

# THE EFFECT OF ACCOUNTING PERFORMANCE ON ACCOUNTING INFORMATION SYSTEMS, PLANNING AND CONTROLLING IN JORDANIAN COMMERCIAL BANKS - SURVEY STUDY

Fuad Suleiman Al-Fasfus, Zarqa University  
Omar Fareed Shaqqour, Zarqa University

## ABSTRACT

*The study aims to identify the inputs of the AIS and its importance in providing useful information for the planning and control processes in Jordanian commercial banks, as well as to identify the relationship between the AIS and the planning and control processes.*

*The study population consists of all the Jordanian commercial banks and the study sample consists of three persons selected from senior management staff in each bank, so the number of sample (39) respondents. A questionnaire was distributed to the entire sample, but 30 questionnaires were retrieved, thus, many statistical procedures were used to analyse the collected data such as mean, standard deviations and repeat distributions, in addition to the one sample t-test.*

*The study showed that there is a statistically significant relationship between the AIS and the achievement of various management functions, the planning and control processes. The AIS provides an appropriate level of control that ensures the integrity of the company's resources and the formation of a future outlook on the results of the company's work. The study recommended the need to increase the reliability of the AIS in the planning and control processes.*

**Keywords:** Accounting Information System, Planning Process, Control Processes.

## INTRODUCTION

Planning and controlling are the primary functions of management. Accounting information is the key input that helps the management in the planning and controlling process and makes appropriate decisions concerning the firm. The management plans and develops the future vision of the operations to be performed and put the firm objectives in short and long term. But in order to develop achievable plans, the Department needs effective AIS that provide the appropriate information to assist management in the planning process.

Information systems have been defined as the financial components, software, communication tools, databases and information processing techniques, that based on computer (Helmy, 2005), as well as, AIS are defined as one of the components of administrative system, which deals with the collection, classification, processing, analysis and communicate of appropriate financial information to make appropriate decisions (Moskov & Semiken, 2002).

The AIS includes a set of activities that must be undertaken to obtain accurate information (Ahmed, 2006): inputs which represent the raw materials that arise from the economic events that occurred and related to the firm, the process is a set of calculations, Logical

comparison, summarization, classification and sorting, that converted data into useful information for the beneficiary, outputs represent the results accessed by the system, called the outputs of the information system, control is the control of input, processing and output to ensure that the system produces and communicate information according to the firm standards and feedback is the process of measuring the feedback of users on the operations of the system.

The process of information production and communication requires the availability of physical components (manual and automated accounting tools and devices), human components (people who operate the system) and financial components (generating the necessary funding to operate the system) (Hussein, 1997), as well as, the production of accounting information requires the use of multiple resources and the decision maker must balance the cost of producing and acquiring information with the benefit that will accrue to the entity as a result of its use. In other words, the balance between the cost of producing accounting information and the return on its use in decision-making as a minimum is essential when it is produced (Al-Shirazi, 1990).

The accounting system is one of the most important systems that produce accounting information, that contribute to support of economic decisions that affect the resources and wealth of societies, thus the accounting system is linked to the various administrative processes, Management is more effective in meeting the needs of the administrative processes of the enterprise and raising the level of performance to achieve the objectives (Ahmed, 2006).

Controlling is an important function of management. It is used to ensure that employees and workers implement the plans that have been developed and to ensure that the entity is able to achieve its objectives and the management of the entity should have effective controlling over the operations in the establishment. Controlling can be quantitative or qualitative. Quantitative control focuses on the number of units produced by the enterprise, where qualitative control focuses on the quality of the products produced by the establishment. This function cannot be implemented without an effective accounting system that provides appropriate information in an appropriate time to assist management in the controlling process.

The availability of a strong, efficient and appropriate accounting system provides the necessary and appropriate information, which is important and necessary to assist the management in planning and controlling process. In recent years, the AIS have witnessed remarkable development, especially after the information revolution that increases the information that needs to process. For instance, the close relationship between accounting and information technology has led to develop the role of the accountant to include the design and review of information systems, which necessitated that the accountant be informed and familiar with computerized AIS.

Therefore, this study aims to measure the effect of firm performance in the relationship between AIS and planning and controlling of the Jordanian commercial banks.

