The Impact of the Use of Accounting Information Systems on the Quality of Financial Data

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Abstract

This study aimed at identifying the effect of the use of accounting information systems on the quality of financial data, applied over service companies of Amman Stock Market. The study sample consisted of (70) individuals who work in different service sectors, where a questionnaire was designed and distributed. (56)Valid questionnaires were retrieved for statistical analysis purposes (80%).

The study results indicated that there is a statistically significant positive effect of the nature and security of accounting information systems on the quality of financial data. However, the inputs of the accounting information systems did not affect the quality of the financial data. The level of quality of the financial data that the Jordanian service companies depend on has been found to be high.

The results of this study showed significant differences at ($\alpha \leq 0.05$) among the Jordanian service companies in terms of the nature, inputs and security of accounting information systems and the quality of financial data attributed to the sector to which the company belongs.

Based on these results, the study came out with several recommendations, the most important of which is that Jordanian service companies should be keen to update the accounting information systems used in accordance with the technological developments, and the necessity of Jordanian service companies to continue to pay attention to the quality of financial data provided to their beneficiaries, which are used to evaluate the company's performance.

Keywords: accounting information system, financial data quality, Jordanian service companies

1. Introduction

The accounting information systems represent a range of sources, namely persons and equipment, which are designed to collect financial data to reach the information needed for different decision-makers (Bodnar and Hopwood, 2010).

The use of accounting information is indispensable in the management activities of a company, given its quantitative information on various activities. Accounting information is primarily intended to be useful in economic decision-making. Accounting information is needed not only by management in the direction of cooperation but also by shareholders, who need periodic financial data in order to assess the performance of the company's management (Nnenna, 2012).

Accounting information systems rely on the quality of input data, as the poor quality of data used in the input process leads to poor results (XU, 2003).

From the point of view of Wilkin &Tayan (2003), the relationship between quality and information systems is determined by three basic components: system quality (technical components), information quality in terms of the accuracy and correctness of data entering the system, and service quality, meaning the assessment of the level of excellence in providing information to users.

In this study, the effect of the use of accounting information systems on the quality of financial data in Jordanian service companies will be examined.

The study problem:

The quality of financial data is the basis to rely on in reaching good information that is useful in making various decisions regarding the operations of the company efficiently and effectively. Therefore, the absence of this quality leads to financial outputs that weaken the used decisions and lead to wrong decisions, which causes loss to decision-makers. In regards of the Jordanian service companies, there is a lack of clarity about the nature of the used accounting information systems, and a lack of clarity concerning the quality of financial data in them; this is due to the absence of studies on the service sector up to the researcher's knowledge. We can formulate the problem of the study through the following questions:

1. What is the effect of the use of accounting information systems on the quality of financial data in Jordanian service companies?

2. What is the quality level of the financial data that is relied on in Jordanian service companies?

3. Are there significant differences in the use of accounting information systems and the quality of financial data in Jordanian service companies due to the sector to which the company belongs?

Importance of the Study:

The importance of this study emerges from the importance of accounting information systems, which their level of quality and accuracy is determined by the nature of the used financial data that represent the main inputs in various analysis operations to identify the performance level of the company. The accounting information systems are the basis for the production of accounting and financial information used by different users. The quality of the financial data is the basis for producing accounting outputs and correct and credible financial information. The higher the quality of the financial data is, the more accurate financial results will be produced, which will make reliance on financial and management decisions very reliable and secure.

This study is beneficial for investors in the Jordanian service sector, additionally; beneficialfor the service companies themselves by providing a clear picture of the accounting system of the service company compared to similar companies in the same sector

The study objectives:

This study aims at achieving the following objectives:

1. Identifying the impact of the use of accounting information systems on the quality of financial data in Jordanian service companies.

2. Identifying the quality level of the financial data that is relied upon by the Jordanian service companies.

3. Identifying the existence of differences of statistical significance with regard to the use of accounting information systems and the quality of financial data in Jordanian service companies attributed to the sector to which the company belongs.

2. Literature Review

The study of Esmeray (2016) aimed at identifying the impact of the use of accounting information systems on the financial performance of small and medium-sized companies in Turkey. To achieve the study's objective, the analytical descriptive approach was applied by designing a questionnaire and distributing it over the study sample which consisted of 60 companies in the city of Qaisariya. The results of the study showed a statistically significant positive relationship between the use of accounting information systems and the growth rate in sales, returns and customer's number.

The study of Nwinee, et- al (2016) aimed at identifying the impact of the use of accounting information systems on the organizational effectiveness of small and medium-sized companies in Nigeria. To achieve the study's objective, the analytical descriptive approach was followed by designing a questionnaire and distributing it over the study sample which consisted of 156 employees of small and medium-sized companies in Port Harcourt city. The results of the study showed that the use of accounting information systems supports the effectiveness of organizations and increases the ability to control costs.

