

# Does Auditor Objectivity Impact on the Relationship Between Information Technology and Efficiency and Effectiveness of Auditing: Evidence from Iraq

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**Abstract:** This work aims to determine the effect of information technology on effectiveness and efficiency of auditors in the context of non-profit organizations in Iraq. Also to investigate the mediating influence on the relationship between information technology and the audit process' effectiveness and efficiency. The study framework was based on those reported in literature pertaining to the unified theory of acceptance and use of technology (UTAUT). The target population in this work are auditors of Iraqi non-profit organizations. 354 questionnaires were sent to the participants, however, only 262 were returned and deemed applicable for this work, which culminates in a 74.3 percent response rate. SPSS (Statistical Package of Social Science) version 24 was utilized to examine the research model. The data were processed using many statistical techniques, such as (Descriptive Statistics, Correlations Analysis and Multiple Regressions). The study found that there is a significant influence on the auditors' objectivity due to their role as a mediator on the relationship between IT and auditing non-profit organizations. The findings also confirmed that the auditors are required to upgrade their knowledge vis-à-vis computerized information systems to plan, direct, supervise, and review the performed tasks. The implications of these findings in this work are significant for managers and auditors, while also providing insights and encouraging evaluation of computerized accounting systems.

**Keywords:** Information technology, auditor objectivity, efficiency and effectiveness of auditing.

## 1. INTRODUCTION

In the present complex and challenging dynamics in the market, non-profit organizations are established to provide public services to communities of operation, ensuring their intermediate role between citizens and authorities (Lupasc *et al.*, 2011). In the context of a democratic society, such organizations serve various needs and interests of the community ranging from strategic perspectives and ethics to other institutional and organizational categories, offering civic participation framework urging citizens' participation in public life (Cukier *et al.*, 2012). Non-profit organizations have experienced economic transformation that has eventually led to enhanced demand for auditing and assurance services (Salih & Hla, 2015).

The problem of study is represented in ineffective use of information technology systems that led to the ineffective performance of auditors. Observers of the audit profession are aware of the gap between practical auditing and the information technology requirements that relate to enhancing auditing efficiency and effectiveness among non-profit companies (Cukier *et al.*, 2012). The auditing profession in non-profit organizations has further faced crisis in terms of responsibility, loss of confidence and credibility exacerbated by the local and global crises (Parkes,

2013). Moreover, public sector organizations have exerted pressure on the state budget owing to the significant resource waste brought on by the lack of capable auditors to minimize such waste. This may be resolved through several ways, with one of them being the use of modern auditing method to raise auditing efficiency and effectiveness (Al-Khaddash *et al.*, 2013).

The current use of information technology is becoming increasingly significant in reaching business decisions that are effective and efficient. In the past few decades, computer has permeated life aspects, and auditing is no different. Because of the information technology revolution, organizations have changed how to do business using information technology systems in majority of functions and tasks. In this regard, management is consistently searching for novel ways to use technologies for the enhancement and maximization of auditing efficiency and effectiveness among non-profit firms (Lupasc *et al.*, 2011).

In the realm of technology use, quality of the information technologies infrastructure provides competency to process activities, assisted by software and hardware products, information system operations and management and employee processes. Added to this, knowledge concerning information technology assists in shedding light on the significance of technologies and their use in generating the needed information (Lupasc *et al.*, 2011). On this basis, auditors have to be pro-active in keeping track of the information technology changes among non-profit

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organizations that is currently changing traditional business procedures. The need for auditors to shift from conventional methods to current ones using information technology is important if valid and credible data and information is to be successfully acquired from e-accounting systems (Cukier *et al.*, 2012).

The study's conceptual framework is developed in light of the UTAUT and technology theory. UTAUT is used to develop a conceptual framework depicting the association between the study's dependent and independent variables. Moreover, the conceptual bases adopted aim to provide insights into the information technology concept among several parties who hold the responsibility of delivering and evaluating practical auditing efficiency and effectiveness among non-profit organizations.

