

# Electronic Accounting Information Systems Efficiency in Energy Sector under Conditions of Uncertainty - A Field Study Electricity Companies in the Hashemite Kingdom of Jordan

Dr Reem okab al-kasswna

Al,Balqa Applied University, Jordan, al-huson college  
Tell- 0799933220- E-mail : medoheart2000@yahoo.com

## Abstract

**The Study Objectives :** This study aims to evaluate the effectiveness of electronic accounting information systems in energy sector under conditions of uncertainty in the electricity companies in Jordan through studying and assessing the availability of properties related to the quality of accounting information systems in electronic information System in electricity companies, and the ability of accounting information system to provide appropriate information for planning, control and decision-making under conditions of uncertainty.

**The Study Methodology :** To achieve the objectives of the study, the researcher uses the descriptive analytical method reviewing the related studies and literature of accounting information systems and the preparation of questionnaires distributed to the electricity companies in the energy sector. 4 questionnaires are distributed to cover categories of the system users: financial and control managers in those companies to assess the characteristics and provide data required under conditions of uncertainty

The study has found that the characteristics of electronic accounting information systems highly influence the performance of electricity companies of Jordan under conditions of uncertainty. The electronic accounting information system in electricity companies in Jordan is effective in providing information for the purposes of planning under conditions of uncertainty, and in providing information for decision-making under conditions of uncertainty and for the purposes of control under conditions of uncertainty.

**The Study Value:** This study addresses the energy sector and specifically Jordanian electricity companies which lacks the studies specialized in accounting systems, especially electronic accounting systems under conditions of uncertainty.

**Key Words:** Electronic accounting information systems, energy sector, accounting in the Jordanian electricity companies.

## 1-Introduction

Management faces many situations in which needs to make significant decisions that affect the company's earnings and financial position as a result from that companies may encounter situations resulting from the rapid developments in several areas, in addition to strong competition between companies. Business may face crises, because of lack of raw materials essential to the production process due to the deficiencies of these materials. So it is necessary to deal with crises, and this requires that the companies should have information system provides information that help administration in dealing with the crises. In the Hashemite Kingdom of Jordan, the energy sector especially electricity companies faces crisis at the beginning of the political changes in the Arab world and the Republic of Egypt in particular. It is represented in natural gas breakdown, which is the basic material in generating electric energy in Jordan. Therefore, the company should use the more expensive alternative materials such as oil products. As being shareholding companies, this affects their profits and increase the operational costs, so that Jordanian electricity companies can deal with and manage these crises, it is important to have accounting information system as recent studies and experiments have found that accounting information system is an appropriate system management can rely on and it is useful for decision-making and crisis management.

This research demonstrates the effectiveness of accounting information systems in providing appropriate financial information, which helps companies administrations to take decisions related to operational alternatives and means which can be used to manage the crisis encountered by the Jordanian electricity companies.

## 2-The study significance

The study significance comes from the following:

2-1- The conditions of uncertainty and crisis management are conditions that the Jordanian electricity companies may face as a result of changes and political conditions that affect the electricity industry.

2-2- This paper presents an analytical study to demonstrate the importance of the role of accounting information system in providing information that the administration depends on in planning and decision-making in crisis

management.

2-3- The study significance comes from the importance of the energy sector especially electricity companies as a vital and important sector for community and studies address this issue – to the best of the researcher's knowledge -

### **3-The study problem:**

The accounting information system represents a main factor which management based on in decision-making, planning and control through data and information provided by this system. The problem that the company faces many conditions and situations of uncertainty, which makes it difficult to predict the next event, so the research problem can be outlined in the following questions:

3-1- Do the properties of accounting information systems affect the performance of Jordanian electricity companies under conditions of uncertainty?

3-2 Is electronic accounting information systems in Jordanian electricity companies active in providing information for the purposes of planning under conditions of uncertainty?

3-3 Is electronic accounting information systems in Jordanian electricity companies active in providing information for the purposes of decision-making under conditions of uncertainty?

3-4 Is electronic accounting information systems in Jordanian electricity companies active in providing information for the purposes of control under conditions of uncertainty?