The study of Patel (2015) examined the impact of accounting information systems on companies' profitability. The study was based on the theoretical analytical approach to reach the results by reviewing the previous studies and the concept of accounting information systems, the quality of the accounting information systems, and the nature of the relationship between accounting information systems and the profitability of companies and decision making. The results showed that the there is an impact of accounting information systems on the

profitability of companies and decision-making, also it was found that the accounting information systems contribute to provide the necessary information to take financial and economic decisions.

Hezabr & Qatanani (2015) studied the impact of accounting information systems on improving the value chain in companies in the Kingdom of Bahrain. To achieve the study's objective, the analytical descriptive approach was applied by designing a questionnaire and distributing it over the study sample which consisted of 60 employees in 23 industrial companies. The results of the study indicate that there is a lack in the availability of the accounting information systems' basic components. In addition, there is a lack in the accounting information quality needed to improve the value chain for the business organizations in the public industrial shareholding companies in the Kingdom of Bahrain. As for the contribution of accounting information systems in value improving was found to be weak.

The objective of Rapina's study (2014) was to identify the factors affecting the quality of accounting information systems in Indonesia. The study sample consisted of a group of accountants working in 33 cooperative institutions in Bandung City, where a questionnaire was distributed to measure the information needed to serve the purposes of the study. The results showed that the commitment of management, organizational culture and organizational structure has a great impact on the quality of accounting information systems moreover, the quality of the accounting information system has effectson the quality of accounting information.

The study of Moqbel (2014) sought to demonstrate the impact of accounting information systems on e-commerce in Jordan. To achieve the objective of the study, the analytical descriptive approach was applied by designing a questionnaire and distributing it over the study sample which consisted of 75 financial managers working in 25 service companies. The results of the study showed that there is a statistical significant positive effect of accounting information systems on e-commerce in service companies in Jordan.

The study of Harash et al (2014) examined the impact of accounting information systems on small and medium-sized companies' performance in Iraq. This study was based on the theoretical analytical method in reaching the results by reviewing the previous studies, the concept of accounting information systems and the nature of the performance of small and medium-sized companies. The results showed that there is an impact for the accounting information systems, represented by their characteristics(reliability, importance, and timing), on the performance of small and medium-sized companies in Iraq.

Rachmawati and Lasniroha (2014) examined the impact of administrative accounting information systems, the quality of accounting information management and the quality of services provided over the users' satisfaction and their effect on Indonesia's decision-making process. The study sample was composed of the staff of the State Bank in Bandung City, where a questionnaire was distributed to measure the information needed to serve the purposes of the study. The results of the study indicated that there is an impact for the quality of the administrative accounting information systems and the quality of the services provided on the decision-making process with a percentage of 62%.

Abdullah's (2013) study was conducted to identify the impact of the use of accounting information systems on the quality of the financial statements in the Income and Sales Tax Department in Jordan. In order to achieve the objective of the study, the analytical descriptive approach was applied by designing a questionnaire and distributing it over the study sample which consisted of 50 accountants from the Income and Sales Tax Department in Amman Governorate. The results of the study indicate that there is an effect for the use of accounting information systems on the quality of the financial statements in the Income and Sales Tax Department in Jordan.

Finally, the study of Jakovic and Spremic (2012) examined the impact of the use of accounting information systems on the company's e-business effectiveness in Croatia. The study sample consisted of 252 companies on which a questionnaire was distributed in order to collect the information required to achieve the objectives of the study. The results showed that there is an impact for the use of accounting information systems on the effectiveness of the company's e-business in Croatia.

A summary of previous studies:

From the above mentioned we noticed that most of the studies focused on the effect of accounting information systems over performance and efficiency without taking into account their impact over the quality of financial data. Some studies focused on the relationship between accounting information systems and the quality of financial statements in practice after applying it over income and tax department without including any of the economic sectors like the study of Abdallah (2014). On the other hand, the study of Rachmawati & Lasniroha (2013) was concerned with identifying the impact of accounting information management quality over the

satisfaction of users and decision-makers but it didn't clarify the nature of the relationship between accounting information systems and financial data quality. The study of Rapina (2014) focused on the factors that affect the quality of accounting information systems without identifying the impact of accounting information systems over the quality of financial data.

Based on this, the following study came to fill the gap existing in the previous studies through studying the impact of accounting information systems over financial data quality which was not addressed in studies specialized in accounting information systems.

3. Hypotheses of the Study

This study has the following main hypotheses:

Ha1: There is an impact for the accounting information systems over the financial data quality.

From this main hypothesis comes the following sub-hypotheses:

$Ha_{1.1}$: There is an impact for the nature of accounting information systems over the quality of financial data.

$Ha_{1.2}$: There is an impact for the accounting information systems' inputs over the quality of financial data.

$Ha_{1.3}$: There is an impact for the accounting information systems' security over the quality of financial data.

Ha2: The level of financial data quality that is relied on in the Jordanian service companies is of high level.

Ha3: There are variations of statistical significance for the use of accounting information systems and the quality of financial data in the Jordanian service companies attributed to the sector to which they belong.