## 2. CONCEPTUAL FRAMEWORK

This work analyzes information technology (IT) and auditors in the context of auditing Iraqi non-profit organizations. We investigate the auditors' objectivity and their mediating influence on the relationship between IT and the audit process' effectiveness and efficiency. IT influence individual performance via attitudes and usage. People new to it needs to be instructed extensively, and might view this approach as infinitely more useful, although this might not translate into increased performances (Cukier *et al.*, 2012). Parkes (2013) believe that IT infrastructure and experience can and do influence performance, with him emphasizing the usage of technology elucidating the decision making process (Alyahya & Suhaimi 2013). The hypothesis below is proposed vis-à-vis the aforementioned context:

*H1: There is a positive association between information technology and efficiency and effectiveness of auditing.*

It should be pointed out that technology needs to be systematically adopted and integrated into society, and by extension, organizations. This gradual familiarization process will ingratiate people with technology in a much deeper manner while also optimizing the potential benefits obtained from said technology(ies). Moreover, the implementation of technology pertaining to the audit process results in decreased cost and time when conducting audits (Banker *et al.*, 2002). In order to increase the efficiency of the process, the implementation of new technology vis-à-vis the audit process needs to be carefully vetted and gradually introduced. Auditors are expected to possess vast information pertaining to the technology they are

expected to use to carry out their tasks, and later, with the aid of technology, exercise judgement, express opinions, and report impartial recommendations (Abu-Musa, 2006).

A great many studies posited that it is vital that auditors are objective and independent when carrying out their assigned tasks. They are also expected to remain objective in the context of IT, and utilize it to its fullest in order to enhance the efficiency and effectiveness of the audit process (Salih & Hla, 2015). It is known that IT increases the auditors' objectivity and improve their productivity (Zhao *et al.*, 2004), and this supposition lead us to hypothesize that:

*H2: Information technology has a positive effect on Auditor objectivity.*

Romero (2010) reported a positive relationship between minimized auditor objectivity and minimized efficiency and effectiveness, while increased objectivity leads to improved efficiency and effectiveness. This was also posited by Kueppers and Sullivan (2010), who outlined the importance of auditor objectivity towards improving performance, where objectivity results in the effective implementation of the audit process.

The objectivity of an auditor is one of the major driver that can be used to maximize the efficiency and effectiveness of the audit process, while the lack of objectivity on the part of auditors can be one of the main factor decreasing the effectiveness of the audit process (Mohamed & Habib, 2013). Kabiru and Rufai (2014) reported a marked relationship between the audits' quality and the auditors' competence (and independence). This supposition rests upon assumptions pertaining to the auditor's discernment of material misstatements and readiness to accurately report audits. Therefore, we propose the evaluation of the following hypothesis:

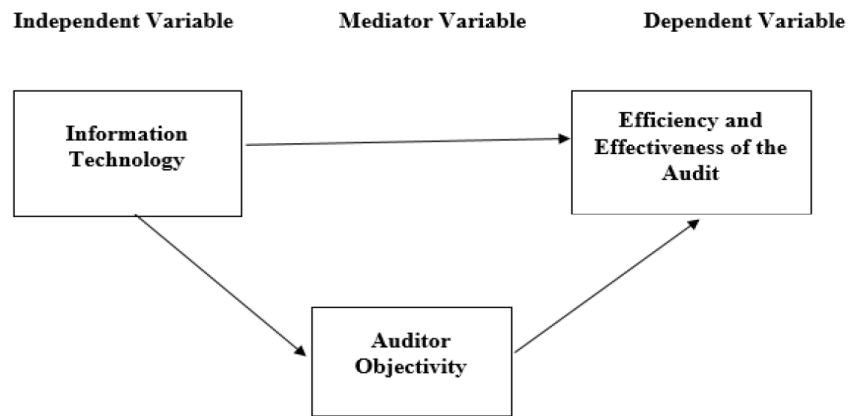
*H3: Auditor objectivity can affect positively on efficiency and effectiveness of auditing.*

## 3. LITERATURE REVIEW

This section is divided into three sub-sections; the first subsection is dedicated to studies on information technology, the second one on auditor objectivity and the last one on auditing efficiency and effectiveness.

### 3.1. Literature on Information Technology

Research concerning information technology and auditing is important and should be conducted



**Figure 1:** Details the link between the variables proposed in this study that were not reported in previous works.

consistently to support scientific community in the accounting and finance field (Chan & Copeland, 1997). This study addresses the level to which an auditor uses auditing technology to enhance job performance and the level to which an auditor has to be convinced to use auditing technology for enhanced performance of jobs (Lupasc *et al.*, 2011).

Additionally, the fit of quality of the information technologies infrastructure affects individual performance through attitude towards information technology use. New users are not experienced in the instructions provided and as such, they have a higher tendency to perceive the provision of additional information cues as useful, although it may not leverage such information to enhance their work performance (Cukier *et al.*, 2012). Thus, it can be stated that experience of information technologies fit affects individual performance through the attitude towards information technology use (Al-Ansi *et al.*, 2013).