### **4-The study Hypotheses**

Based on the study problem, the following hypotheses are developed:

4-1 The properties of accounting information systems affect the performance of Jordanian electricity companies under the conditions of uncertainty

4-2 Electronic accounting information systems contribute to Jordanian electricity companies in providing information for purposes of planning under conditions of uncertainty

4-3 Electronic accounting information systems contribute to Jordanian electricity companies in providing information on decision-making under conditions of uncertainty

4-5 Electronic accounting information systems contribute to Jordanian electricity companies in providing information for the purposes of control under conditions of uncertainty.

### **5-The study objectives**

The study aims to the following:

5-1 Define the characteristics of electronic accounting information systems that affect the performance of electricity companies in Jordan under conditions of uncertainty

5- 2Demonstrate the effectiveness of the electronic accounting information system in Jordanian electricity companies to provide information for the purposes of planning under conditions of uncertainty

5- 3Demonstrate the effectiveness of the electronic accounting information system Jordanian electricity companies to provide information on decision-making under conditions of uncertainty.

5-4 Demonstrate the effectiveness of the electronic accounting information system in Jordanian electricity companies to provide information for the purposes of control under conditions of uncertainty.

5- 5Demonstrate the most important obstacles that limit the use of electronic accounting information system in crisis management - the conditions of uncertainty - in Jordanian electricity companies

## **6 - Previous Studies and Theoretical Framework**

### **6-1Previous Studies:**

- **(Theresa and Stuart, 2000)** Study: It aims to identify the effects of application of information technology and restructuring of functional performance of public sector institutions. The most important results of this study are that there is a little impact of the application of information technology on the number of administrative levels, while this application has an important role in helping the workers in the mentioned institutions in the involvement in decision-making process. The application of this technology helps to restructure the public sector institutions without having a major impact on the performance of those institutions.

- **Khatab Study (2002)** This study aims to identify the factors affecting the efficiency and effectiveness of accounting information systems in Jordanian commercial banks. It also demonstrates the impact of administrative decisions models on efficiency and effectiveness of accounting information systems used in commercial banks in Jordan. It also focuses on the impact of computers programs on the efficiency and effectiveness of accounting information systems used in commercial banks in Jordan, the study based on primary

data collection on scientific questionnaire and distributed over the entire study population (9) banks, (54) questionnaires have been distributed to these banks 50)) questionnaires have been recovered. The study has found that the highest impact of environmental factors on the efficiency and effectiveness of accounting information systems used in commercial banks in Jordan, with regard to regulations and accepted accounting standards and auditing rules used in the bank. The study also shows that the behavioral factors of information users has an impact on the efficiency and effectiveness of those systems.

- **(Serafeimidis and Simithon, 2003) Study:** The study aims to assess the information systems by studying the social and organizational dimensions affecting them and to achieve the objectives of the study, the questionnaire was designed and applied to a sample of 160 employees working in information systems departments of participating companies . One of the most important results of this paper is that there are social and organizational dimensions must be addressed and the assessment process of these systems were complex and needs large human efforts of the entity's staff who are familiar with the system and know its secretes and capacities. The study indicates that it is necessary that assessment process is synchronously conducted and planned on a regular basis with the work performance.

- **(Khalid, 2004) Study:** The study aims to evaluate the performance of computer-based accounting systems suitable to meet the department needs. The questionnaire was designed to explore the opinions of officials of industrial companies in Jordan on the performance of those systems. The study results shows that the majority of Jordanian Industrial Companies rely on computer-based accounting information systems, and applicable regulations achieve the objectives of users of financial and administrative statements as well as ease and speed of such systems to meet the needs of such data users.

- **(Muasher and Khisbeh, 2006) Study:** The study aims to identify the impact of organizational and technical factors on the applications of management information systems in the Jordanian banking sector and to achieve the objectives of the study, the questionnaire was designed and developed for the purpose of data collection and distribution to the study sample. The most important results of the study is that there is a statistically significant effect for the technical and organizational factors variables in the applications of management information systems in its role and importance in achieving psychological satisfaction, acceptance of the resistance reasons, the raise of employees morale and importance in the organization.