## **STUDY METHODOLOGY**

### **The Study Problem**

Many researches were studied on the relationship between AIS and administrative decisions and functions, some previous researchers found that the AIS effect on administrative decisions and functions as planning and controlling (Al-Kaabi, 2004; Al-Qaisi, 2002; Ahmed, 2006), other researchers found that the AIS didn't effect on administrative decisions and functions as planning and controlling (Jawabreh & Alrabei, 2012), thus, Sullivan & Smith (1993)

showed that accounting information is not always being positive for all decision problem, because it doesn't have only advantages, but it has disadvantages too.

The results of previous researches aren't similar and consistent, this difference in results may due to differ in external and internal variables, for example environment and performance, this study examine the effect of firm performance in the relationship between AIS and planning and controlling of the Jordanian commercial banks.

Therefore, the problem of this study is to try to measure the effect of firm performance in the relationship between AIS and planning and controlling of the Jordanian commercial banks.

The problem of the study can be summarized in answering the following questions:

- 1- Is there a relationship between the AIS and the planning process in Jordanian commercial banks?
- 2- Is there a relationship between the AIS and the controlling process in the Jordanian commercial banks?
- 3- Is the firm performance effect on the relationship between the AIS and the planning process in Jordanian commercial banks?
- 4- Is the firm performance effect on the relationship between the AIS and the planning process in Jordanian commercial banks?

### **Research Gap**

The research gap appears in inconsistent of previous researches result as showed in study problem, this difference and inconsistent in results may due to differ in external and internal variable, for example environment and performance, this study examine the effect of firm performance in the relationship between AIS and planning and controlling of the Jordanian commercial banks.

### **Objectives of the Study**

The study aimed to find the effect of firm performance in the relationship between AIS and planning and controlling and the objectives of this study can be summarized as follows:

- 1- To find the role of AIS in the planning of Jordanian commercial banks.
- 2- To find the role of AIS in the controlling of Jordanian commercial banks.
- 3- To find the effect of firm performance on the relationship between the AIS and the planning process in Jordanian commercial banks.
- 4- To find the effect of firm performance on the relationship between the AIS and the controlling process in Jordanian commercial banks.

### **Importance of the Study**

The importance of this study is to explain the role of AIS in the planning and controlling of Jordanian commercial banks and to find the effect of firm performance on the relationship between the AIS and the planning and controlling process in Jordanian commercial banks.

The research will provide interested parties and beneficiaries with information about the role of AIS in the planning and controlling of Jordanian commercial banks and the effect of firm performance on the relationship between the AIS and the planning and controlling process in Jordanian commercial banks.

## Study Hypotheses

The hypotheses of the study consist of the following hypotheses:

*HO1: There is no statistically significant relationship between AIS and planning functions.*

*HO2: There is no statistically significant relationship between AIS and controlling functions.*

*HO3: There is no statistically significant effect of firm performance on the relationship between the AIS and the planning process in Jordanian commercial banks.*

*HO4: There is no statistically significant effect of firm performance on the relationship between the AIS and the controlling process in Jordanian commercial banks.*

## Operational Definitions

Data means the numbers, alphabets and symbols that represent the facts and concepts in a manner that can be communicated, translated and processed by humans or devices to become results (Qassem, 2004). Others defined it as raw materials, which are considered as basic inputs that are collected and recorded from material events and flows that are processed to produce information (Mubarak & Faraj, 1996; Juma, Arbeed & Zoubi, 2016).

Information is the final outcome of the information system resulting from raw data processing (Mubarak & Faraj, 1996; Qassem, 2004).

"Information is an operational data that helps the decision maker to choose among alternatives and helps the manager to monitor legitimate activities" (Al-Qabbani, 2003).

System: A set of interrelated and integrated elements interacting with each other in a series of relationships, in order to perform a specific function or goal, since the system is a set of elements that constitute what is called the components of the system, whether physical components or moral components (Qassem, 2004; Mubarak & Faraj, 1996).

AIS: A group of individuals, equipment and documents that interact within a given framework and according to a set of policies and procedures for processing economic events data, in order to prepare information that meets the needs of a different group of users (Debian, 2002). AIS are a unit or component of a project that operates financial operations to provide information about the report, to draw attention and to make decisions to users of such information (Al-Shamaa, 2016).