According to Parkes (2013), experience of information technologies can affect tasks performance, especially with the incorporation of technological recommendation within decisions. However, individuals who do not perceive technologies as useful are highly likely to avoid their use (Alyahya & Suhaimi 2013). In other words, the task performance effect will only arise when the individual perceives the technology to be useful. In this regards, perceptions regarding usefulness and technology are considered to directly and in combination impact auditing efficiency and effectiveness.

In the same line of study, Bierstaker *et al.* (2014) revealed that the client's perceived complexity of information technology system is the extent to which the client uses computerized transaction and financial

reporting system. Future auditing will call for replacing paper auditing with paperless ones as clients of auditing opt for hi-tech systems and audit software that are conducted online without involving the use of papers. This procedure calls for integrating online audit software as the major tool to gather electronic data.

### 3.2. Literature on Auditor Objectivity

Auditor objectivity is among the major drivers of maximized efficiency and effectiveness of auditing. Contrastingly, lack of auditor objectivity is among the main reasons that brought about deteriorating effectiveness of audit (Mohamed & Habib, 2013). Similarly, in Kim *et al.* (2007) study, auditor objectivity was found to be the platform used by the firm to depend on, as without auditor independence/objectivity, the profession would be obsolete. Therefore, objectivity is crucial for efficient and effective auditing, for promoting ethical behavior and for accurate financial reporting.

With regards to the relationship among the study variables, Romero's (2010) evidenced a positive relationship between minimized auditor objectivity and his minimized efficiency and effectiveness, while increased objectivity leads to improved efficiency and effectiveness. This finding was supported by Kueppers and Sullivan (2010) stressed on the importance of auditor objectivity in enhancing performance, in that objectivity brings about effective implementation of quality auditing.

Studies of the same caliber, like Al-Khaddash *et al.* (2013) also indicated a positive and significant relationship between quality of audit and several variables including audit efficiency, auditor objectivity, auditing office reputation, audit firm size and proficiency of auditor (Mohamed & Habib, 2013). Also,

when assessing auditor objectivity and compliance level towards auditing guidelines and the ways such guidelines impact financial statements of bank deposits in Nigeria, Kabiru and Rufai (2014) found a significant relationship between audit quality and auditors' competence and independence. This is in terms of the auditor's discernment of material misstatements and their readiness towards accurate audit reports issuance.

### 3.3. Literature on Efficiency and Effectiveness of Auditing

Performance of auditing has increased in importance in the management of public sector and the practices involved have been the topic of debate relating to enhanced service delivery, accountability and transparency related to quality (Salih & Hla, 2015). In the case of non-profit organizations, both efficiency and effectiveness of audit guarantees that the required controls are established, supported and improved (Jamstsho, 2005).

Nevertheless, it was just recently that performance of auditing has attracted a high level of importance sufficient to form a niche among top mechanisms for the assessment of quality standard compliance. Added to this, quality review initiatives are established to make sure that practical auditor competence is maintained in the public sector (Karapetrovic & Willborn, 2000).

Theoretically, efficiency and effectiveness of auditing establishes greater clients' trust on the products/services of the organization and their operations (Fuentes *et al.*, 2000). In a study conducted by Venter and Du Bruyn (2002), the authors showed that audit efficiency and effectiveness requires a strong framework to function as a benchmark standard in order to assess the system and demonstrate its suitable structure, effectiveness and overall functioning.

As mentioned, public sector firms are more accountable to their private counterparts as the government provides the former with a budget (Cukier *et al.*, 2012). More recently, non-profit organizations have been scrutinized in terms of their auditing quality as they are responsible of providing auditing and assurance processes to enhance public sector and to meet government accountability.

## 4. RESEARCH METHODOLOGY

The variables were measured based on details in the questionnaire, which was adapted from the

ASOSAI (2009). This work came up with 18 items that measures IT (6 items), audit effectiveness and efficiency (6 items), and auditor's objectivity (6 items) as its mediating effect. All of the aforementioned items (18) were measured using a 5-point Likert scale, with 1 representing the statement "Strongly Disagree", and 5 representing the statement "Strongly Agree". The scale determines the auditors' objectivity and mediating effect on the link between IT and audits' effectiveness and efficiency. The SPSS (Statistical Package of Social Science) v.24 was used to analyze the data. Data collection was processed using many statistical techniques, such as (Descriptive Statistics, Correlations Analysis, and Multiple Regressions).

The target population in this work are auditors of Iraqi non-profit organizations. There are a total of 3557 auditors operating in Iraq (Work Plan, 2018). A sample size of 354 was selected, as per Sekaran (2003), due to the fact that sample size needs to be between 30-500 (Hill, 1998). After ensuring the reliability and validity of the questionnaire, the researcher personally sent it to the targeted sample and explained parts of the questions that might be ambiguous (Rowley, 2014). This work utilized random samplings, where a total of 354 questionnaires were sent to potential respondents. However, out of 354, only 262 of the questionnaires were suitable for use in this work, translating to a 74.3 percent response rate.