- **(Abdullah and Qatanani, 2007) Study:** The study aims to identify the characteristics and variables, and factors that make up the banking environment and to measure the impact on the efficiency and effectiveness of accounting information systems in Jordanian commercial banks. The study data has been collected through a questionnaire that distributed to a sample workers in management of information systems in those banks. The most important results of the study are that there is a great influence for each legal factors, professional regulations, technical factors administrative and organizational factors, and behavioral factors on the efficiency and effectiveness of accounting information systems. The efficiency and effectiveness of these systems vary depending on the different level of the banking management interest of these factors at building, designing and developing accounting information systems.

- **(Naash and Khamis, 2009) Study:** The study aims to determine the impact of accountants in developing accounting information systems on those systems efficiency and application on financial performance of industrial companies in Jordan, as well as to investigate the effect of the application of those systems on the financial performance of companies. This study has applied on a sample of 53 industrial companies listed in the financial market in Jordan. The most important results of the study are that there is a direct correlation of statistical significance between participating accountants at all stages of the development of accounting information systems and the performance of those systems. It also indicates that there are statistically significant differences between performance indicators before and after the application of system except for sales operating income while it also shows that there are statistically significant differences between the financial performance indicators of companies that apply the computer-based accounting information systems and those companies financial indicators that do not apply such systems.

- **(Kalpona et al, 2011) Study:** The study aims to examine the impact of the use of accounting information systems on the financial performance of Jordanian industrial companies, by comparing the averages of some financial measures of performance before and after using the computerized accounting information system. The certain financial performance measures have been used such as the return on assets (ROA) and return on equity (ROE) and Earnings Per Share (EPS) before and after using the accounting information system in companies. The most important results of this study are that there is no statistically significant differences between the averages of the three financial measures used in the study before and after the date of the use of accounting information system, indicating that there is no effect of accounting information systems on the financial performance of companies.

## 6-2 Theoretical

## Framework

The role of electronic accounting information systems under conditions of uncertainty in business facilities. The circumstances in which decisions are made and business organizations plan that are classified into three types: certainty conditions, uncertainty conditions and risk conditions (Attia, Ahmed, p 62) which can be explained as follows:

- Planning and decision-making under conditions of certainty: in this case there is full knowledge of the results of each choice or alternative available to the decision maker, and each decision is characterized by a single result or set of events associated with it, and therefore it is easy for decision makers take the alternative decision.

- Planning and decision-making under conditions of risk: In this case, each alternative leads to more results, and the results are possible and its probabilities are known, therefore the forms used in this case must be able to represent all the possibilities associated with each result.

- Planning and decision-making under conditions of uncertainty: In this case there is no confirmed information or possibility for decision makers to achieve any different expected results for each alternative resolution in the future. In fact, these decisions are anticipating experimental type that based on trial and error, and then in this case the decision-maker use previous experience and personal expectations with degrees of optimism and pessimism in the selection of alternative decision, which may not be the best alternatives available, potential forms can also be used, but with caution in the analysis of results. We find that the electricity companies face conditions of uncertainty to plan and make decisions where there is no confirmed information or possibility as the sudden changes in the internal and external environment of the organization without chances to avoid it is a crisis and most likely that effective management of the crisis is the only way to exceed it or avoid its most negative effects on the organization, otherwise the organization will move from a bad situation to worse.

### **Characteristics of electronic accounting information systems and its impact on decision-making under conditions of uncertainty**

The accounting information systems must be characterized by a set of basic characteristics in order to achieve the expected goals, (Siam, 2004, pp. 45), namely:

- Suitability: It means that information has an effect on the user's decision or action, that is, it assists and contributes to carrying out missions. If information has no impact on the decision, these are described as inappropriate information. So that information is appropriate for administrative decisions, the information should be related to the future and differ based on the decision alternatives.

- Accuracy: it means data processing without errors and providing accurate information without contradictions.

- Speed: The speed is represented at the stage of entry, processing, retrieval and preparation of the report, in addition to the speed in the transmission of information and data across networks.

- Timeliness: It means that information reach to users in a timely manner, as the late delivery of information loses much of its relevance and appropriateness of the decision.

- The ability of understanding: It refers to the need for information provided to users understandable, which requires in some cases, writing reports in simple language and avoid technical terms that some may find difficult to understand.