## PREVIOUS STUDIES

Al-Kaabi (2004) studied the role of AIS in improving the administrative performance in banks. The study aimed to explain the impact of accounting information in commercial banks in the UAE on improving their management performance in the fields of planning, supervision, investment and credit decision making, in addition to whether there are differences between national commercial banks and non-national commercial banks in the UAE, in the role of accounting information that contribute to improving administrative performance in planning, controlling and decision making. The study concluded that the banking departments rely on the accounting information during performing their activities and their various tasks of planning, controlling and decision making. The information depicts accuracy, clarity, high quality, timeliness and adequate protection, which helps to perform the functions efficiently and

effectively, thus, the cost of investment in information systems and its relation to the performance of organizations, an applied study on commercial banks in Jordan (Al-Krey, 2005).

The study aimed to find out the relationship between the cost of investment in AIS, the performance of commercial banks in Jordan, the definition of information systems, their importance and role in the organization. It also aimed to reveal the impact of information technology on organizations, to identify AIS, to know their contributions, to determine the cost of investment in AIS and to know requirements of AIS, thus establish a relationship between investment in AIS and the performance of banks. The results showed a statistically significant relationship between the cost of investment in information systems and the performance of banks. On the other hand, it showed a negative relationship between the performance of banks and the cost of investment in information systems. This may be due to the fact that these investments' capital, large size, high risk and return are not reflected in the short term, also the effect of using accounting information on planning, controlling and decision making in Jordanian commercial banks (Al-Qaisi, 2002). The objective of this study is to demonstrate the extent to which the management in Jordanian commercial banks has used the accounting information to carry out planning and controlling functions as well as to make investment and credit decisions, thus indicate the effect of their use on these functions. The study reached a number of conclusions. The most important one is that the management in Jordanian commercial banks uses the accounting information prepared to carry out the functions of planning, controlling and investment and credit decisions. The accounting system in Jordanian commercial banks provides information on returns and risk in the net profits for the previous periods investment, which is used to predict the expected return in the future and then contribute to make investment decision and to the role of information technology in improving the decision-making process (case study of the agricultural lending institution in Jordan) (Al-Qaisi, 2004). The study aimed to identify the role of information technology in improving the decision making process in the agricultural lending institution by studying the role of information technology in improving the stages of the decision making process. The results of the study showed that the use of information technology in the agricultural lending institution leads in improving and speeding up the decision-making process in identifying the problem, data collection, data analysis, the development of alternatives and the selection of the most appropriate alternative, where, the impact of the use of information technology on the effectiveness of administrative decisions in ministries in the Kingdom of Saudi Arabia (Al-Khafra, 2005). The aim of the study was to analyse the reality of the use of information technology in a randomly selected sample of ministries in the Kingdom of Saudi Arabia, to identify the extent of the impact of the use of information technology on the effectiveness of administrative decisions and to identify the obstacles that prevent information technology from supporting the effectiveness of administrative decisions. The results of the study showed that the ministries in the Kingdom of Saudi Arabia have expanded their reliance on the use of information technology, which led to a great efficiency in the administrative decisions and the statistical analysis of the study sample showed that there is a noticeable weakness in the ability of the staff working in ministries to identify administrative problems using information technology.

### **Study Justification**

Many researches were studied on the relationship between AIS and administrative decisions and functions, some previous researchers found that the AIS effect on administrative

decisions and functions as planning and controlling, Al-Kaabi (2004); Al-Qaisi (2002); Ahmed (2006) and other researchers found that the AIS did not effect on administrative decisions and functions as planning and controlling (Jawabreh and Alrabei, 2012; Sullivan & Smith, 1993). The results of previous researches aren't similar and consistent, this difference in results may due to differ in external and internal variable, for example environment and performance and this study examine the effect of firm performance in the relationship between AIS and planning and controlling of the Jordanian commercial banks.

## **METHODS OF THE STUDY**

The researchers followed the deductive approach in the preparation of this study. The study used the Arabic and English references and the articles related to the AIS as well as the planning and controlling processes. The study also used the inductive method, through the empirical study, which measures the relationship between the accounting systems and the planning and controlling processes in the banking sector in Jordan, through a questionnaire designed to reflect the degree of this relationship.

### **Statistical Procedures**

In order to analyse the collected data, many statistical procedures were used such as mean, standard deviations and repeat distributions, in addition to the liner regression and multiple regressions. The K-S test was also used to verify that the data had normal distribution.

### **Stability Test**

The Cronbach alpha test was used to measure the stability of the measuring instrument. The value of Cronbach alpha for the study questionnaire was 88.1% and it was excellent, because it's higher than the acceptable 60% (Table 1).

