

THE EFFECT OF ELECTRONIC MANAGEMENT IN IMPROVING THE QUALITY OF INTERNAL AUDIT THROUGH DEVELOPING THE PERFORMANCE OF INTERNAL AUDITOR: AN EMPIRICAL STUDY IN THE JORDANIAN INSURANCE COMPANIES

Mohamed Mahmoud Bshayreh, Al-Balqa Applied University
Mohannad Sami Tawaha, Al-Balqa Applied University
Reem Oqab Hussein Al- Khasawneh, Al-Balqa Applied University

ABSTRACT

The purpose of this study is to reveal the impact of electronic business management on improving the quality of internal audit through the development of internal auditors' performance. Study sample consists of (21) internal auditors working in the Jordanian insurance companies. A number of (134) questionnaires were distributed and (106) of those were returned; which are considered as valid for statistical analysis. The study found an impact for the electronic business management on the development of internal auditors' performance in addition to an impact for the development of internal auditors' performance on improving the quality of internal audit. The main recommendation of the study was to emphasize the importance of training internal auditors and improve their capabilities to deal with the information that they use in the insurance companies.

Keywords: Electronic Business Management, Internal Audit Quality, Development of Internal Auditors Performance.

INTRODUCTION

The development of administrative work from traditional to electronic has led to the improvement of performance quality in general and the improvement of internal audit quality in particular, where the use of electronic management elements (networks and communications, software and programs, and electronic leadership) led to the improvement of internal audit quality in terms of reducing labor costs, reducing operation risks, and controlling and detecting errors and fraud (Mahzan, 2014). The use of international internal audit programs, such as Team and Idea will improve the content of financial reports in their appearance and contents (Asniarti, 2019) and also the quality of internal audit can largely improve within the field of information security in the light of internal audit by using the electronic management elements (Alzeban Gwilliam, 2014).

The above requires from the financial auditor to make a greater effort in order to move from financial auditor to an electronic management auditor, taking into consideration that auditors should develop their performance otherwise they will disappear and lose their jobs

(Kotb, 2015) as declared in the internal audit standard (401) "*Audit in the environment of computer-based information systems*".

The gap that has emerged in literature reside is the focus of most literature on the work of internal financial auditor as well as in the search of internal audit quality in terms of the qualification level of internal auditors financially and in terms of their compliance with the internal audit standards, therefore we preferred in this research to study the impact of electronic management elements on the improvement of internal audit quality through the development of internal auditor performance.

DISCUSSION OF THE STUDY DEPENDENT & INDEPENDENT VARIABLES

The Role of Electronic Management on Developing the Performance of Internal Auditor

The accomplishment of operations in the electronic business environment consider one of the most important career development methods that work on improving the performance quality, which requires the internal auditors to work under complex circumstances within the computerized systems and software programs, the huge data inputs, and the way to process these data electronically which consider a major challenge for the internal auditor Joseph (2014).

Kotb et al. (2014) sees that financial auditor's experience isn't more than a major requirement for the auditing of financial processes but it's necessary to use information technology (IT) in the audit process to increase the efficiency and effectiveness, while the lack of auditors who are capable of dealing with the information systems will require from company management to train the financial auditors on IT where Güney, Aysel (2014) found that internal auditors must own the right knowledge of accounting systems due to their involvement in the establishment and development of accounting programs in the company.

Auditors need the scientific and practical qualification, and the training to work in the electronic management environment which stands on the computer networks, software, communications, and databases Anacom (2014) and therefore auditors are required to comply with the international audit standard (ISA) 401 which states "auditing must be done in a computer aided information systems environment". Internal auditors are aware of the risks level of operations implemented by the electronic management and the use of IT tools, therefore the internal auditors are required to comply with the international audit standards related to the IT environment, especially ISA 401 and they must also comply with ISA that reduce the operational and IT risks to enhance the integrity and security of accounting information which agree with the study results of Alzeban & Gwilliam (2014).