- Comparability: It means the need to prepare successive information easier for users to compare, thus making it easier to identify aspects of change or variation from period to period. The comparability also refers to presentation of data used to differentiate between the alternatives in a similar and consistent manner.

- Objectivity: It means necessity honestly preparing the information and free from errors and fraud and away from the bias so that its users can trust its validity.

- Flexibility: The accounting information systems must be flexible to keep pace with contemporary developments in information technology. It does not need for training for long period, because it is easily-used, and it is able to meet all administration new needs.

The researcher believes that it is necessary that companies uses electronic accounting information systems under conditions of uncertainty to provide information quickly, accurately and timely and it should be appropriate to make decisions properly, in addition that it should be comparable between companies in the same sector, for prior periods and at similar circumstances, and between different operation alternatives for Jordanian electricity companies.

### **The relationship of accounting information systems with management tasks under conditions of uncertainty**

Accounting information helps firm administration to carry out the tasks of planning, control and decision-making, through planning administration plans formally implemented that so-called planning budgets, which present the administration objectives and goals, specifically and quantitatively. The administration needs the flow of information that show the efficiency of the implementation of the plans, and The role of the control task comes when budget data is compared with the actual performance of a specific time period to identify and address deviations and problems. While the decision-making task is pivotal administrative function, and the success of any enterprise depends on a large extent on the capacity and efficiency of administration leadership to make decisions that cannot be taken unless the appropriate accounting information is available.

The electricity sector in the Hashemite Kingdom of Jordan has faced since a year conditions of uncertainty due to natural gas outage, which is the raw material essential to electricity industry. Thus electronic accounting information system contribute to provide power companies with appropriate information for the planning, decision-making and control under conditions of uncertainty as detailed as follows:

#### **Accounting information systems and planning task under conditions of uncertainty**

Good planning contribute to raise awareness among management and focus on the future, enabling it to determine the nature of risk expected to take appropriate decisions about them at the right time, planning needs to study the conditions of the future, this study makes the administration in a better position when dealing with the opportunities and it reduces the likelihood of crises (Arab Society, 2001 98), accounting information contribute to an important role in every stage of the following planning:

- The goal development: The role of accounting in the first phase of planning is to provide data on study and analysis of the goals for the firm under conditions of uncertainty, the main objective is to avoid possible crises and negative effects.
- The data collection: It provides data on analysis of the relationship between cost, volume and profit in order to determine the best interaction between these variables that could be considered the basis for the operations of the organization in next period.
- The resources collection : It provides data for the preparation of needs lists and future financial flows, which must be obtained from the most appropriate resources to achieve specific goals.
- The preparation of standards: It provides data for the preparation of budget planning, so it contributes with the administration in the preparation of quantitative criteria, and then converts them to the financial standards in the form of planning budget that reflect the activities at the organization during next period in the form of quantity and money.
- Preparation of work plans and policies: It provides data for the preparation of detailed plans and policies and the coordination between both of them at the enterprise level (Kahala and Hanan, 12.2002)

#### **Accounting information systems and supervision task under conditions of uncertainty**

Control task is to follow up the actual implementation and compare it to the performance plan to ensure that actual performance is carried out according to the plans, policies and standards. It detects and analyzes deviations to identify its causes and report it to higher management to take corrective actions. The need to control arises from the role of the administration as an agent of the shareholders to protect their properties and interests so it takes all the measures and procedures necessary to provide for the protection and development of resources and follow up activity within the organization and to achieve the desired objectives (Daban,. (32: 1997) under conditions of uncertainty the control task is very essential to mitigate the negative effects and to avoid crises or reduce risks and crises.

#### **Accounting information systems and decision-making task under conditions of uncertainty**

The accounting information importance increases which provided to the information users in order to rationalize the administrative decisions. The information must be characterized by qualities (Al-Rawi 1999.264) such as appropriate information to carry out the control in terms of comparing actual implementation with plans, and to make decisions evaluation.

- Information should be appropriate to make development decisions and face the risk of crises, and it should be relevant to influence the different decisions, and it helps decision-makers to predict the future, and take the appropriate decisions the information should also be available to the administration in a time manner. It should be valid, reliable, real and impartial in addition that the benefits are greater than the cost.