## 5. UNDERPINNING THEORY

This study adopted the unified theory of acceptance and use of technology (UTAUT) as the underpinning theory. The theory posits user's intention to use information systems and the usage behavior that ensues subsequently (Adulwahab & Dahalin, 2011). The theory comprises four major constructs namely, performance expectancy, effort expectancy, social influence and facilitating conditions that are direct determinants of usage intention and behavior. The UTAUT was developed after reviewing and combining eight model constructs concerning information systems usage behavior (Venkatesh *et al.*, 2003).

The eight models are technology acceptance model (TAM), theory of reasoned action (TRA), motivational model, theory of planned behavior (TPB), combination of theory of planned behavior and technology acceptance model, utilization model, theory of innovation diffusion and cognitive theory (Payne & Curtis, 2008).

The UTAUT became known as a validated information technology model that reflects the voluntary adoption of auditing technology and in the field of management of information system and improve quality of the information technologies infrastructure, user acceptance of technology has been one of the first topics of importance. Authors have focused on the user acceptance determinants including individual, organizational and technological factors that lead to acceptance and use of information technology (Adulwahab & Dahalin, 2011).

Regarding source based literature review, this study proposes that efficiency and effectiveness of audit depend on the quality of the information technologies infrastructure, experience of information technologies, and intensity of organizational learning in the field of information technology. Therefore, the elements of unified theory of acceptance and use of technology (UTAUT) provide understand and interpret a range of variables that can affect the efficiency and effectiveness of audit.

## **6. IMPORTANCE OF NON-PROFIT ORGANIZATIONS**

The performance of non-profit organizations is made up of the actual output of the firm relative to its objectives (Tseng, 2007). Performance is defined as activities that are in compliance with professional standards, and the utilization of governance arrangements in a manner that enhances performance and the delivery of goods, services, or programs (Wong, 2013). The most crucial factor for stakeholder in organizations is organizational performance, which makes it important towards organizational operations. Auditors account for three aspects of organizational performance; effectiveness, efficiency, and the economy. The performance in non-profit organizations signifies the accomplishment of tasks, measured based on established accuracy standards, completeness, cost, and work speed (Richards *et al.*, 2008).

## **7. THE IMPORTANCE OF INFORMATION TECHNOLOGY**

The usage of IT affect the initiation, recording, processing, and reporting of transactions. An organization is able to utilize automated information systems for the initiation, recording, processing and reporting of transactions. Records are usually made in the form of e-format as opposed to paper copies (e.g., purchase orders, invoices, shipping documents, and related accounting records) (Chan, 2004). Over the

past few years, auditors and researchers are interested in elucidating the quality of IT infrastructure, experience, and the intensity of organizational learning in the context of IT that influence the audit process of Iraqi non-profit organizations.

Its usage is becoming crucial towards increasing the effectiveness of the audit process, where it ensures that the design, implementation, and maintenance of the business processes remains effective. IT also dictates the collection, processing, and storage of compressed data included in financial statements (Cannon & Crowe, 2004).

Most firms are dependent upon IT, via fully integrated systems and e-documents. IT can be used to enhance transaction accuracy and speed, which creates a competitive advantage for the organization (Rishel & Ivancevich, 2003). However, its benefits come at a cost, where several risks of IT usage include the loss of computer assets, errors in records, fraud, competitive disadvantage via the selection of erroneous information, the loss and theft of data, breach of privacy, and business disruption (Abu-Musa, 2006).

Cannon and Crowe (2004) believe that several internal controls can be used in the case of financial data. These controls can be integrated into computer programs, processes, and IT systems. Organization assets can be relayed, and human-based liabilities can be mitigated using a human-action transactions computerized process. Computer processes deals with security transactions, material purchases, and wire transfers, among others. Automation can be conducted in a manner that limits human interactions vis-à-vis the policies and rules of an organization.