<b>Table 1</b>		
<b>RELIABILITY STATISTICS</b>		
<b>Cronbach's Alpha</b>	<b>N of Items</b>	<b>N of valid questionnaires</b>
0.881	28	112

### **Normal Distribution Test**

The k-s test was used to test the extent to which the data was followed for normal distribution. The sig. value was higher than 0.05, thus, indicating that the data was followed for normal distribution.

### **Study Population and Sample**

The study population consists of 13 commercial banks registered in the Central Bank of Jordan (Central Bank of Jordan, 2016). The study sample consists of 10 persons selected from senior management in each bank from all commercial banks registered in the Central Bank of Jordan, so the sample number is (130) respondents. The study questionnaire was distributed to the entire sample, but 112 questionnaires were retrieved.

Statistically, the researcher should be more restrictive at the alpha level. They suggested that studies using small samples (less than 200) should consider the hypothesis or variable is significant at a level of one percent and five percent only. In other words, the variable or hypothesis is not considered significant at the alpha level of ten percent. This practice is used to keep away from the sizes effect (Hair et al., 2010).

## THE STUDY RESULTS

### Characteristics of the Study Sample

The frequency and percentage of the sample responses were used for the first section of the questionnaire (Table 2).

<b>Position</b>	<b>Frequencies</b>	<b>Percentage</b>
General Director	-	-
Financial Manager	28	25%
Head of Section	23	20.50%
Accountant	36	32.10%
Internal auditor	25	22.40%

Note that 25% of the study sample is financial managers, 20.5% of the sample heads of departments, 32.1% of the sample accountants, 22.4% of the sample internal auditor (Table 3).

<b>Experience</b>	<b>Frequencies</b>	<b>Percentage</b>
1-5	49	43.8%
6-10	23	20.5%
11-15	11	9.8%
16-20	16	14.3%
More than 20	13	11.6%

Note that the largest proportion of the sample has less than 5 years' experience (43.8% of the sample), 20.5% of them have experience ranging between (6-10) years, 9.8% of them experience ranging between (11-15) years, 14.3% of them experience ranging between (16-20) years and 11.6% of the sample have more than 20 years of experience (Table 4).

<b>Educational Qualification</b>	<b>Frequencies</b>	<b>Percentage</b>
Diploma	21	18.8%
Bachelor	78	69.6%
Master	13	11.6%
Ph.D.	-	-

Note that the largest proportion of the sample has a first degree of (69.6%), followed by the diploma (18.8%) of the sample. Thus, 18.8% of the sample has master degrees.

## Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Information accounting systems	112	2.50	4.83	3.59	0.63
Planning	112	2.56	5.00	3.64	0.56
Controlling	112	2.69	4.62	3.61	0.41
Performance	112	0.22	1.80	1.15	0.42

The AIS is measured by the questions (1-6), planning is measured by the questions (7-15), controlling is measured by the questions (16-28) and bank performance is measured by return on assets. The results of the answers in Table 5 showed that the mean for AIS variable is 3.59 and the standard deviation 0.63, thus the results found that the mean for planning variable is 3.64 and the standard deviation 0.57, as well as, the results found that the mean for controlling variable is 3.61 and the standard deviation 0.41, finally the results found that the mean for bank performance variable is 1.15 and the standard deviation 0.42.

## Testing Hypotheses

	<b>Calculated t</b>	<b>Tabular t</b>	<b>T sig</b>	<b>Result of null hypothesis H0</b>
First hypothesis	8.084	1.984	0.00	rejected
Second hypothesis	2.190	1.984	0.031	rejected
Third hypothesis	2.919	1.984	0.004	rejected
Forth hypothesis	1.515	1.984	0.135	accepted

### The First Hypothesis

*H01: There is no statistically significant relationship between AIS and planning process.*

To test this hypothesis, the study used linear regression analysis. The result in Table 6 shows that the value of calculated t (8.084) is greater than its tabular value. Since the rule of decision is to accept the null hypothesis (H0) if the calculated value is less than the tabular value and to reject the null hypothesis (H0) if the calculated value is greater than the tabular value, therefore we reject the null hypothesis. This means there is a statistically significant relationship between the AIS and planning process.

This means that the AIS help to clarify the objectives that play an important role in the planning process. The AIS provide clear data on the activities required to achieve the objectives, which is reflected in the planning process. The standard deviation of the planning questions indicates that the majority of them are of limited dispersion, while there is a difference in the degree of approval of the AIS in determining how to obtain the necessary resources to implement the bank's use of short- and long-term budgets and capital budgets. The study gives great importance to the AIS in clarifying the objectives that play an important role in the planning, this result is consistent with Al-Kaabi (2004); Al-Qaisi (2002); Ahmed (2006) and other researchers found that the AIS didn't effect on planning (Jawabreh and Alrabei, 2012), thus, Sullivan &



Smith (1993) showed that accounting information is not likely to be useful for every decision problem, because it has specific advantages and disadvantages.