### **7 - The study methodology:**

#### **7-1 Sources and methods of data collection:**

This study is descriptive and analytical paper where the researcher in collecting data depends on:

A - primary sources: Books, periodicals and magazines related to the electronic accounting information system and its properties and role in achieving the administration tasks, under conditions of uncertainty.

B - Secondary sources: Questionnaire has been prepared based on the theoretical framework to test hypotheses of the study and distributed to the study population.

#### **7-2 The study population and sample:**

Companies operates in the electricity sector are 6 companies classified as power generating companies that are two companies: central electricity Generating Company and Al-Amraa power generating company, and two companies of the energy transfer: the national electricity company and electrical connection company, and distribution companies: the National Electricity Company and Irbid Electricity Company, and the researcher has distributed 4 questionnaires for each company, the financial managers and internal audit managers, to identify the efficiency and effectiveness of the accounting information system under conditions of uncertainty, and the total number of questionnaires is 24 and 24 questionnaires have been recovered as the researcher has distributed by hand to ensure that being answered and recovered.

#### **7-3 The stability of study tool:**

To ensure the stability of the study tool, coefficient of internal consistency Cronbach's alpha has been calculated, ranging (0.77-0.92) and Table (1) shows these coefficients, these percentages are considered suitable and appropriate for the purposes of this study.

#### **7-4 First: Analysis of respondents answers :**

This section analyzes the demographic characteristics of the study sample, the following table(2) shows the characteristics of the study sample, we note the following

1 - Education: The table shows that the largest percentage of respondents holding the university first degree, the bachelor degree with a percentage 63% of the sample, with an overall percentage of respondents who hold a university degree as a minimum is 98% of the sample. It indicates that there is a level of academic qualification appropriate for the respondents to answer the questions of the study efficiently.

2 - Specialty: The following table shows that the majority of respondents specialize in accounting, with the percentage 41% of respondents, who are more aware of the questionnaire questions. the greatest percentage i 67% represents two categories specialize in accounting and computer which enable the study sample efficiently and effectively to answer the study questions related to the electronic systems. a percentage 67% of respondents specialized in Accounting and Management Science that related to the use of electronic accounting information systems. This demonstrates the ability of respondents to answer the questionnaire about the characteristics and quality of electronic accounting systems.

3 - Career Level: The table shows the distribution of the study sample according to the respondents. a percentage 54% of study respondents are financial managers. This refers that the respondents efficiently answer the questionnaire regarding the characteristics of information systems. This category mostly uses the systems and can judge the speed, accuracy, flexibility, efficiency and effectiveness of information systems.

#### **7-5 Data analysis and hypothesis testing**

For data analysis and hypothesis testing, the following standard weights are adopted to the frequency acceptance: The number indicates (5) to very agree, (4) to agree, (3) neutral, the (2) is not agree, and (1) strongly not agree. To explain the results, the range of (1-1.79) is not considered an important component, (2.59-1.8) is considered an important component of low-grade, (2.60-39.3) is considered an important component of a medium degree, (3.40-4.19) is considered an important component of high degree, and (4.20-5) is considered an important component of very high degree. Therefore the hypothesis can be accepted when the arithmetic mean of 3 and more that is greater than 60% of Likert scale, but If the arithmetic mean less than 3 the percentage is unacceptable and weak

#### **7-6 Test of the first hypothesis:**

##### **7-6-1 The characteristics of electronic accounting information systems affect in the performance of Jordanian electricity companies under conditions of uncertainty**

To check the validity of this hypothesis, averages and standard deviations are calculated for the performance of the study sample on the paragraphs related to the second hypothesis, and Table (3) shows arithmetic means and standard deviations of the paragraphs that make up the first hypothesis. The answers of the study sample refer that there is a very high impact of the characteristics of accounting information systems. Means range between

(4.13-4.50), as paragraph (6) states that the appropriateness in electronic accounting information systems contribute to improving the company's performance under conditions of uncertainty in the first place with an arithmetic mean of (4.50), while paragraph (2) states that the flexibility in electronic accounting information systems contribute to improving the performance of the company under conditions of uncertainty at final grade with mean of (4.13). The arithmetic mean of the impact of the characteristics of accounting information systems under conditions of uncertainty is (4.34).