## **8. Result**

### **8.1. Response Rate**

Before the data can be analyzed, the demographic profile of the respondents need to be elucidated. This include analyzing the demographic factors pertaining to the gender, age, education, role, experience, and major of the respondents, which are all deemed important towards understanding the data and results gathered in this study. Demographic analyses results are tabulated in Table 1, where it can be seen that most of the respondents, at 151 (57.6%), were males, while the remaining respondents, at 111 (42.4%), were females. The lower percentage of female participants is

**Table 1: Response Rate**

Category	Description	NO. of Respondents	%
Gender	Male	151	57.6
	Female	111	42.4
Age	Less than 23 years old	7	2.7
	23-32 years old	124	47.3
	33-42 years old	78	29.8
	43-52 years old	31	11.8
	Over 52 years old	22	8.4
Education	Bachelor Degree	201	76.7
	Master Degree	2	.8
	CPA	46	17.6
	Doctoral Degree	13	5.0
Position (Principal Role)	Assistant Auditor	90	34.4
	Auditor	89	34.0
	Senior Auditor	57	21.8
	Assistant Head of Audit team	12	4.6
	Head of team	12	4.6
	General manager	2	.8
Experience in auditing	Less than 6 years	44	17%
	6-10 years	93	35.5
	11-15 years	59	22.5
	16-20 years	27	9.6
	21-25 years	17	6.5
	More than 25 years	22	8.4
Major	Accounting and Auditing	262	100.0

representative of Iraqi culture, where households are commonly lead by males. The age of the participants is categorized into five classes. 2.7% of the respondents are less than 23 years old, 124 respondents (47.3%) were 23-32 years old, and formed the majority of the respondents. The other age categories are as follows: 29.8% were aged 33-42, 11.8% were aged 43-52, and 8.4% were over 52 years of age. These values confirmed that the majority of the respondents were (are) young(er).

In the context of education, the majority of the respondents hold Bachelors' degree (76.7%), Certified Public Accountants (CPA) (17.6%), doctorates (5.0%), and Masters' (0.008%). In terms of their roles, assistant auditors made up 34.4% of the respondents, auditors made up 34.0%, senior auditors 21.8%, assistant head of audit teams at 4.6%, and heads of audit teams at 4.6%. General managers made up 0.008% of the total respondents.

The majority of the respondents reported 6-10 years of auditing experience (35.5%), followed by 11-15 years (22.5%), 1-6 years (17%), 16-20 years (9.6%), 21-25 years (6.5%), and more than 25 years of experience (8.4%). The respondents are specialized accounting and auditing professionals, which is the criteria set by the sample so that the results can be used to represent auditors when reporting it to the Federal Board of Supreme Audit (Iraq).

## 8.2. Descriptive Statistics

The data were summarized using the descriptive analysis procedure, which generally detailed IT, efficiency and effectiveness of auditing (EEA), and auditor objectivity (AO) via the viewpoint of the respondents. Table 2 outline the mean, standard deviation, and the minimum/maximum of the aforementioned latent variables, which highlight the levels of the examined variables.

Descriptive analysis was also used to detail the efficiency/effectiveness of auditing and its corresponding importance. The entire inductors reported a mean over the average of 2.47 - 3.74, with a standard deviation of 0.47 - 1.19. The table also show the minimum/maximum responses of the examined latent variables.

Table 2 confirms that most items were ranked based on the importance of the auditors' objectivity and its mediating effect on the relationship between IT and audits' effectiveness and efficiency. This symbolizes the fact that the responses are in parallel with the questions posed (and accepted) in the questionnaire. The results also confirmed that the respondents are able to tell apart the importance of auditors' objectivity and its mediating effect on the relationship between IT

and audit effectiveness/efficiency in Iraqi non-profit organizations.

### 8.3. Measuring the Reliability and Validity

Hair *et al.* (2016) pointed out that reliability is an estimation of the level of consistency among multiple measurements of a construct. It is also the ability of a measurement instrument to report similar results if the same sample(s) were repeatedly measured under similar settings (Golafshani, 2003). The reliability analysis was carried out in this work to define the consistency of the items making up the constructs.

The Cronbach's alpha method of determining reliability is the most common method being used to test for reliability, especially in social science. Hair *et al.* (2012) reported that the minimum acceptable level of