The concept of accounting information system:

The accounting information system is one of the most important systems in any company. Its objective is to provide the needed information to managers at various levels. This information helps them to effectively and efficiently carry out their responsibilities in planning, resource monitoring, performance assessment and decision-making (Saeidi, 2014).

The nature of accounting information is determined as a reliable tool in the use of modern information technology means, which aims at establishing modern accounting information systems; their main role is to improve the usefulness of accounting information (Fuhong, 2012).

From the point of view of Akgün and Kilic (2013, p.26), information systems are a system in which data is collected, evaluated and distributed over users when needed, and that is designed to assist the process of decision-making.

Romney and Steinbart (2012, p.686) believes that accounting information systems are a system for gathering, recording, storing and processing data to obtain the needed information for decision-making.

Knežević and Tepevac (2012) show that an accounting information systemis concerned with each of the various business inputs that forms the data that is relied upon in analysis and processing data included in accounting reports, as well as its concern towards the system outputs represented in the financial statements published and used in the decision-making process by users.

Accounting information systems components:

Accounting information system is composed f several units, each unit has a specific function. They can be presented as follows (Al-Dahrawi, 2001, p. 49 – 51):

1. **Collecting data unit**: this unit collects data from the institution's surrounding environment. This data is represented in the events and facts that the accountant cares about and considers them important and should be acquired and recorded. The nature of the project's objectives and the outputs has a great impact over the type of the data collected and recorded in the system, as well as the nature of outputs affects the type of the collected data.

2. **Data operating unit**: the collected data by the accounting information system might be used immediately if they were useful for the decision-maker the moment they are collected. But, in most cases, these primary data needs to be operated and prepared to be useful information in the decision-making process, thus it is sent to the storage unit in the accounting information system.

3. **Data storage and retrieval unit**: this unit is responsible for storing data in case they were not used immediately and keeping it for future use or to be processed before being sent to decision-makers.

4. **Information delivery unit (information channels)**: this unit is the mean to transfer and deliver data and information from one unit to another within the accounting information system, until it reaches the makers of administrative decisions. Communication channels might be automatic or manual (monitors or papers) according to the institution's available means.

When choosing the hardware and software components for the accounting systems, the costs and expenses of such components should be less than the benefit of using the system. Moreover, audit and control members should be knowledgeable of accounting information systems, supporting software, and the used tools because the auditing process will be done through the computer. The auditing team should be familiar with automation and automatic control. It also has an impact over the accountants work in the future summarized in methods of accountants work, data recording, new systems and networks, and auditing methods used in the future (Shaher, 2002).

Accounting information systems' objectives:

Accounting information system aims at achieving a general objective represented by providing the accounting information that benefits its users. Achieving this general objective leads to achieving several sub-objectives at the same time, the most important among which are (Ali, 2011):

1. Measuring all economic events that take place within the institution through the processes of data collecting and storage, recording, labeling and summarizing in the accounting registers.

2. Delivering the accounting information through a set of documents and reports to all those who can benefit from it, among which is the institution administration which uses these information in performance evaluation and making appropriate decisions.

3. Achieving internal control over all material elements that exist in the institution.

The quality of financial data:

Quality is defined as the standard measure of something or a certain level of excellence (Ramdany, 2015).

Quality is good if the information used is relevant and reliable, and the relevant information is that which can be used for decision-making (Porter and Norton, 2011, pp. 29).

Keiso et-al (2010) shows that the quality of accounting information indicates the good performance of the accounting information system and the appropriateness of the accounting system applied, in order to reach efficiency and effectiveness in the processes and restrictions, continuously, within the company to reach its objectives, protect its assets, serve senior management and help it achieve the maximum productivity, and work to measure the validity of the accounting system. The dimensions of the accounting information quality are determined by:

- **Appropriateness**: means the efficiency of financial statements and reports, and their success in serving their users through their ability to provide adequate and appropriate information to make appropriate decisions, so that this information is recognized for being suitable for decision-making and is presented properly besides its timely availability.

- **Reliability**: it is associated with the information integrity and the ability to rely on it. Accounting information is characterized as being reliable or can be relied on if it has the ability to express the veracity of the information, to be free from error and bias, and to represent it fairly and honestly.

- **Consistency or symmetry**: This characteristic is realized when the project uses the same accounting treatment for the same event from one period to another without any change.

- **Understandability**: it is a qualitative accounting information characteristic that helps a prudent wise user to identify the meaning and importance of financial reporting.

- **Comparability**: This characteristic enables users of financial reports to identify similarities and differences between economic phenomena and events. As for the use of an incomparable accounting standard results in increased differences in the expression of economic phenomena and events.

The reality of services sector in Jordan: http://www.alghad.com

Several facts distinguish services sector in Jordan; first, it is the sector that brings the highest income for the country with an over 60% of the Gross Domestic Product and in several years it reaches two thirds.

The second fact is that it is the sector that depends on the country's main competitive element; the human resource. This by itself leads to the fact that its sectors are the first in relation to the value added accounts, in other words, it basically depends on Jordanian production elements, namely the human being. In addition, it is the sector supporting the infrastructure of roads, electricity, water, communications and others.

