheses and answer the research questions.

Literature review

A. Previous study

Recently, digital transformation's impact on companies has been disruptive. Contrary to prior technical revolutions, the current system is distinguished by the rapid development of innovation that has affected organizations differently. Especially, an increasing number of organizations adjusted their management control systems to become appropriate to their business models and the external stresses caused by competitors and regulators. The authors in the (Pizzi, S. *et al.* 2021) [23] present a bibliometric analysis of the impacts caused by digital transformation on managerial auditing. The research indicates the existence of four independent

research areas: continuous auditing (Green Cluster), fraud detection (Blue Cluster), data analytics (Yellow Cluster), and technological innovation (Red Cluster). Finally, we developed a research agenda in order to address future research. Foreign: Study: Taya Prakash (2005: Strategies in Teaching Accounting in Higher Education).

In the last decade, Blockchain become very famous as the underlying technology powering Bitcoin. Nevertheless, the usefulness behind this technology further reaches just supporting cryptocurrencies. Blockchain can be presented as a digital ledger that permits charge transactions performed among several parties in a real-time. It acts as a decentralized database in which each participant holds an identical copy of the ledger. The study of (Bonyuet, D., 2020) [6] consists of reviewing extant research on this technology and evaluating the influence of blockchain in the audit career, including new risks, changes in policies and additional possibilities.

B. Fundamentals of information technology

"Technology concept: It is necessary to distinguish between the concept of "Technique" and the concept of technology. "Technology: is how to act, method, means," or an embodied act through a special grouping of elements (resource, knowledge, labor movement, etc.), which allows the conversion and transformation of only raw materials into a product, as the technology works to mix the elements of knowledge specific to a field in order to take its final assembly as a product." (Al-Aroud, Shukr, 2009)

Technology: It refers to the essence of the methodology of techniques, as it is a set of scientific and technical procedures that must be followed in order to form goals, so the development of technology is according to science and technology, and here they are inseparable and spread by the effect of traditional or normal flow" (Qawi, 2010, p. 86). Technology can also be defined as: "a method or group of methods through which the clear process of practical and scientific research allows, for the purpose of improving the quality of basic technologies and the application of scientific knowledge in order to develop production The industrialist." (Al-Sirafi, 2009, pp. 30-31).

First: the concept of information technology (IT) did not have a unified definition like its counterparts of new concepts, especially with the development and diversity of the new economy. (104) that it is "broad competence that is concerned with technology and its aspects related to information management, in terms of its acquisition, processing, storage, retrieval and dissemination". Through the integration between electronic computers and modern communication systems, especially in large organizations. Al-Far (2009, p. 3) [1] defines it as: "a collection of scientific, technical, engineering, human and d social administrative procedures, knowledge, the techniques used, and the human efforts exerted in collecting various information, storing, processing, transferring, broadcasting, and retrieving it." And the interactions that arise between these technologies, knowledge and the human being dealing with it with all his senses and perceptions. Some researchers also see "the optimal and beneficial use and investment in various knowledge, and the search for the best ways that facilitate the process of obtaining information that takes us to knowledge, as well as making this information accessible to its beneficiaries, exchanging it, and benefiting from it with the required speed and

effectiveness required by the work and duties of society." (Al Thabit, 2014, p. 53). (IT) is: "the use of modern technologies to capture, communicate and process information, whether in the collection of digital data, text, sound or image" (Paquin, 1990, p:17).

Science or IT

IT is distinguished from other sciences by a set of characteristics summarized by the following points:

"Reducing or shortening the time:" technology has taken and made all places electronically contiguous. (Mashour, 2003, p.: 15).

Reducing the place: The means of storage that have the ability to absorb a huge volume of data and information accumulated and that can be obtained with ease. (Hamdi, 2009, p. 60).

"Muttering ": What is meant is that it is speed, the least expensive, and the smallest, and it is: one of the most important characteristics of (IT), as it is characterized by permanent improvement in speed and memory capacity (Lalouche, 2002, p. 89).