### **The Second Hypothesis**

*HO2: There is no statistically significant relationship between AIS and the controlling process.*

To test this hypothesis, the study used linear regression analysis. The results in Table 5, shows that the value of calculated  $t$  (2.190) is greater than its tabular value. Since the rule of decision is to accept the null hypothesis (HO) if the calculated value is less than the tabular value and to reject the null hypothesis (HO) if the calculated value is greater than the tabular value, therefore we reject the null hypothesis. This means there is a statistically significant relationship between the AIS and controlling process.

This means that the management controlled by using the comparison of planning budgets with the actual and expected results to find any deviation and access to its causes, as well as the use of controlling all kinds of activities. The use of quantitative analysis methods in dealing with the problems facing management and the AIS provide information and reports that have a role in the controlling process. Adequate controlling procedures are used for the transfer and circulation of data. Furthermore, planning budgets are used as a controlling tool, whereas controlling procedures are used to access the data, this result is consistent with Al-Kaabi (2004); Al-Qaisi (2002); Ahmed (2006) and other researchers found that the AIS didn't effect on controlling (Jawabreh and Alrabei, 2012), thus, Sullivan & Smith (1993) showed that accounting information is not likely to be useful for every decision problem, because it has specific advantages and disadvantages.

### **The Third Hypothesis**

*HO3: There is no statistically significant effect of bank performance on the relationship between the AIS and the planning process in Jordanian commercial banks.*

To test this hypothesis, the study used linear regression analysis. The results in Table 6 show that the value of calculated  $t$  (2.919) is greater than its tabular value. Since the rule of decision is to accept the null hypothesis (HO) if the calculated value is less than the tabular value and to reject the null hypothesis (HO) if the calculated value is greater than the tabular value, therefore we reject the null hypothesis. This means there is a statistically significant effect of bank performance on the relationship between the AIS and planning process. This means that the improved of the company performance will increase the role of AIS in the planning process, which means that increased use of AIS in the planning process will improve the financial performance of the company.

### **The Fourth Hypothesis**

*HO4: There is no statistically significant effect of bank performance on the relationship between the AIS and the controlling process in Jordanian commercial banks.*

To test this hypothesis, the study used linear regression analysis. The results in Table 6, shows that the value of calculated  $t$  (1.515) is less than its tabular value. Since the rule of

decision is to accept the null hypothesis (HO) if the calculated value is less than the tabular value and to reject the null hypothesis (HO) if the calculated value is greater than the tabular value, therefore we accept the null hypothesis. This means there isn't effect of bank performance on the relationship between the AIS controlling process.

This means that the improved of the company performance will not effect on the role of AIS in the controlling process.

## **CONCLUSION AND RECOMMENDATIONS**

### **The Study Conclusion**

The study reached the following results:

1. The study showed that there is a statistically significant relationship between the AIS and achievement of various management functions. A high percentage of respondents tend to agree that the AIS provide a clear indication of the problems faced by the bank and work to quickly resolve these problems.
2. The study showed that there is a statistically significant relationship between the AIS and the planning function. It was found that the information provided by the AIS helps the bank management to carry out the planning process. The AIS clarify the objectives and provide clear data about the activities.
3. The study revealed the existence of a statistically significant relationship between the AIS and the controlling function. The bank makes a comparison of the planning budgets with the actual and expected results to detect the deviations and the reasons for them. It uses quantitative analysis in dealing with the problems facing management. It compares the actual financial ratios with the standard to monitor the performance of the bank, as well as to provide accounting information on the movement of deposits and withdrawals in various accounts, which helps in monitoring the liquidity of the bank.
4. The study found that there is a statistically significant effect of bank performance on the relationship between the AIS and planning process, which means that the improved of the company performance will increase the role of AIS in the planning process
5. The study found that there isn't effect of bank performance on the relationship between the AIS controlling process, which means that the improved of the company performance will not effect on the role of AIS in the controlling process.
6. The study gave great importance to the AIS in clarifying the objectives that play an important role in the planning process and the use of the planning budgets as a planning tool. The statistical descriptive analysis shows that the bank is controlled by comparing the planning budgets with actual and expected results to detect any deviation and to reach the causes for this deviation.
7. The descriptive statistical analysis showed the importance of the contribution of accounting information and the important role in decision making, in addition to the difference in the respondents about the importance of the AIS providing information about the expected return on investment and the degree of risk.