**Table 2: Descriptive Statistics**

Question Items	Mean	Std. Deviation
Continuous IT training provided by organization helps me to do my auditing job more efficiently.	3.74	0.69
Training programs provided by organization developed my experience of information technologies.	3.55	0.74
Quality of the information technologies infrastructure are important in enhancing auditing job.	3.62	0.70
IT Training programs provided by organization enhanced my auditing job experiences.	3.58	0.68
Auditing clients that use complex of IT system involve complex procedures.	3.45	0.69
Intensity of organizational learning in the field of information technology can impact performance of auditing.	2.70	1.18
Develop policies and procedures to ensure that auditors are committed to professionalism and due diligence.	2.47	1.19
Develop policies and procedures to ensure the existence of a sufficient number of those who have the capacity and competence to perform audits.	3.35	0.88
The head of the audit team has the capacity and efficiency and the necessary authority and sufficient time to perform his works.	3.50	0.82
The audit team has sufficient time and competence as well as necessary resources to perform the audit task.	3.58	0.78
I found using the technologies described in the scenario enabled me to accomplish tasks more quickly.	3.52	0.83
Auditors are acting in a professional manner to perform their duties efficiently and effectively.	3.56	0.83
Refrain auditors about the performance of the work do not have the competence to perform.	3.26	0.85
There is a special policy to employ auditors have public and academic competency.	3.18	0.89
The head of the audit team has the capacity and efficiency and the necessary authority and sufficient time to perform his works.	3.35	0.84
Auditors have the necessary experience to do their job and their responsibilities effectively.	2.63	1.05
The independence of the head of the auditors was Stipulated in the law.	3.01	0.98
The law provides protection for the head of the auditors with regard to the reports of the audit which are issued.	3.29	0.91
Information Technology	3.44	0.47
Efficiency and Effectiveness of Auditing	3.33	0.64
Auditor Objectivity	3.12	0.66

**Table 3: Reliability Analysis of Pilot Study**

Constructs	No. of original items	Cronbach's Alpha	Item deleted	Cronbach's Alpha if item deleted
Information Technology (IT)	6	0.89	Nil	0.63
Efficiency and Effectiveness of Auditing (EEA)	6	0.812	Nil	0.812
Audit Quality Assurance(AQA)	6	0.911	Nil	0.911

Cronbach's alpha is 0.60 in the case of any construct to be regarded as reliable. As per Table 3, the values confirmed that the constructs satisfied all minimum acceptable values for it to be deemed reliable (Podsakoff *et al.*, 2012).

#### 8.4. Correlation Analysis

Correlation analysis is defined as a statistical evaluation that can be used to determine the strength of the link between numerically measured and continuous variables. This analysis is especially poignant when researchers intend to determine if there is a connection between mediating variables. A common misconception pertaining to correlation analysis is that it helps determine cause and effect, which is inaccurate, as it is known that variables that are undefined or unused in a research could have an undocumented effect on the results (Rowley, 2014).

The correlation analyses were used to determine how far along the variables are linked to each other. It also helps determine the degree the estimated equation represents the link (between variables) (Sekaran, (2003). The correlation between IT and EEA was determined to be (0.569), while the correlation between IT and AO was determined to be (0.574), and the correlation between AO and EEA was determined

to be (.694), as shown in Table 4. The report confirmed that IT is positively linked to EEA, while also positively influencing AO, and there is a significant affect between AO and EEA.

#### 8.5. Regression Analysis

Testing the hypotheses postulating a positive relationship between independent variables (Information Technology), dependent variables (Efficiency and Effectiveness of Auditing), and mediator variable (auditor objectivity) involve three steps of hierarchical regression equation. First, the independent variables were introduced in order to evaluate their influence on the dependent variables, next, the influence of the independent variable on the mediator variable was evaluated, and finally, the influence of the mediator variable on the dependent variable was evaluated.

Table 5 show an R square value of .324 for the EEA, which means that 32.4% of independent variables (IT) explains the dependent variable (EEA). The results also confirmed that IT significantly influence the efficiency and effectiveness of audits, at a significance level of 0.01( $\beta = 0.569$ ,  $t = 2.712$ ,  $p < 0.01$ ), which confirms the support for H1.

**Table 4: Correlations Analysis**

		Information Technology	Efficiency and Effectiveness of Auditing	Auditor Objectivity
Information Technology	Pearson Correlation	1	.569**	.574**
	Sig. (2-tailed)		.000	.000
	N	262	262	262
Efficiency and Effectiveness of Auditing	Pearson Correlation	.569**	1	.694**
	Sig. (2-tailed)	.000		.000
	N	262	262	262
Auditor Objectivity	Pearson Correlation	.574**	.694**	1
	Sig. (2-tailed)	.000	.000	
	N	262	262	262

\*\* . Correlation is significant at the 0.01 level (2-tailed).



**Table 5: Structural Model Assessment**

	Hypothesis Pathway	Path Coefficient	Standard Error	t-value	P Values	Decision
H1	IT -> EEA	0.569***	0.070	2.712	0.000	Supported
H2	IT -> AO	0.574***	0.071	1.431	0.000	Supported
H3	AO -> EEA	0.694***	0.043	8.780	0.000	Supported

Note: \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

**Table 6: Summary of Hypotheses Analysis**

Hypotheses		Results
H <sub>1</sub>	There is a positive association between information technology and efficiency and effectiveness of auditing.	Supported
H <sub>2</sub>	Information technology has a positive effect on Auditor objectivity.	Supported
H <sub>3</sub>	Auditor objectivity can affect positively on efficiency and effectiveness of auditing.	Supported

An R square value of 0.329 for AO means that 32.9% of independent variables (IT) explains the dependent variable (AO). The result confirmed that IT significantly influence auditors' objectivity, at a significance level of 0.01 ( $\beta = 0.574$ ,  $t = 1.431$ ,  $p < 0.01$ ), which means that H4 is supported.