The arithmetic means of the paragraphs that make up the first hypothesis is compared with the standard mark (3) - the standard of hypothesis acceptance - using the "T" test as shown in Table (4). The table shows that there is statistically significant differences ( $\alpha = 0.05$ ) between the mean and standard mark (3) as the value of "T" is 16.148 and statistical significance is .000, which indicates the acceptance of this hypothesis.

The second hypothesis test

#### **7-6-2 The second hypothesis test: Electronic accounting information systems contribute to Jordanian electricity companies in providing information for planning purposes under conditions of uncertainty**

To check the validity of this hypothesis, means and standard deviations are calculated for the performance of the study sample of the paragraphs related to the first hypothesis, and the table (5) shows arithmetic means and standard deviations of paragraphs that make up the second hypothesis, the means range between (3.96-4.54), the paragraph (9) states that

" accounting information system provides financial predictive information that helps the administration in developing future plans under conditions of uncertainty and studying the requirements of customers of banking services "in the first grade with arithmetic mean (4.58), while the paragraph (2) states electronic accounting information provides basis for planning of financial and human resources. and the arithmetic average of the effectiveness of information systems accounting in planning under conditions of uncertainty (4.29) and the answer is very high except for paragraph 2.

The arithmetic mean of the paragraphs that make up the hypothesis is compared with the standard mark (3) - the hypothesis acceptance standard - using the "T" test as shown in Table (6) The table shows that there is statistically significant differences ( $\alpha = 0.05$ ) between the mean and standard mark (3) as "T" value is 17.357 a statistically significant difference is 0.000, indicating acceptance of the hypothesis, which states electronic accounting information system in Jordanian electricity companies contribute to providing information for the purposes of planning under conditions of uncertainty

#### **7-6-3 The third hypothesis test:**

##### **Electronic accounting information systems in Jordanian electricity companies contribute to providing information for decision-making under conditions of uncertainty**

To check the validity of this hypothesis, means and standard deviations are calculated for the performance of the study sample of the paragraphs related to the first hypothesis, and the table (7) shows arithmetic means and standard deviations of the paragraphs that make up the third hypothesis, the arithmetic means range between (4.13-4.54), the paragraph (3) states that accounting information system provides decision makers with information appropriate to the decisions in terms of quality, time and cost in the first grade with arithmetic mean of (4.54), while paragraph (5) states that accounting information system helps higher administration in decision-making that takes into account the long effects of these decisions is in the last grade with arithmetic mean of (4.17). while electronic accounting information systems in Jordanian electricity companies contribute in providing information for decision-making under conditions of uncertainty with arithmetic mean (4.35).

The arithmetic means of the paragraphs that make up the third hypothesis is compared with the standard mark (3) - the standard hypothesis - using "T" test as shown in The table (8) show that there is statistically significant differences ( $\alpha = 0.05$ ) between the mean and standard mark (3) as the value of "T" is 17.751 with statistical significance .000, which indicates acceptance of this hypothesis.

#### **7-6-4 The fourth hypothesis test Electronic accounting information systems contribute to providing information in Jordanian electricity companies for the purposes of control under conditions of uncertainty**

To check the validity of this hypothesis, the means and standard deviations are calculated for the performance of the study sample of the paragraphs related to the first hypothesis, and the table (9) shows arithmetic means and standard deviations of the paragraphs that make up the hypothesis (4), the means range between (4.13-4.63). the paragraph (2) states that " accounting information systems provides control reports on the performance of different administrative levels at timely manner in the first grade with arithmetic mean (4.63), while paragraph (9) states that "the information provided by the accounting reports in the company

to effectively identify negative deviations in the budgets and take related corrective actions in the last grade with arithmetic mean (4.33). and overall mean (4.45).

The arithmetic mean of the paragraphs that make up the fourth hypothesis is compared with the standard mark (3) - the acceptance hypothesis standard - using the "T" test as shown in Table (10). The table shows that there is statistically significant differences ( $\alpha = 0.05$ ) between the mean and standard mark (3) as the value of "T" is **18.864** and statistical significance is .000, which indicates acceptance of this hypothesis.