"Sharing intellectual tasks with the tool ": through interaction and dialogue between the system and the researcher (Lafitte, 2010 ibid, p:234).

"Artificial Intelligence": One of the most important features of (IT) is the development of knowledge, and the increase in opportunities for training users through systems and devices that simulate human intelligence, to carry out tasks that can develop on their own, by referring to the data that is obtained. (Al-Hadi, 1999, p.: 55).

Asynchronous: means receiving the message at any time convenient for the user, as the beneficiaries, or participants in the communication, are not required to use the systems at one time (Hodeg and Anthony, 1997, p:24).

7. Global: It means the paths of length and width in which IT is spread, meaning that it takes information in complex and many paths to spread in different regions of the world, and around its workplaces, for example, it facilitates capital to flow electronically, to reduce and bypass the barriers of distance and place at the country level. (Hodeg and Anthony, 1997, p:24).

C. The concept of pre-disbursement internal audit

There are many definitions Ex-disbursement internal audit. According to the development of this profession, the following will be reviewed the most important definitions:

The American Institute of Internal Auditors (IIA) recognized year (2005) Pre-disbursement internal audit: It is an "objective, confirmatory, independent, advisory activity designed to add importance to the organization and improve its operations." It helps to achieve the organization's goals by "evaluating and improving the performance of risk management, oversight, and institutional control processes" in disciplined and regular ways of working. (Al-Jabri, 2011, p. 19)

As for the "Committee of Sponsoring Organizations for the Integrated Pre-Disbursement Internal Audit Framework" it defined it: as "operations affected by the board of directors of the institution, which are prepared according to models through which the institution seeks to achieve its objectives in the following aspects: Effectiveness and efficiency of operations, relying on the results of financial reports, and compliance with the laws and regulations in force. (my good, 2015-2016, p.: 19). It can be defined as "an

independent, evaluative, preventive activity that is within the institution to check data and ensure its validity in service of the organization's management." It is an administrative method that measures and evaluates effectiveness of other control methods (Abdullah, 2006, p. 30).) [18]. Pre-disbursement internal audit: "It is a work carried out by individuals, bodies, or auditors affiliated with the organization in order to be reassured by the organization's management" on the proper functioning of the work on a regular basis and on the protection of the organization's funds and in order to achieve the objectives of the administration in The greatest possible amount of productive and administrative efficiency and encouraging adherence to management policies (Othman, 1990, p.: 18). The International Federation of Accountants defines it as: "a process of examination and evaluation in the institution to serve it, And among its duties is to test the appropriate evaluation and control of the accounting system as well as the internal control system and their effectiveness.

D. The objectives of the pre-disbursement internal audit

The auditing profession, like other professions, is constantly evolving over time through the development of systems, as its objectives in the past differ from its objectives at the present time and will not be the same in the future. The traditional objectives of internal auditing are as follows:

- Checking the accuracy of records in accounting books and records.
- 2. Reducing the chances of errors, fraud and errors in accounting books and records through periodic auditing or by coordinating unannounced visits.
- 3. Checking the conformity of the financial statements with the accounting records.

"Having a neutral technical opinion regarding the financial statements." (Al-Nono, 2007, p. 337).

The objectives of modern internal audit are as follows:

- 1. Follow-up and implementation of business plans, the level of achieving goals, and treatment of deviations and the reasons leading to them.
- 2. Preserving the assets of the establishment by preventing extravagance and reducing the risk ratio.
- 3. Ensuring that the maximum level of production adequacy is achieved.