In a related context; the researcher's yang & Juan (2004) discussed the responsiveness level of internal audit profession to the rapid development of IT environment, and the study indicated that the use of IT techniques in the management and implementation of audit work was a major reason for the performance development of its operational processes. The American Institute of Certified Public Accountants (AICPA) and the Information Systems Audit and Control Association (ISACA) have issued standards to facilitate work of the internal auditor in light of the electronic business management, and Bshayreh (2016) believes that electronic management elements enable the internal control management to accomplish its tasks in an orderly manner, especially in light of using communication networks and databases in the management of its businesses which require from the internal auditors to work professionally in this environment, Bataineh (2017).

The work in electronic management environment requires from auditors to become electronic auditors and they need to be aware of the difficulties that face auditing, due to the use of computer systems which requires modification in the auditing functional skills of the auditors to give it a technological nature with the emphasis that this technology will help the internal auditors to reduce the operational risks of auditing functions, such as non-discovery risks and the inherited risks, Linda Hadden et al. (2003) & Moorthy, et al. (2011).

Internal Audit Quality Improvement

The quality standards of internal audit are represented with ISA 65 issued by AICPA and these standards show in the availability level of internal auditors professional capability, objectivity, and performance quality represented by the efficiency of internal audit procedures and emphasized that computerized systems utilization will enable the internal auditor of improving the quality of internal audit by improving the accuracy level, reducing auditing costs, and reducing the risks of auditing process Moorthy, et al. (2011). Al-Mansi et al. (2015) sees that the use of software, databases, and expert systems will help to improve the quality of employee's performance at the organization. This study, which targets the internal auditors confirmed that the use of electronic management elements will improve the quality of internal audit by improving the quality of audited financial statements outputs.

Asniarti, et al. (2019) believes that the auditing quality reside in reducing the risks of electronic data processing and suggest that these risks happened in two phases; input and process where reducing it will lead to an improvement in the auditing outputs. Auditing process through the use of IT doesn't differ in its goals but requires from the internal auditors to deal with the computer system components and master additional skills.

The transformation of processes from paper to IT led to increasing the possibility of making auditing mistakes due to the use of IT and this development forced the internal auditors to master new skills that weren't previously required, therefore auditors are required to be proficient in dealing with IT in order to reduce the risks of potential mistakes as a result of using these systems Kotb et al. (2014). Some studies also emphasized that the use of computers in the different auditing areas will help to reduce the time spent to complete the written and accounting processes, and the selection of random samples. These computerized systems also helped to reduce the overall costs of auditing processes and helped to increase the accuracy of outputs which makes it easy to review and make improvement thereupon.

The mutual relationship between the electronic management and the internal audit profession impose certain controls and constraints to audit the electronic businesses which makes it essential to pay attention to the information security and privacy which requires to follow-up on all stages of auditing process to ensure that tasks are performed properly in order to reduce the risks of using these computerized systems Arens et al. (2003). It emphasized the need to pay attention to the operational risks sources of these systems and works to reduce it to an acceptable level and also emphasized the importance of control procedures on the programs in term of inputs and outputs which finally lead to the improvement of internal audit quality Weidenmier et al. (2006).

Study Model

This study depends on the electronic management elements as the independent variables, the improvement of internal audit quality as the dependent variable, and the intermediate variable

related to the development of internal auditor performance, where the following Figure 1 represents the study model:

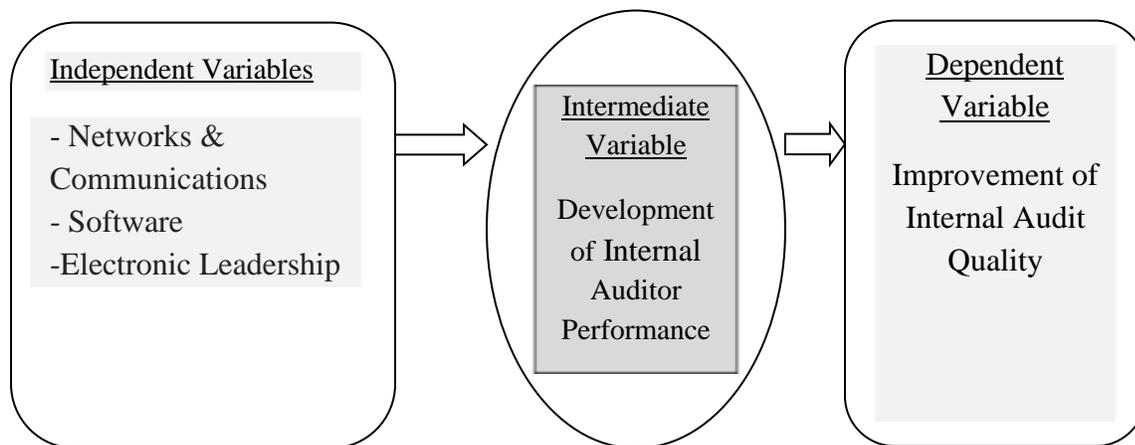


FIGURE 1
STUDY VARIABLES

Study Methodology & Descriptive Analysis Results

This study depends on the descriptive analytical approach where this aspect deals with a presentation of the study methodology by reviewing the stages and steps used to achieve the study objectives.

Study Variables

Intermediate Variable: Develop the Internal Auditor Performance

Kotb et al. (2014) mentioned the variable of internal auditor performance development in the light of electronic business management and distributed a questionnaire that contained (22) online questions on the internal auditors in the USA and UK. The study concluded that it is important for the internal auditors to develop their performances and skills by using ICT and to move from the financial audit to the audit in a computer-based environment Kotb et al. (2014) while Kolk (2017) studied the change in auditors tasks within the presence of IT and was concerned of determining the way to develop the internal auditor performance by assessing the compliance with the profession standards with emphasis on the skills of auditors by using IT during their work. The author did put (4) questions for this field that were distributed on (1,382) auditors in Netherlands, and the study found that auditors tasks have changed in light of the work in IT environment where the auditors became in need to develop their performances. But Jayalakshmy (2005) studied the changes in the roles and functions of auditors where the researcher used the descriptive approach by studying the previous researches, books, and articles in this field. The most important results of the study indicated that working in the IT environment will force the internal auditors to develop their work electronic skills.

Through the previous studies above that were related to the study variables, the following first hypothesis was formulated:

H1: There is no impact for the electronic management elements on the development of internal auditor performance at the Jordanian insurance companies.

Dependent Variable: Improving the Quality of Internal Audit

Nwankpa (2014) studied the digital management environment and its impact on the quality of internal audit and the researcher used the descriptive method to gather information and fulfill the results; where the most important results of the study were that digital management works to improve the quality of reports, reduce the errors and fraud, and reduce the risks of operations while Mahzan (2014) studied the quality of auditing process using the computer and IT technologies where the most important results of the study indicated that the adoption of internal audit software like CAATT software will be necessary to improve the quality of internal audit in terms of reducing operational audit risks.

The Study of Asniarti et al. (2019) examined the impact of computer use and techniques in the internal audit where researcher used the questionnaire to collect data and the Multiple Regression Test to test the hypotheses. The most important results of the study indicate that whenever internal auditors use IT tools it will lead to accuracy, speed, reduction of audit costs, and better information security and privacy.

We notice negligence on the part of researchers in dealing with the electronic operating errors when measuring the dimensions of internal audit quality, where researchers should have developed the dimensions of internal audit quality to include error-free auditing process, data entry processing and output, and reducing the operational risks in the electronic internal audit process.

By reviewing the previous studies related to the study variables, the following second hypothesis was formulated.

H2: There is no impact for the development level of the internal auditor performance on improving the quality of internal audit at the Jordanian insurance companies.

Independent Variables: Electronic Management Elements

Al-Mansy et al. (2015) studied the impact of electronic management on improving the performance of employees at the Jordanian insurance companies where a questionnaire related to this aspect was designed and contains (5) questions to measure the impact of electronic management (networks and communications) on improving the quality of workers' performance. The most important results of the study indicated that Jordanian insurance companies use networks and communications in a big way to manage their business and improve the quality of their employees performance while Bataineh (2017) divided the elements of electronic management into (communications and information networks, software, and databases used in the organization) and measured its impact on the employees performance at the organization through a questionnaire that contains (18) questions. The most important results of the study indicate that use of electronic management elements will lead to an improvement in the performance level of workers at the government sector.

H3: There is no impact for the electronic management elements on improving the quality of internal audit at the Jordanian insurance companies.