The third fact is that services sector has forward and backward relations with all other economic sectors, in fact it is not unfair to say that the continuation and growth of other sectors depend on the services of this sector in education, health, finance, transportation, tourism, governmental services and others.

However, this sector still didn't receive its share of attention and development despite the fact that its development means the development of the Jordanian economy as a whole. This can be attributed to the fact that investment in this sector has been so far quantitative rather than qualitative. This means that vertical investment is needed to enhance the quality of the offered services in this sector, and not horizontally to increase their number only.

Investing in creating services of high quality and ensuring international quality standards means developing all sectors of national economy, as for what this sector produce in the fields of education, health, transportation, tourism and governmental services directly leads to improving the quality of industrial, commercial and all other sectors.

The improvement and incensement in the services sector's quality in Jordan would have meant that Jordan would become the first exporter in the region in regards to the services of education, health, tourism, finance, moreover; engineering, financial and administrative consulting services and others, all of high exportation value and low cost.

4. The Field Study

The study population and sample:

The study population consists of all Jordanian service companies listed in Amman stock market; (58) companies, distributed over (7) sectors (commercial services, educational services, health services, power services, technological and communication services, tourism and hotels services, transportation services and media services) according to companies' manual for 2017. For the study sample, a random sample has been chosen, made of (10) members from each sector over which a questioner was distributed. Thus the final study sample was made of (70) members, (56) questionnaires were retrieved, valid for the statistical analysis purposes with a percentage of (80%) of the total distributed questionnaires.

Limitations of the study:

This study was limited to the companies listed in Amman stock market within the Jordanian services sector without including the rest of the economic sectors.

Statistical analysis results:

The study tool reliability:

The study tool reliability has been verified using Cronbach Alpha test. Table (1) shows the results of Cronbach Alpha coefficient for the internal consistency of the study's axes over the study sample:

Table 1. Cronbach Alpha test over the study sample's responses

The questions	Cronbach Alpha value (%)
Questions related to the nature of accounting information systems	75.31
Questions related to accounting information systems inputs	82.06
Questions related to accounting information systems' security	76.4
Questions related to financial data quality	84.3
All questions total	**94.75**

From table (1) we see that the value of Cronbach Alpha coefficient was (75.31%) for the questions related to accounting information systems, (82.06%) for questions related to accounting information systems' inputs, (76.4%) for questions related to accounting information systems' security and (84.3%) for questions related to financial data quality. All are high values that indicate a high consistency among the study's questions; they also indicate the high reliability of the study's results. Cronbach Alpha value for all questions together was (94.75%),

which is a high value where the value of (60%) is considered the minimum reliability of the study results (Sekaran & Bougie, 2010).

The personal and functional characteristics of the study sample:

Table (2) shows the distribution of the sample's members according to personal and functional variables.

Table 2. Sample members' distribution according to personal and functional variables

Variable	Field	Repetition	Percentage (%)
	Commerce	20	35.7
	Education	3	5.4
	Power	8	14.3
Sector	Communication and technology	8	14.3
	Hotels and tourism	7	12.5
	Transportation	7	12.5
	Media	3	5.4
Total		**56**	**100.0**
	Diploma of Community Colleges	2	3.6
Academic qualification	Bachelor	44	78.6
	Master	10	17.9
	PhD	0	0
Total		**56**	**100.0**
	General Director	1	1.8
	Deputy Director	3	5.4
Job title	Accountant	22	39.3
	Internal Auditor	3	5.4
	Head of the Department	13	23.2
	Other	14	25.0
Total		**56**	**100.0**
	5 years or less	15	26.8
Years of service	6 to 10 years	13	23.2
	11 to 15 years	18	32.1
	16 years or more	10	17.9
Total		**56**	**100.0**
	JCPA	4	7.1
Vocational Certifications	CPA	1	1.8
	ACPA	1	1.8
	None	35	62.5
	Other	15	26.8
Total		**56**	**100.0**

From table (2) we found the following:

- **The sector**: most of the study sample members were employed in the commercial sector; (20) members with a percentage of (35.7%) followed by the respondents employed in the energy sector and communication and technology sector; (8) members with a percentage of (14.3%). Followed by the members who work in the hotels and tourism sector and the transportation sector; (7) members with a percentage of (12.5%). Finally, the sample members working in the educational sector and the media sector;(3) members with a percentage of (5.4%).

- **The academic qualification**: The results show that most of the sample members are of the academic qualification (Bachelor); (44) members with a percentage of (78.6%). Followed by individuals who had a (Master) academic qualification, (10) members with a percentage of (17.9%). then individuals with an academic qualification of (Community Diploma); (2) individuals with a percentage of (3.6%), and finally, we find that the members of the study sample does not include those who hold a doctorate.

- **Job title**: The results show that most of the respondents were employed in the position of accountant; (22) members with a percentage of(39.3%). Followed by individuals under the title of (other) those were not included in the questionnaire; (14) members with a percentage of (25%). Followed by individuals with the position of (Head of Department), (13) members with a percentage of (23.2%). Then comes the individuals who hold the position of (Deputy Director) and (Internal Auditor); (3) members with a percentage of (5.4%), and finally individuals who hold the position of (General Director), (1) member with a percentage of (1.8%).