Providing accurate information to securities users for the purpose of relying on them in making the right decisions. (Lutfi, 2007, p. 50)

Basically aiming Auditing aims to increase the value of the enterprise, by taking precautionary measures to ensure that the enterprise is removed from the expected risks, providing an appropriate atmosphere for the continuation of increasing the value of the organization's performance, and presenting an accurate financial vision that shows the reality of the enterprise. Here, its objectives can be divided into the following:

Protection goal: It is a comparison between the actual results of the activity and what was planned in advance, as a comparison is made between the plan, objectives and policies of the organization or institution that were developed in advance and what has been achieved on the ground, and this aims to protect the assets and the value of the organization or institution and the policies of getting

lost.

The goal of construction: by suggesting appropriate methods, methods and procedures to address the imbalance between the planned standards and what is actual.

The goal of the partnership: which is to create a suitable situation among the employees to achieve the organization's economic goals and objectives as a whole.

Questionnaire

After defining the study problem, its questions, and its hypotheses, reviewing the previous literature regarding the study matter, clarifying the opinions of the study sample, and standing on on their opinions The researcher developed a questionnaire in line with its topic. The questionnaire of 27 items distributed on the variables of the study as illustrated in Table 1:

Table 1: Questionnaire structure

Variable	Number of items		
Information Technology	9		
Effective control	9		
pre-disbursement Audits.	9		

The questionnaire is composed of closed end questions according to Five-Likert Scale. The weights illustrated in table 2 are adopted.

Table 2: Five Likert scale

Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5

After confirming the validity and reliability of the questionnaire, it was distributed to the sample members directly from the researcher. Only 82 answers was collected.

Results and discussion

To achieve the objectives of the study by answering its questions, the following statistical methods were relied upon:

- The use of descriptive statistics through arithmetic means and standard deviations to answer the study questions.
- Anova: Analysis of variance is a group of statistical models and their associated assessment techniques employed to examine the distinctions among means.

Concerning the arithmetic mean, three levels were identified (high, medium, low) based on the following equation:

Paragraph length = (the upper limit of the alternative - the lower limit of the alternative) / the number of required levels (1-5)/3 = 4/3 = 1.33

The three levels are illustrated in table 3.

Table 3: Class distribution according to weight

1-2.33	2.34-3.67	3.68-5
Low	medium	high

For the purpose of demonstrating the normal distribution of the collected, the histogram was drawn for the standard residuals of the model (See Figure 2). This Figure shows that the model's parameters are normally distributed with zero mean and constant variance, which is a good and desirable characteristic that reflects the quality of model reconciliation.

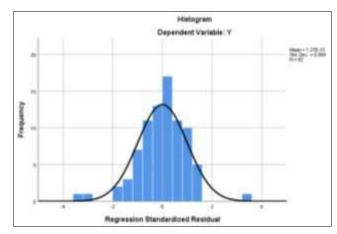


Fig 2: Histogram of model

Figure 3 represents the natural probability of the residuals of the model (ORMAL P- P PLOT), which represents the drawing of the probabilities of the model's residuals on the standard probabilities line, and from it is clear that all the residual probabilities points were on the line or close to it, which reflects the distribution of the residuals as a normal distribution, which is a good and acceptable characteristic in estimating the model.

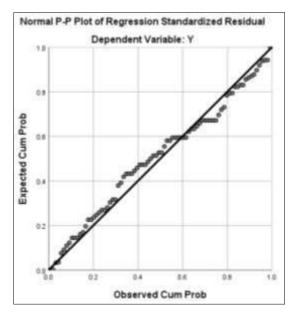


Fig 3: P_P drawing of the model

Information technology practice in internal auditing.