An R square value of 0.482 for the EEA explains 48.2% of the independent variables (AO) on the dependent variable (EEA). The result confirmed that auditors' objectivity significantly influences the efficiency/effectiveness of audits, at a significance level of 0.01 ( $\beta = 0.694$ ,  $t = 8.780$ ,  $p < 0.01$ ), confirming that H3 is supported.

A more detailed discussions pertaining to the findings reported in this section will be provided in the upcoming sections. Table 6 summarizes the test results garnered from the proposed hypotheses.

This study confirmed that the auditors objectively influence (enhance) the efficiency and effectiveness of the audit process in an Iraqi context at levels higher than any other factors. Therefore, it is suggested that the decision makers ensure that the auditors are objective in their assessments during the audit process.

## 9. DISCUSSION

In order to achieve the research objectives regarding the effect of information technology on effectiveness and efficiency of auditors. Also to investigate the mediating influence on the relationship between information technology and the audit process' effectiveness and efficiency are discussed below:

### 9.1. Impact of (IT) on (EEA)

Auditors' ability to analyze financial statements and elucidate fluctuations and performance of substantive testing are crucial. Due to the diverse geographical locations of audit offices, the efficient use of IT resources is indeed a significant matter (Noteberg *et al.*, 2003). Many studies have found a positive relationship between IT and the efficiency and effectiveness of auditing (Ritchie & Khorwatt, 2007). The researcher defined the decision tools that were made use of by the auditors, especially IT tools that can be used to enhance the audit experience and outcomes (Janvrin *et al.*, 2008; Salih & Hla, 2015).

Novel and advanced technologies have been adopted in stages to maximize its advantages. The implementation of (new) audit technology will also decrease the cost and time associated with the audit process (Banker *et al.*, 2002). This also extends to the collection of audit evidence(s), where technology can be used to streamline the process and making it easily accessible by the auditors independent of location, overall improving the processes' efficiency and responses (IAESB, 2014; IFAC, 2011).

### 9.2. Impact of (IT) on (AO)

A great many studies posited that it is vital that auditors are objective and independent when carrying out their assigned tasks. They are also expected to remain objective in the context of IT, and utilize it to its fullest in order to enhance the efficiency and effectiveness of the audit process (Salih & Hla, 2015). It is known that IT increases the auditors' objectivity and improve their productivity (Zhao *et al.*, 2004).

In order to increase the efficiency of the process, the implementation of new technology vis-à-vis the audit process needs to be carefully vetted and gradually introduced. Auditors are expected to possess vast information pertaining to the technology they are expected to use to carry out their tasks, and later, with the aid of technology, exercise judgement, express opinions, and report impartial recommendations (Abu-Musa, 2006).

Finally, Ahmi & Kent, (2013) The researchers point out that the continuous use of information technology can enhance significantly the independence and objectivity of the auditor, which will contribute to reducing the effects and restrictions on the work of the auditor. This in turn will improve audit performance by reducing cases of lack of professional care for the auditor.

### 9.3. Impact of (AO) on (EEA)

Auditor objectivity means that an auditor does their job and makes their judgments based on an unbiased look at circumstances and only based on the facts. As soon as an auditor considers how their results or opinions might impact them personally, or other people subscribers in the audit (AICPA, 2001; Lim-u-sanno & Ussahawanitchakit, 2009).

While there are a wide range of circumstances that may diminish the objectivity of an examiner, there are a couple of regular circumstances that address the most critical worries with auditor objectivity. Because working as an auditor is often a stop during a career path, the work done before and after someone is an auditor needs to be closely considered (Kabiru & Rufai, 2014). It's critical to recall that an absence of auditor objectivity does not imply that an evaluator is being untrustworthy or malignant, it just implies that an option that is, other than the relative conditions and confirmation, may affect their choices (Al-Khaddash *et al.*, 2013).

Each auditor should have an adequate information about information technology because it increases the efficiency and effectiveness of auditing and be in a sufficiently independent position to be able to exercise judgement, express opinions and present recommendations with impartiality (Abu-Musa, 2006). Many studies have indicated it is important that the auditor be objective and independent in performance of his work, and when matches the objectivity with full knowledge of information technology, this will improve

the efficiency and effectiveness of auditing (Salih & Hla, 2015).