## **8-Results and recommendations:**

### **8-1 Results:**

The study has found the following results that related to the study hypotheses test:

- The characteristics of electronic accounting information systems greatly affect the performance of Jordanian electricity companies under conditions of uncertainty, as these characteristics of accounting information contribute to providing appropriate information and to improving the performance of electricity companies in light of economic and political conditions.
- The accounting information systems greatly contribute to Jordanian electricity companies to provide information for planning purposes under conditions of uncertainty.
- Electronic accounting information systems in Jordanian electricity companies greatly contribute to providing information for decision-making under conditions of uncertainty
- Electronic accounting information systems in Jordanian electricity companies greatly contribute to providing information for the purposes of control under conditions of uncertainty

### **8-2-Recommendations:**

The study recommends as follows:

- Forming specialized committees in the electricity companies to manage crises under conditions of uncertainty, these committees contribute to the achievement of efficiency and effectiveness in the management of the company.
- Developing comprehensive accounting information systems for all the circumstances, the needs of business organizations, the conditions of uncertainty, risks and conditions of certainty
- Rehabilitating scientific personnel, who operate the system through training courses, to be able to deal with the urgent variables and developments in information technology.
- Developing the system to ensure the provision of information appropriate for decision-making, and its delivery for business organizations on time and in different circumstances.

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**Table (1)**  
**Internal consistency coefficient Cronbach alpha**

Area	Internal consistency
The impact of the characteristics of electronic accounting information system in Jordanian electricity companies in decision-making under conditions of uncertainty	0.78
The electronic accounting information system contribute to Jordanian electricity companies in providing information for purpose of planning under conditions of uncertainty	0.78
The electronic accounting information system contribute to Jordanian electricity companies in providing information for purpose of decision-making under conditions of uncertainty	0.75
The electronic accounting information system contribute to Jordanian electricity companies in providing information for purpose of control under conditions of uncertainty	0.84

**Table (2)**  
**Frequencies and percentages according to the study variables**

7	Categories	Frequencies	Percentages
Education	Diploma	1	2
	Bachelor	15	63
	Master	5	21
	PhD	3	14
	Total	24	100%
Specialty	Accounting	10	41
	IT	6	25
	Administration science	7	26
	Others	2	8
	Total	24	100%
Career level	Financial manager	13	54
	Computer dept manager	6	25
	Dept head	5	21
	total	24	100%

**Table (3)**  
**Arithmetic means and standard deviations for the performance of the study sample on the paragraphs related to the first hypothesis**

No	Paragraph	Mean	Standard deviation	Answer
1	The speed in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.38	.49	Very high
2	The flexibility in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.13	.54	High
3	The accuracy in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.29	.55	Very high
4	The timeliness in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.42	.72	Very high
5	The comparability in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.37	.58	Very high
6	The reliability in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.37	.65	Very high
7	The appropriateness in electronic accounting information system contribute in improving the company performance under conditions of uncertainty	4.50	.51	Very high
8	The characteristics of electronic accounting information system contribute in providing information necessary + under conditions of uncertainty	4.42	.72	Very high
	Overall medium	4.34	.41	Very high

**Table (4)**  
**Means, standard deviations and "T" test of the paragraphs that make up the first hypothesis compared to the standard (3)**

The impact of the characteristics of electronic accounting information system in Jordanian electricity companies in decision-taking under conditions of uncertainty	Number	Mean	Standard Deviation	T value	Freedom grades	Statistical Significance
	24	4.34	.41	16.148	23	.000

**Table (5)**  
**Arithmetic means and standard deviations for the performance of the study sample of the paragraphs related to the second hypothesis**

No	paragraphs	Mean	Standard deviations	Answer
1	The accounting information contribute greatly in increasing the effectiveness of planning under conditions of uncertainty	4.21	.98	Very high
2	Electronic accounting information provides basis for planning of financial and human resources	3.96	.46	High
3	The company administration depends on accounting information Increases the effectiveness of planning under conditions of uncertainty	4.21	.59	Very high
4	Accounting information is very important by the administration in improving the planning strategy.	4.13	.74	Very high
5	Accounting information system helps in setting plans and goals under conditions of uncertainty on basis of information provided	4.42	.58	Very high
6	The administration depends on accounting information to change the numbers of planning budgets	4.33	.64	Very high
7	Accounting information directly contributes to determining the company's goals and different alternatives to continue the operation of planning	4.33	.76	Very high
8	Accounting information system contribute to making the company general policies to procedures and programs in planning budgets under conditions of uncertainty	4.46	.66	Very high
9	Accounting information system provides financial predictive information that assists the administration in developing future plans under conditions of certainty	4.58	.58	Very high
	Overall medium	4.29	.36	