Study Population & Sample

The study population consists of (21) Jordanian insurance companies listed on Amman Stock Exchange while the study sample represented in the (134) internal auditors who were determined through the field visits that researchers made to the insurance companies. (134) questionnaires were distributed on the study sample with 100% and (106) of those were retrieved for statistical analysis with 88% of the total number of questionnaires that were distributed.

Tool Validity

This study relied on the validity tests that were used in the previous studies to test the tool which include the following:

Content Validity

It means to measure the relationship that connects the study variables with each other by using the Pearson Correlation Coefficient, as shown in Table 1 below:

Variables	Elements of Electronic Management	Develop the Performance of Internal Auditors	Improve The Quality of Internal Audit
Elements of electronic management	1	0.860(**)	0.534(**)
Develop the performance of internal auditors	0.860(**)	1	0.635(**)
Improve the quality of internal audit	0.534(**)	0.635(**)	1

Correlation coefficient D statistically sufficient at the level ($\alpha \geq 0.01$)

The previous Table 1 shows the results of Pearson Correlation Coefficient between the study areas and by reviewing the correlation coefficients values and significance levels, it shows a statistically significant relationship at level (0.01) between the study variables along with strong and positive relationships between these variables, where it found a positive and strong relationship between the independent variable (electronic management elements), the intermediate variable (development of internal auditor performance), and the dependent variable (improving the quality of internal audit), and it also shows a strong and positive relationship between the development of internal auditor performance and the improvement of internal audit quality. These results explain that electronic management elements effect and support the performance of internal auditor through the utilization and development of business software and applications, and through strengthening the network and communication systems internally and externally at the company, in addition to the presence of an electronic leadership that manages, implements, and issues its decisions electronically which enhances the electronic management system structure. The above steps and procedures will improve the quality of internal audit from several aspects, such as reduce cost and time, perform tasks more rapidly, and the compliance with international ISA, especially ISA (401) in addition to reducing the risk of electronic auditing and the electronic operation of information.

Instrument Reliability

It means the possibility of obtaining the same data when repeating the study using the same study tool on the same individuals under the same conditions Sekaran et al. (2016). The

Cronbach Alpha test was used for the responses of study sample that were obtained to determine the reliability of study tool where the statistically acceptable value of this tool is (60%) and above, and results showed that Cronbach's Alpha value is (80.7%) which indicates a high reliability of the questionnaire.

Hypotheses Testing

H1: There is no impact for electronic management elements on the development of internal auditor's performance at the Jordanian insurance companies.

To test this hypothesis; the Simple Regression Analysis was used to verify the impact of electronic management elements on the intermediate variable; development of internal auditors' performance at the Jordanian insurance companies. The following Table 2 shows the results of this analysis:

Independent Variable	(R) Correlation	β_i Regression	F value	(R^2)	T value	Sig
E-Management Elements	0.955	0.955	92.77	0.68	9.63	0.000*

* Statistically significant at the level (5%)

Table 2 shows the results of simple regression analysis for the impact of electronic management elements used in the Jordanian insurance companies on the development of internal auditor performance at the companies where the Correlation Coefficient (R) value amounted to (0.955), but the (R^2) explains the variation of (0.68) in the intermediate variable which mean that (68%) of the changes occur in the development of internal auditor performance result from the high level in the use of electronic management systems to conduct and accomplish the works and duties at the Jordanian insurance companies. The impact level β_i amounted to (0.955) which indicates that any increase by one degree in the utilization level of electronic management elements will lead to an improvement in the performance of internal auditors at the Jordanian insurance companies by (0.955) and confirms that F-value is (92.77) which are statistically significant at level (0.05). Based on the above, the null hypothesis will be rejected and will accept the alternative hypothesis which states "*There is an impact of the electronic management elements on the development of internal auditor's performance at the Jordanian insurance companies*".

H2: There is no impact for the development level of the internal auditor performance on improving the quality of internal audit at the Jordanian insurance companies.