- **Years of service**: Most of the sample members' years of service are in the category of (11 to 15 years); (18) members with a percentage of (32.1%). Followed by individuals with a service of (5 years or less);

(15) members with a percentage of (26.8%). Followed by individuals with a service of (6 to 10 years); (13) members with a percentage of (23.2%). Finally, the individuals with a service of (16 years or more); (10) members with the percentage of(17.9%).

- **Vocational certificates**: Most of the sample members are those who (do not have a vocational certificate); (35) members with a percentage of (62.5%). Followed by individuals who have professional certificates that were not mentioned in the questionnaire under the title of (other); (15) members with a percentage of (26.8%). Followed by individuals who hold(JCPA)certificate; (4) individuals with a percentage of (7.1%), and finally individuals who hold (CPA) and (ACPA) certificates; (1) member with a percentage of (1.8%).

Results for Testing the Study Questions

To test the study questions, the arithmetic averages and the standard deviations of the sample members' responses were calculated to measure their tendency in general towards the items of the study tool. In addition, some statistical tests were used, which will be explained according to each of the study questions. The five-level questionnaire (Likert quintet scale) was used as follows:

1= strongly don't agree, 2= don't agree, 3= average level of approval, 4= agree,

5= strongly agree.

As for the relative importance, it was determined according to the following formula and according to the alternatives' quintet scale for each item:

The relative importance = <u>the alternative maximum limit – the alternative minimum limit</u> = $\frac{5 - 1}{3}$ = 1.33

                     The number of levels   3

There are three levels: low, medium and high as follows:

- Low level: if the arithmetic average value was between 1 to 2.33
- Medium level: if the arithmetic average value was more than 2.33 till 3.66
- High level: if the arithmetic average value was more than 3.66 till 5.

First: Accounting information systems:

Table (3) shows the arithmetical averages and standard deviations of the accounting information systems as a whole:

Table 3. The arithmetical averages of the sample members' responses related to the first dimension of the questions

No.	Item	Arithmetic average	Standard deviation
1.	Accounting information systems are flexible in data processing	4.250	0.580
2.	Accounting information systems help to achieve goals accurately and quickly	4.304	0.502
3.	Data are processed through an accounting system consistent with accounting policies	4.321	0.576
4.	The cost of accounting information systems in the company is consistent with the nature and size of the financial data provided by the system	4.107	0.802
5.	Accounting information systems in the company are easily updated data	4.071	0.735
6.	The system provides data that is comparable	4.321	0.690
7.	The system provides integrated data that will affect the effectiveness of the company	4.250	0.640
8.	Accounting information systems are characterized by the ease and speed of data entry	4.268	0.674
9.	The inputs of accounting information systems are presented in an easy and clear manner	4.214	0.653
10.	Inputs of accounting information systems are maintained in a secured manner	4.125	0.764
11.	The company is keen to have a particular computer password for each employee and change it from time to time	4.518	0.603
12.	The company provides adequate protection against the risks of computer viruses	4.429	0.657
13.	The Company has clear and written policies regarding the security of accounting information systems	4.250	0.745
14.	The company's management implements information security protection objectives such as privacy, avoiding unauthorized data change	4.321	0.855
15.	The company's management updates the methods of protecting the accounting information systems according to the changes taking place in the technology environment	4.286	0.847
Arithmetic averages rate		**4.269**	

From table (3) we found the following:

- The respondents' answers to the questions related to the first dimension of the accounting information systems were more tending toward agreement, where the lowest arithmetic average value was (4.071) indicating approval in relation to the fifth question (the accounting information systems in the company are easily updated data). This indicates that services companies continuously update their data according to the accounting systems developments, which in return place them in a better competitive position. The highest arithmetic average was (4.518) indicating the approval in relation to the eleventh question (The company is keen to have a particular computer password for each employee and change it from time to time). This shows the keenness of Jordanian services companies in preserving the confidentiality of their information and data related to the company's accounting systems, and not to be exposed to viruses and cybercrimes, which increase the reliability of its data for investors and beneficiaries.

- The arithmetic average rate for the questions of this dimension was (4.269) which refer to the agreement regarding the accounting information systems in the Jordanian service companies. This indicates the high application of accounting information systems in Jordanian services companies, in other words the high awareness of these companies toward applying and using technology in accounting matters

The arithmetic averages and standard deviations of the study sample individuals' evaluations were calculated separately for each of the accounting information systems' dimensions. The results were as follows:

1- The nature of accounting information systems:

Table 4. The arithmetic averages and the standard deviations of the responses of the study sample members on all the items related to the "nature of accounting information systems"