Auditor's objectivity implies one's ability to act with integrity and exercise objectivity and professional skepticism. Therefore, auditor's objectivity is critical to promote efficiency and effectiveness of auditing and reliable financial reporting (Gul *et al.*, 2007). The American Institute for Certified Public Accountants (AICPA) in its code of ethical conduct which revolves about the idea that an auditor has a primary responsibility towards the public; in its fourth principle, it states that objectivity and independence should be maintained by the auditor and that independence should be exercised both in fact and in appearance while providing an audit or any other attestation service (Mohamed & Habib, 2013). When the auditors are regarded as being objective, this will increase the efficiency and effectiveness of the audit and therefore the public will be more confident in the financial statements thus helping taking right financial decision (Cameran *et al.*, 2005; Sinchuen & Ussahawanitchakit, 2010).

## 10. CONCLUSIONS

The topic elucidated in this work, in the context of auditing Iraqi non-profit organizations, is relatively recent and is still being developed. This work studied IT infrastructure, experience, and the intensity of organizational learning that effect the efficiency/effectiveness of auditing Iraqi non-profit organizations. This work used a questionnaire to gather information from selected respondents. The model used in this work was reported to have a high explanatory power, which could be useful in elucidating the findings. The results also confirmed that the entirety of the path of the models were significant and in line with the directions of the hypotheses.

This work also puts forth the importance of IT evaluations and activities that can be used by auditors auditing Iraqi non-profit organizations. This work elucidated auditors' objectivity and its mediating effect on the link between IT and the effectiveness and efficiency of the audit process. The current situation necessitates the usage of IT in order to increase the efficiency of the business decisions. This exploratory endeavor can be regarded as a nascent attempt at elucidating IT related undertakings by auditors of Iraqi non-profit organizations.

This work also managed to determine factors that could be used to enhance the efficiency and

effectiveness of the audit process of Iraqi non-profit organizations. The results garnered from this work confirmed that IT and auditors' objectivity positively influence the efficiency and effectiveness of the audit process, and also the fact that the former significantly influence the latter. In this context, this study propose that the decision makers consider the aforementioned factors during the audit process.

The findings reported in this work confirmed that IT significantly influence the efficiency/effectiveness of the audit process and mediates the impact of auditor objectivity vis-à-vis IT-audit efficiency and effectiveness. Auditors are required to be aware of current development in IT and its infrastructure so that they can plan, direct, supervise, and review their respective works. The findings reported here can be useful to managers and auditors, as it provides deeper insight into the usage of computers and IT systems for audits.

## 11. MANAGERIAL AND POLICY IMPLICATIONS

Policy makers, professional bodies and audit organizations, especially those in Iraq, are expected to focus on IT and its (positive) effect on efficiency and effectiveness of auditing Iraqi non-profit organizations. Iraqi auditors need to be familiar with IT infrastructure and its benefits so that they can enhance their performance.

Policy makers, professional bodies, and audit organizations are also expected to focus on the quality of IT infrastructure in the context of non-profit organizations. The objectivity of auditors is crucial towards organizational success, which could lead to improved audit performance. Decision-makers employed by the public sector audit can also clearly envision the importance of efficiency and effectiveness in the context of auditing Iraqi non-profit organizations.

The results reported in this work confirmed the importance of efficiency and effectiveness in the audit process. This is mostly due to the fact that a more efficient and effective process will result in cost and time savings, resulting in economic independence, growth, and stability, and the standardization of the audit system across the country (and region). This would also improve also management and accounting in this field, streamline the process within the confines of that of professional organizations, and improve audit performances.

## 12. SUGGESTIONS FOR FUTURE RESEARCH

This study used one instrument (i.e., the questionnaire survey) to gather data. Other researchers interested in this study could utilize the qualitative method (i.e., in-depth interview) for elucidating other factors that could affect the efficiency and effectiveness of the audit process of Iraqi non-profit organizations. A successful interview, within this context, is dependent upon the level of cooperation of the respondents and the accuracy of their feedbacks.

Most studies in this field dealt with the private sector, with only a few studies specifically addressing non-profit organizations. This makes literature review a challenge, especially when comparing the results reported in this work with that reported in literature. Non-profit organizations are regarded as being more accountable and more important relative to their private sector counterpart as they are publically funded, and also because the public sector provide essential services to the public.

Future works on this subject could involve examining the efficiency and effectiveness of audits in other countries. The methods used and assumptions made in this study could be extended into works involving other countries, with some modification based on contexts. The results reported in those works can then be compared to this work, forming a basis for streamlining the audit process to maximize effectiveness and efficiency.

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