Independent Variable	(R) Correlation	B_i Regression	F value	(R^2)	T value	Sig
Development of internal auditor's performance	0.635	0.635	6.08	0.337	2.466	0.036*

Table 3 shows the results of simple regression analysis for the impact of developing the internal auditor performance at the Jordanian insurance companies on the improvement of internal audit quality at the companies where the Correlation Coefficient (R) value amounted to (0.635), but the (R^2) explains the variation of (0.337) in the dependent variable which means that (34%) of the changes that occur in the improvement level of internal audit quality result from the high level in the development of internal auditor performance to be able to work in the electronic management environment at the Jordanian insurance companies. The impact level β_i amounted to (0.635) which indicates that any increase by one degree in the development level of internal auditor's performance will lead to an improvement in the internal audit quality by (0.635) at the Jordanian insurance companies and confirms that F-value is (6.080) which are statistically significant at level (0.01). Based on the above, the null hypothesis will be rejected and will accept the alternative hypothesis which states "*There is an impact for the development level of internal auditor performance on improving the quality of internal audit at the Jordanian insurance companies*".

H3: There is no impact for the electronic management elements on improving the quality of internal audit at the Jordanian insurance companies.

Independent Variable	(R) Correlation	Bi Regression	F value	(R^2)	T value	Sig
Electronic Management Elements	0.534	0.534	3.987	0.214	1.997	0.074*

Table 4 shows the results of simple regression analysis for the impact of electronic management elements at the Jordanian insurance companies on improving the quality of internal audit where the correlation coefficient value (R) is (0.534) which is not statistically significant at level (0.05) and indicates that the impact of improving the quality of internal audit was not direct; due to the lack of awareness and recognition among the employees of internal audit department to the importance of electronic management elements on developing and improving the environment of internal audit process, where the improvement of internal audit quality in the mindset of internal auditors attribute to their personal work skills and their compliance with the internal audit standards. The selection coefficient (R^2) explains (0.214) of the variation in the dependent variable which means that (21%) of the changes that occur in the level of improving the quality of internal audit result from the use of electronic management elements in the completion and implementation of administrative work while the impact level β_i amounted to (0.534) which indicates that any increase by one degree in the level of electronic management elements at the Jordanian insurance companies will lead to an improvement in the level of internal audit quality by (0.534) and confirms that F-value is (3.987), which is not statistically significant at level (0.05). Based on the above, the null hypothesis will be accepted which states "*there is no impact for the electronic management elements on improving the quality of internal audit at the Jordanian insurance companies.*"

SEARCH RESULTS & RECOMMENDATIONS

Search Results

The study fulfilled the following conclusions by following the methodology of scientific researches starting with the problem definition, going through the statistical analysis, and ending with the study results:

Insurance companies are working to provide and use the elements of electronic management represented in the networks, communications, software, and electronic leaderships. It was found through the observation, investigation, and the results of statistical analysis a high utilization level of electronic management elements in the business management of the study sample companies.

Internal auditors in the study sample companies develop their job performance by moving from the concept of financial audit to the audit in the electronic management environment and information systems by training them to work using the electronic audit programs, transfer the transactions between them electronically, and work within a system that use the information technology.

There is an awareness and a recognition for the importance of improving the internal audit quality at the Jordanian insurance companies, and that this level of recognition is a reflection for the understanding between the senior management in the company and the internal audit department, in order to improve the quality of audit process outputs which produced through the use of international computerized internal audit programs, such as Team and Idea where these programs reduce data manipulation, reduce costs, and improve the quality of internal audit outputs.

There is a statistically significant impact for using the electronic management elements to prepare, process, and execute the transactions and administrative works on developing the performance of internal auditors at the Jordanian insurance companies.

There is an impact on the development level of internal auditors' performance at the Jordanian insurance companies on improving the quality of internal audit by strengthening their skills in order to work in the electronic management environment.

There is no statistical significance for the electronic management elements on improving the quality of internal audit, where the level of significance was about (7%) and this result is due to the absence of significant impact, but there was an indirect impact through the intermediate variable on improving the quality of internal audit.

Study Recommendations

In light of the study results and the analytical perception of study areas, researchers made the following recommendations:

Insurance companies need to prepare training courses repeatedly for the internal auditors on electronic auditing to ensure their continuous ability to work in the electronic management environment.

Insurance companies' management need to strengthen the work system in the electronic management environment through the modernization of networks and the development of electronic devices, in order to have a direct impact on improving the quality of internal audit.

The need to attract the experts in information systems, electronic management, and the internal audit by working to update the auditing system continuously.

The internal audit department should use the international auditing programs and care about training all auditors to work with these programs.

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