No.	Item	Arithmetic average	Standard deviation
1.	Accounting information systems are flexible in data processing	4.250	0.580
2.	Accounting information systems help to achieve goals accurately and quickly	4.304	0.502
3.	Data are processed through an accounting system consistent with accounting policies	4.320	0.576
4.	The cost of accounting information systems in the company is consistent with the nature and size of the financial data provided by the system	4.107	0.802
5.	Accounting information systems in the company are easily updated data	4.071	0.735
The arithmetic average of the dimension as a whole		**4.211**	

Table (4) shows that the highest arithmetic average of respondents' responses to the items of "the nature of accounting information systems" is (4.320) for item (3): "data are processed through an accounting system consistent with accounting policies" which shows a high level of agreement. In other words, Jordanian services companies comply with the common accounting policies which increase their reliability and efficiency in their accounting operations. The lowest arithmetic average was (4.071) for item (5): "Accounting information systems in the company are easily updated data" which indicates a high degree of approval. In other words, the Jordanian services companies keep up with the updates needed in the accounting environment. The arithmetic average for the whole dimension is (4.211), which indicates a high degree of approval. Based on this we conclude that the nature of accounting information systems in Jordanian services companies is smooth and flexible, it also responses to various changes related to accounting matters

2. Inputs of accounting information systems:

Table 5. The arithmetic averages and the standard deviations of the responses of the study sample members on all the items related to the "input of accounting information systems"

No.	Item	Arithmetic average	Standard deviation
6.	The system provides data that is comparable	4.321	0.690
7.	The system provides integrated data that will affect the effectiveness of the company	4.250	0.640
8.	Accounting information systems are characterized by the ease and speed of data entry	4.268	0.674
9.	The inputs of accounting information systems are presented in an easy and clear manner	4.214	0.653
10.	Inputs of accounting information systems are maintained in a secured manner	4.125	0.764
The arithmetic average of the dimension as a whole		**4.236**	

Table (5) shows that the highest arithmeticaverage of the respondents' answers to the items of "Accounting Information Systems Inputs" was (4.321) for item (6): "The system provides data that is comparable ", indicating a high degree of agreement. This shows the efficiency of the accounting system used in Jordanian services companies. The lowest arithmetic average was (4.125) for item (10): "Inputs of accounting information systems are maintained in a secured manner ", indicating a high degree of agreement, which means that Jordanian services companies are keen on protecting the confidentiality of accounting information and preserving it from loss or theft. The arithmetic average of the dimension as a whole was (4.236), indicating a high degree of agreement. Thus, we conclude that accounting information systems' inputs are flexible in use and data retrieving and processing, which reduces the time and labor needed for retrieving and benefiting from data.

3. The accounting information systems security:

Table 6. The arithmetic averages and the standard deviations of the responses of the study sample members on all the items related to the "Accounting Information Systems Security"

No.	Item	Arithmetic average	Standard deviation
11.	The company is keen to have a particular computer password for each employee and change it from time to time	4.518	0.603
12.	The company provides adequate protection against the risks of computer viruses	4.429	0.657
13.	The Company has clear and written policies regarding the security of accounting information systems	4.250	0.745
14.	The company's management implements information security protection objectives such as privacy, avoiding unauthorized data change	4.321	0.855
15.	The company's management updates the methods of protecting the accounting information systems according to the changes taking place in the technology environment	4.286	0.847
The arithmetic average of the dimension as a whole		**4.361**	

Table (6) shows that the highest arithmetic average of the respondents' responses to the items of the "Accounting Information Systems Security" was (4.518) for item (11): "The company is keen to have a particular computer password for each employee and change it from time to time ", which indicates a high degree of agreement. This shows that Jordanian services companies are highly concerned with maintaining the confidentiality of accounting information. The lowest arithmetic average was (4.250) for item (13): "The Company has clear and written policies regarding the security of accounting information systems ", which indicates a high degree of agreement. This is a clear statement to the employees working in accounting information department about the importance of complying with accounting information systems' security rules and how to maintain them. The arithmetic average of the dimension as a whole was (4.361), which indicates a high degree of agreement. Thus, we conclude that accounting information systems' inputs for Jordanian services companies are characterized with reliability, information confidentiality and electronic security.

Second: The quality of the financial data:

Table (7) shows the statistical averages and standard deviations related to the quality of the financial statements:

Table 7. The arithmetical averages of the responses of the sample members related to the second dimension of the questions

No.	Item	Arithmetic average	Standard deviation
1.	The company is distinguished by its accuracy in presenting users' needs of financial data	4.304	0.685
2.	Accurate financial data help the company make financial decisions	4.268	0.646
3.	Financial data are judiciously prepared to ensure its accuracy and correctness	4.304	0.658
4.	The provided financial data are consistent with the users' needs in different financial periods per year	4.143	0.645
5.	The company's financial data are flexible in its use in various aspects and objectives	4.232	0.713
6.	The company's financial data are clear and uncomplicated	4.196	0.672
7.	The company's financial data are easily understood among its various users	4.125	0.810
8.	The company's financial data are inclusive for all the financial aspects that users need in the decision-making process	4.196	0.644
9.	The financial data are provided in an appropriate time so they reach the decision maker before losing their ability to influence the taken decision	4.286	0.803
10.	The company's financial data are adopted in the comparison with other companies within the same sector	4.161	0.869
11.	The financial data are registered and examined by registering, analyzing, tabulating and classifying them	4.321	0.543
12.	Financial data that are easily saved, are easily retrieved at any time	4.339	0.695
The arithmetic average rate		**4.240**	