Table 4 shows the mean and standard deviation of IT variable

Table 4: Mean and standard deviation associated to the variable Information technology (IT)

The number	Paragranh Paragranh		Standard deviation	Rank	Class
1	Information technology contributes to pre-disbursement audits at the university in reducing fraud and financial manipulation	3.05	1.29	3	middle
2	The use of information technology at the university contributes to reaching objective results by documenting the audit process properly and quickly	2.87	1.28	8	middle
3	Information technology in pre-disbursement internal audits provides a database that can be referred to in drawing future plans and preparing planning budgets accurately	3.11	1.41	1	middle
4	Electronic programs are exposed to piracy and remote penetration, and this affects business in the university in general			7	middle
5	The loss of the normal audit path, and therefore any incorrect inputs lead to inaccurate results at the university		1.13	6	middle
6	The need for qualified cadres who keep pace with continuous development with the modernity of the used hardware and software		1.34	2	middle
7	7 Storage units and databases are exposed to damage and damage		1.06	9	middle
8	8 Difficulty detecting cases of manipulation and intended errors		1.05	5	middle
9	Does the university have a complete protection system for computers and internet networks?		1.03	4	middle
	The total				ddle

It can be seen from Table 4 that the averages for the practice of information technology in internal audit ranged between (1.19 - 2.96), with a moderate degree according to the strength scale shown in the above table. The predisbursement internal audit is a database that can be referred to in drawing future plans and preparing planning budgets accurately It came in the first place with an arithmetic mean (3.11) and a standard deviation (1.41) with a medium degree, followed by Paragraph No. (6), which states "the need for qualified cadres who keep pace with continuous development with the modernity of the used hardware and software." It came in second place with an arithmetic mean (3.09). And a standard deviation (1.34) with a moderate degree, and in the third place came Paragraph No. (1), which states: "Information technology contributes to predisbursement audits at the university in reducing fraud and financial manipulation "With an arithmetic mean of (3.05), and a standard deviation of (1.29), with a medium degree, and in fourth place came Paragraph No. (9), which states the information that" Does the university have a complete protection system for computers and Internet networks", with an arithmetic average of (2.98) and a standard deviation of (1.03) with an average degree. Paragraph No. (8) ranked fifth, which states "the difficulty of discovering cases of manipulation and intended errors" with an arithmetic average It reached (2.94), with a standard deviation of (1.05), and with a medium degree. Paragraph No. (5) came in sixth place, which states "the loss of the normal audit path, and therefore any incorrect inputs lead to inaccurate results in the university," with an arithmetic average of (2.89) and a standard deviation. (1.13) with a moderate degree, and in the seventh rank came Paragraph No. (4), which states: "The exposure of electronic programs to piracy and remote penetration, and this affects work in the university in general," with an arithmetic mean of (2.88) and a standard deviation of (1.16), and with a medium degree, And in the eighth place came Paragraph No. (2), which states: "The use of information technology at the university contributes to reaching objective results by documenting the audit process in a proper and quick way." With an arithmetic mean of (2.87) and a standard deviation of (1.28) with a medium degree, and in the ninth rank came Paragraph No. (7), which states that "storage units and databases are exposed to damage and damage," with an

arithmetic mean of (2.85) and a standard deviation of (1.06) and with a medium degree, The arithmetic mean for the axis of "practicing information technology in internal auditing "was (2.96), with a standard deviation (1.19), and with a moderate degree.

Second: Testing the study hypotheses

Testing the first hypothesis: There is a statistically significant relationship between the use of information technology and effective and good oversight work.

For the following format:

Y=BO+B1X+e

Y: The dependent variable (effective and good supervisory work)

BO: the constant term in the regression equation

B1: The slope of the regression line (the amount of change in the dependent variable (Y) when (X) changes one unit.

X: the exploited variable information technology The use of (IT)

e: the random error limit for a normal distribution with a small mean and constant variance.