**Table (6)**  
**Means, standard deviations and "T" test of the paragraphs that make up the hypothesis compared to the standard (3)**

The efficiency of electronic accounting information systems in Jordanian electricity companies for planning purposes under conditions of uncertainty	Number	Mean	Standard Deviation	T value	Freedom grades	Statistical significance
	24	4.29	.36	17.357	23	.000

**Table (7)**  
**Arithmetic means and standard deviations for the performance of the study sample of the paragraphs related to the third hypothesis**

No	Paragraphs	Arithmetic mean	Standard deviation	Answer
1	Accounting information system provides the administration with adequate and appropriate information to facilitate decision-making	4.33	.70	Very high
2	Accounting information systems produces economic information that the administration (decision makers) use to predict the values of variables in decision-making	4.25	.61	Very high
3	Accounting information system provides decision makers with Information suitable for quality, time and cost of decisions	4.54	.66	Very high
4	Accounting information system takes into account the decision-making models in terms of information needed in decision-making	4.29	.62	Very high
5	Accounting information system helps the higher administration to take decisions take into account long effects of these decisions	4.13	.74	High
6	Accounting information system helps the higher administration in achieving the suitability between the decisions and changes in energy sector	4.46	.51	Very high
7	Accounting information system provides users with financial reports periodically and regularly	4.38	.65	Very high
8	The decisions are taken by the administration that basically based on information provided by accounting information system away from personal opinion	4.46	.66	Very high
9	Accounting information system provides (feedback) includes reconsidering the decisions taken to improve its effectiveness	4.17	.70	Very high
	Overall medium	4.35	.37	Very high

**Table (8)**  
**Means, standard deviations and "T" test of the paragraphs that make up the third hypothesis compared to the standard (3)**

The contribution of electronic accounting information systems in Jordanian electricity companies for decision-making purposes under conditions of uncertainty	Number	Mean	Standard Deviation	T value	Freedom grades	Statistical significance
	24	4.35	.37	17.751	23	.000

**Table (9)**  
**Arithmetic means and standard deviations for the performance of the study sample of the paragraphs related to the fourth hypothesis**

No	Paragraphs	Arithmetic mean	Standard deviation	Answer
1	The administration control the activities and plans at all work stages based on accounting information available	4.13	.45	High
2	Accounting information systems provides control reports of performance of different levels of administration in a timely manner	4.63	.58	Very high
3	Accounting information systems control reports on performance of different administrative levels to enable the administration to take decisions and procedures to reduce or limit negative effects under conditions of uncertainty	4.38	.65	Very high
4	The administration considers that control over plans implementation through accounting information is an important tool helps in achieving tasks and goals	4.54	.59	Very high
5	Accounting information systems provide additional information (analytical statements, statistical tables, charts) help the administration to make comparison and better evaluations under conditions of uncertainty	4.46	.59	Very high
6	Accounting information system data directly contribute to internal control procedures	4.42	.65	Very high
7	Accounting information system provides control criteria enable the administration to detect, analyze and address the deviations	4.54	.59	Very high
8	Accounting information helps in following up the effectiveness of decisions taken under conditions of uncertainty	4.54	.66	Very high
9	Accounting information Contribute to the information provided by the accounting reports of the company effectively in determining the negative deviations from the budget and take corrective actions on them	4.33	.56	Very high
	Overall mean	4.45	.38	Very high

**Table (10)**  
**Means, standard deviations and "T" test of the paragraphs that make up the fourth hypothesis compared with standard (3)**

The contribution of electronic accounting information systems in Jordanian electricity companies for control purposes under conditions of uncertainty	Number	Mean	Standard Deviation	T value	Freedom grades	Statistical significance
	24	4.35	.38	18.864	23	.000

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