Table (7) shows the following:

- The respondents' responses to the questions related to the second dimension, represented in the quality of the financial statements were more tending toward agreement. The lowest arithmetic average value was (4.125) indicating approval in relation to the seventh question (The company's financial data are easily understood among its various users). This indicates the ease of using the financial data within the services companies and the existence of clarifications about accounting numbers' indications. The value of the highest arithmetic average was (4.339) indicating agreement in relation to the twelfth item (Financial data that are easily saved, are easily retrieved at any time). This shows the availability of flexibility and smoothness in data storage and usage

- The arithmetic average rate for the questions of this dimension was (4.240), which indicates the agreement regarding the quality of the financial data in the Jordanian service companies. Based on this we conclude that financial data related to Jordanian services companies is characterized with high quality, which confirms the high reliability of its financial data analysis.

Testing the hypotheses of the study

Ha1: There is an impact for the use of accounting information systems on the quality of financial data.

From this main hypothesis, the following sub-hypotheses are derived:

$Ha_{1.1}$: There is an impact for the nature of accounting information systems on the quality of financial data.

$Ha_{1.2}$: There is an impact for the accounting information systems inputs on the quality of financial data.

$Ha_{1.3}$: There is an impact for accounting information systems security on the quality of financial data.

To test this hypothesis, the multiple regression analysis has been used and the correlation coefficients have been found among the study's variables.

The results were as follows:

Table 8. Pearson correlation coefficient's values among the study's variables

	The nature of accounting information systems	Accounting information systems' inputs	Accounting information systems' security	Financial data quality
The nature of accounting information systems	1			
Accounting information systems' inputs	0.739**	1		
Accounting information systems' security	0.751**	0.609**	1	
Financial data quality	0.665**	0.575**	0.680**	1

** Of a statistical significance at sig (($\alpha \leq 0.05$)

From the table we see that the value of Pearson correlation coefficient among the study's variables was of a statistical significance at sig. (($\alpha \leq 0.05$), this proves the reliability of the study tool.

Table 9. Results of multiple regression analysis using the Ordinary Least Squares Model (OLS)

variable	Sig.	β
The nature of accounting information systems	0.004	0.411
Accounting information systems inputs	0.999	0.000
Accounting information systems security	0.000	0.445
The value of (Sig.) for the model	0.000	
R-Squared	0.576	
***statistical Significance at (1%)**	**statistical Significance at (5%)**	*statistical Significance at (10%)

Source: by the researcher depending on the statistical analysis results.

The nature of the accounting information systems: There is a statistically significant positive effect at the level of Sig. ($\alpha \leq 5\%$) for the nature of the accounting information systems on the quality of the financial data, where the Sig. value was (0.004). Therefore, the first alternative hypothesis is accepted and the null hypothesis is rejected.

Inputs of accounting information systems: There was no statistically significant effect at the level of sig. (α ≤ 5%) for the inputs of the accounting information systems on the quality of the financial data, where the Sig. value was (0.999), which is a none statistically significant value. Based on this, the second alternative hypothesis of the study is rejected and the null hypothesis is accepted.

Accounting Information Systems Security: There is a statistically significant positive effect at the level of Sig. (α ≤ 5%) for the security of accounting information systems on the quality of financial data, where the value of Sig. is (0.000).Based on this, the third alternative hypothesis of the study is accepted and the null hypothesis is rejected.

All the dimensions of the accounting information systems: There is a statistically significant effect at the level of sig. (α ≤ 5%) for the use of accounting information systems on the quality of the financial data, where the value of sig. was (0.000), and thus the third alternative hypothesis of the study is accepted and the null hypothesis is rejected. This result was in accordance with Patel's study (2015), which explained that accounting information systems contribute in the provision of the needed information for financial and economic decision-making. This finding was also in accordance with the study of Rapina (2014) which concluded that the quality of the accounting information system has effects over the quality of accounting information.

Ha2: The level of quality of the financial data that is relied on in Jordanian service companies is high.

To test this hypothesis, a (One Sample T-test) was performed at the statistical significance level of (α ≤ 0.05), i.e. at a level of reliability that is not less than 95% and an error rate of not more than 5% at the value of 3 out of 5, the results were as follows:

Table 10. T-test results for the questions related to the second hypothesis

Item	T value	Arithmetic average	Sig.
The quality level of financial data	17.929	4.240	0.000

Table (10) shows the following:

- The arithmetic average of the questions related to the quality level of the financial data was (4.240), which indicates a high level.

- The value of (α) was (0.000), which is less than (0.05) and has a statistical significance, indicating that the quality of the financial data that are relied on in Jordanian service companies is high.

Ha3: There are significant statistical differences regarding the use of accounting information systems and the quality of financial data in Jordanian service companies attributed to the sector to which the company belongs.