### **The Study Recommendations**

The study recommended the following recommendations:

1. The role of the systems should be more efficient by increasing the reliance on the AIS in the planning process in the Jordanian commercial banks.
2. Increasing the reliance on AIS in the control process in Jordanian commercial banks, through relying on modern equipment and increasing the efficiency of the AIS in internal control, as well as enacting legislation and laws that protect data.
3. The need to rely on AIS as a tool for the performance evaluation process, by providing the necessary information to carry out this task.

## FUTURE DIRECTIONS

The researchers suggest some future direction that related with study variables which are:

1. The future studies can research on the role of AIS as a tool for the performance evaluation process.
2. The future studies can focus on the role of AIS on earning management, which mean if the applying of AIS can effect on decreasing earning management practices in the companies.
3. The future studies can focus on the role of AIS on accounting conservatism, which mean if the applying of AIS can effect on degree of accounting conservatism in the companies.

## REFERENCES

- Ahmed, B. (2006). The role of accounting information system in rationalizing administrative decisions in Palestinian business establishments. Master Thesis, Islamic University, Gaza, Palestine.
- Al-Kaabi, A. (2004). The impact of accountants' participation in the development of accounting information systems in improving administrative performance in banks. Master Thesis, University of Gaza, Palestine.
- Al-Khafra, N. (2005). *The impact of information technology on the effectiveness of administrative decisions in ministries in Saudi Arabia*. Master Thesis, University of Jordan, Amman, Jordan.
- Al-Krey, A.T. (2005). The cost of investment in information systems and their relation to the performance of organizations: An empirical study on commercial banks in Jordan. Master Thesis, Arab Academy for Banking and Financial Sciences, Amman, Jordan.
- Al-Qabbani, T. (2003). *Information systems and accounting*. Beirut, Lebanon: Al-dar al-jamee.
- Al-Qaisi, M. (2002). *The effect of using accounting information on planning, control and decision making in Jordanian commercial banks*. University Thesis, Balqa Applied University, Jordan.
- Al-Qaisi, S. (2004). *Role of information technology in improving decision making, case study: Agricultural credit institution in Jordan*. University of Jordan, Amman, Jordan.
- Al-Shamaa, K. (2016). *Principles of management*. Dar Al-Masirah for Publishing, Distribution and Printing, Amman, Jordan.
- Al-Shirazi, A. (1990). *Accounting theory*. Al-Sallas for Printing and Publishing, Kuwait.
- Central Bank of Jordan (2018). *The annual report*. Retrieved from [http://www.Banks/Bank\\_sindexa.doc](http://www.Banks/Bank_sindexa.doc).
- Debian, A.M. (2002). *Introduction to accounting information system*. Alexandria, Egypt: Al-dar al-jamee.
- Hair, J.F., Sarstedt, M., Ringle, C.M. & Mena, J.A. (2012). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 14-433.
- Helmy, Y. (2005). *Fundamentals of Information Systems*. Egypt: Ain Shams Library.
- Hussein, A. (1997). *Accounting information system, Intellectual framework and applied systems*. Al-Alexandria, Egypt: Eshaa Librar.
- Jawabreh, O.A. & Alrabei, A.M. (2012). The impact of accounting information system in planning, controlling and decision-making processes in Jodhpur hotels. *Asian Journal of Finance & Accounting*, 4(1), 173-188.
- Juma, A., Arbeed, E. & Zoubi, Z. (2016). *Accounting information system*. Amman, Jordan: Dar Al-Maashah for Publishing.
- Moskov & Semiken (2002). *AIS for decision making*. Translated by Kamal Al-Din Saeed, Riyadh, Dar Al-Marikh Publishing.
- Mubarak, S. & Faraj, L. (1996). *Information systems and accounting (Ninth Edition)*. Kingdom of Saudi: Saudi Accounting Association.
- Qassem, A.R. (2004). *Analysis and design of AIS*. Dar Al-Thaqafa Publishing, Amman, Jordan.
- Sullivan, A.C. & Smith, K.V. (1993). What is really happening to cost management systems in U.S. manufacturing? *Review of Business Studies*, 2(1), 51-68.