Y=-0.439+1.071~X Estimated Equation:

F) test and the results of the analysis of variance are presented in the following table (2):

Schedule (2)

An analysis of variance table to test the first main hypothesis

- a) Dependent Variable: Y
- b) Independent: X

And from the observation of the above table, it is clear that the test statistics (F) amounted to (233.35) with a probability value (sig: 0.000), which is the lowest statistical significance level (5%), which means rejecting the hypothesis of no statistically significant effect, and accepting the alternative hypothesis, which It stipulated the presence of a statistically significant effect, and thus judging the significance of the effect of the independent variable (the use of (IT) in affecting the dependent variable, effective and good supervisory work, which enhances the result of the

previous test, which is the value of the determination coefficient, which amounted to (74.4%), which means that the variable The use of (IT) was able to explain (74.4%) of the total changes that occurred in the dependent variable (effective and good oversight work), which is a good percentage that measures the efficiency of the model, and the remaining (25.6%) of the changes are due to factors other than embedded in the model or outside the scope of the researcher's interest

Testing the second hypothesis: There is a statistically significant relationship between the use of information technology and the pre-disbursement audit.

To demonstrate the effect of using (IT) in internal auditing at Wasit University, where a simple linear regression model was reconciled between the (IT) variable as an independent variable and the dependent variable (IA), the internal audit variable prior to disbursement, according to the following model:

- IA=BO+B1IT+e
- IA: dependent variable
- Fixed Limit: B.O
- the slope of the B1 regression line
- IT: the independent variable
- E: random error limit
- Estimated equation:
- IA = 1.482 + 0.614 IT

In Table No. 3, which shows the results of the questionnaire analysis and the model's significance test, as presented in the table:

An analysis of variance table for testing the second main hypothesis

ANOVA a significance test, as presented in the table: 5

Table 5: Anova test

	ANOVA a					
	Model	Sum of Squares	Df	mean square	F	Sig.
	Regression	9,265	1	9,265	64,479	.000 b
1	Residual	11,495	80	.144		
	Total	20,760	81			

a. Dependent Variable: I.A

b. Independent: (Constant), IT

From observing the table above, it becomes clear to us that the test statistic for (F) had a value of 64.476 with a probability value (Sig: 0.000).

Since the probability level is less than the statistical level of 5%, we reject the hypothesis that there are no statistically significant differences, and accept the alternative hypothesis that states that there is a statistically significant effect, which proves that the variable (IT) is important and influential in the dependent variable (fragile), and to indicate the percentage of the effect Its coefficient was calculated to determine (R^2), which amounted to 44.6%, which means that the variable (X) was able to change 44.6% of the total variables that occurred in the dependent variable (IA), which is an important and acceptable percentage in the impact of information technology on internal auditing.

For the purpose of demonstrating the accuracy of the estimated model estimators, the histogram was drawn for the standard residuals of the model, as in Figure (3), which shows that the model's parameters are normally distributed

with zero mean and constant variance, which is a good and desirable characteristic that reflects the quality of model reconciliation.

Conclusions

The aim of this study was to examine the impact of information technology on the FBSA. An analytical descriptive methodology was used. A questionnaire of 27 questions was created and distributed. Only 82 answers were collected. The SPSS application was used to analyze the collected data. The following points were concluded

- 1. Using of information technology in the internal control departments of the University of Wasit helped the auditors in facilitating the task of auditing and the speed of obtaining information.
- Study concluded that the use of information technology in the implementation of control and accounts contributes to the preparation of plans and drawing up future policies and expressing the appropriate supervisory opinion.
- 3. Wasit University and all its formations aspire to keep pace with technological development through the use of modern methods of technology.
- 4. The study reached the development of the internal auditor's skills in the modernity of electronic devices, enabling him to complete his work with speed and high accuracy, while saving time and effort.

After performing the study, the following points should be recommended

- 1. Wasit University, if it desires to be independent of technological development in its administrative, financial and oversight activities, should qualify and train its employees to use modern technology.
- 2. It should spread the culture of using information technology in all its administrative, financial and oversight departments by including it in the curricula and giving lectures extensively.
- 3. Directing the administrative, financial and oversight departments at Wasit University when they desire to move from manual to electronic work, so that the transition is gradual to avoid making mistakes resulting from the rapid transformation.
- Wasit University should create a suitable environment for preserving and archiving databases, ensuring easy access to them by authorized persons, avoiding piracy, and activating information security.

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