This question was tested by using the (One Way ANOVA) test, and the results were as follows:

Table 11. Results of the (ANOVA) test for the third hypothesis

Variables	Sector	Arithmetic average	(F) value	Sig. level
The nature of accounting information systems	Commerce	3.990		
	Education	4.267		
	Power	4.300		
	Communication and technology	4.150	0.000	5.108
	Hotels and tourism	4.886		
	Transportation	4.057		
	Media	4.333		
Accounting information systems input	Commerce	3.970		
	Education	4.400		
	Power	4.450		
	Communication and technology	4.175	3.414	0.007
	Hotels and tourism	4.800		
	Transportation	4.086		
	Media	4.467		
Accounting information systems security	Commerce	4.020		
	Education	4.467		
	Power	4.500		
	Communication and technology	4.525	2.519	0.033
	Hotels and tourism	4.914		
	Transportation	4.429		
	Media	4.267		
Accounting information quality	Commerce	3.900		
	Education	4.250		
	Power	4.344		
	Communication and technology	4.135	6.015	0.000
	Hotels and tourism	4.893		
	Transportation	4.571		
	Media	4.194		

Table (11) shows the following:

- There are statistical significant differences at the level of sig. ($\alpha \leq 0.05$) between the Jordanian service companies in terms of the nature of accounting information systems attributed to the sector to which the company belongs, where the value of the level of significance (α) was (0.000), which is a value of a statistical significance. These differences tended to favor the sector of (hotels and tourism) with the highest arithmetic average.

- There are statistical significant differences at the level of ($\alpha \leq 0.05$) among the various Jordanian service companies in terms of the inputs of the accounting information systems attributed to the sector to which the company belongs, where the value of the level of significance (α) was (0.007), which is value of a statistical significance. These differences tended to favor the sector of (hotels and tourism) with the highest arithmetic average.

- There are statistical significant differences at the level of ($\alpha \leq 0.05$) among the Jordanian service companies in relation to the security of the accounting information systems attributed to the sector to which the company belongs, where the value of the level of significance (α) was (0.033), which is a value of a statistical significance. These differences tended to favor the sector of (hotels and tourism) with the highest arithmetic average.

- There are statistical significant differences at the level of ($\alpha \leq 0.05$) among the Jordanian service companies in terms of the quality of the financial data attributed to the sector to which the company belongs, where the value of the level of significance (α) was (0.000), which is a value of statistical significance. These differences tended to favor the sector of (hotels and tourism) with the highest arithmetic average.

5. Results and Recommendations

Results:

Through data analysis and hypothesis testing, the following results were reached:

1. There is a statistically significant positive effect at the level of ($\alpha \leq 5\%$) of the nature of accounting information systems on the quality of financial data. This means that accounting information systems used in Jordanian services companies are suitable to achieve financial data quality and confirm its accuracy and correctness, indicating that services sector in Jordan is developing.

2. There is no statistically significant effect at the level of significance ($\alpha \leq 5\%$) of the inputs of the accounting information systems on the quality of the financial data. This can be attributed to the fact that accounting information systems' inputs depend on the nature of financial data inserted into the system, and the higher the quality of the inserted financial data is, the more it helps the system to maintain it in the same form it was inserted.

3. There is a statistically significant positive effect at the level of ($\alpha \leq 5\%$) for the security of accounting information systems on the quality of financial data. This is a logical result that indicates the quality of financial data, achieved through maintaining the security of accounting information systems used to store data, as for the more information systems' environment is secured, the higher the level of financial data quality was, due to protecting and preserving it from loss or change.

4. The level of quality of the financial data that is relied upon by Jordanian service companies is high. This confirms the accuracy and correctness of financial data presented by financial companies, which results in increasing the reliability of the parties using these data and increasing the accuracy of achieved results in different credit and profitable fields and others.

5. There are statistical significant differences at the level of ($\alpha \leq 0.05$) among the Jordanian service companies in terms of the nature of the accounting information systems, the inputs of the accounting information systems and the security of the accounting information systems attributed to the sector to which the company belongs. These differences were tended to favor the sector of (hotels and tourism). This might indicate the difference in accounting information systems applied in each sector of services sectors. And that the sector of hotels and tourism is the most service sector that applies and cares about accounting information systems.

Recommendations:

Based on the findings, the study recommends the following recommendations:

1. Jordanian service companies represented by the sectors of commerce, education, energy, communication and technology, transportation, and media should focus on the nature, input and security of accounting information systems, as well as focus on the quality of financial data.

2 - The necessity of Jordanian service companies to ensure the continuity of paying attention to the quality of financial data provided to their beneficiaries, which are used to assess the performance of the company.

3 - The need for Jordanian service companies to update the used accounting information systems in accordance with the evolving technological developments.

4. Conduct such a study, but applied to the industrial sector and the financial sector so that comparisons are made within a single sector.

5. Conducting such a study but applying it to various service, industrial and financial sectors so that comparisons are made between these sectors.

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