The Role Of Data Quality And Internal Control In Raising The Effectiveness Of Ais In Jordan Companies

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Abstract: This study seeks to investigate the role of data quality and internal control in rising, accounting information systems effectiveness in Jordanian Industrial Companies. Data were collected regarding study variables through 118 questionnaires were answered by the general managers, financial managers and directors of the main activities in these companies. A questionnaire was developed, distributed, and the collected data were analyzed using SPSS. An overall analysis was performed based on the descriptive and correlation analyses. The findings were data quality and internal controls have a significant relationship with the rising of AIS effectiveness of Jordanian Industrial Companies. Several recommendations for enhancing the organizational performance of Jordanian companies were also cited in this paper.

Keywords: accounting information systems, data quality

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Introduction

The modern world is the information world and every profession organization makes it's essential to get the correct information for each of the internal and external users for making the right decision [20]. Accounting Information Systems (AIS) is a framework that can transfer an economic data into financial information which improves the decision-making process [29]. Recently, organizations have been working and competing in an information era, whereas information has become a major source of most institutions, economies, and also communities [35]. Where, with the usage of AIS it will help a company to perform better [20]. The combination of the three words "Accounting Information System", refers to exist an integrated framework inside an entity (such as a trading company) that use material resources (i.e., funds, materials, personnel, equipment, supplies) to convert economic data into financial information to provide information on the entity for many users interested, and implementation of the firm's activities and operations [29]. AIS is one of the components of the administrative organization specializing in collecting, catalog, processing, analyzing, and communicating appropriate financial information to make decisions to outside parties and manage the facility [23]. Effective AIS depends on many factors such as staff qualifications, internal control, company size, support top management and data quality (DQ) which play significant role in raising the effectiveness of AIS.

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Moreover, DQ is important for the success of AIS as it provides assurance of the quality of the provided data to improve performance of the firm. It is relevant to the divisional and operational processes. The data element is as a description of events, things, transactions and activities that have been recorded, classified and stored, but are not organized to transfer any specific meaning. It may be digital, a student grade in a class is an element of data, and like the number of hours a staff worked in a given month, figures, alphanumeric, pictures or votes [22]. In addition, in the case of ideal internal control exists in any institution, information can be used by management with an increase reliance to maintain their commercial activities correctly, that provide AIS, but if internal control is not ideal, management cannot achieve its goal. Other qualitative properties of accounting information can also be maintained in the case of a sound internal control system in a company [20]. AIS plays a major role in enabling both individuals and organizations to identify their goals and the development of strategies, policies, translate them into practical programs, seeks to provide the appropriate information in a timely manner, to the extent required to contribute significantly to the development of decision-making process and help you save a lot of management time and effort [12]. Hence this study comes to shed light on the impact of data quality on the accounting information system in Jordanian industrial companies, in an attempt to determine the nature of the impact of this factor in order to contribute to increasing the effectiveness of this system, and thus affecting the performance of Jordanian industrial companies.

Significance of Study

Because the limited of studies conducted in this region in the Jordan, and in light of the intense competition in the local markets, regional and international in the use of modern technology available, it is necessary to study the role of data quality and internal control in rising AIS effectiveness in Jordan industrial companies. This study expects to provide a new contribution to the existing literature on this subject.

Literature Review

The processes of collect, record, store and process data are the main elements of AIS, to produce information for decision-makers [25]. While, Susanto [30] stated that AIS is defined as a subsystem component integration both physical and nonphysical that link and organize in unison to treatment the financial transaction data and turning it into financial information. Basically AIS has components consist of hardware, software, telecom-networks, procedure, database and brain-ware [30]; [25]. Increased reliance on the company on AIS to achieve their mission in this information era requires a strategic and proactive approach to DQ management [3]. Information and data are essential components for all the activities of every human endeavor [22]. Moreover, Al-Hakim [3] asserted that data and information have become as much a strategic necessity for an organization's well-being and future success as oxygen for human life. Study by Nwokeji [22] showed that DQ is important for the success of AIS as it provides assurance of the quality of the provided data to improve performance of the firm. It is relevant to the decisional and operational processes. Management policies of DQ enable companies to proactively reply and provide services and products that customers want. It has tacitly, for the ability of an organization to perform and enhance its performance. The results of study by Doyle, Ge and McVay [7] showed that the weakness of internal control has an effect on the low quality of accruals add more the evidences of the existence of an effect internal control on the quality of an accounting information. As a consequence accounting information systems have relevant connections with internal control over financial reporting in order to ensure financial information reliability [15]. The problem of low quality of the government financial statements is a reflection of the poor quality of AIS and weakness of the internal control system [8].

Accounting Information System (AIS)

AIS as part of the overall systems of information, where these systems play an important and effective role in providing various levels of information to make true decisions, accurate and on time, to help them to take various administrative decisions, and to provide this information through reports and statements which are obtained from the actual daily data [17]. The goal of the accounting system is to produce accurate reports at the appropriate time, depending on the quality of the input data, and to help decision-makers to make rational decisions [17]. The accounting system tended to be an information system does not stop at the borders of the data and financial information, but has transgressed to include quantitative data and information to help the decision-maker and users. As a result, accounting information system offers: 1) additional information as well as financial information 2) providing data and information on the quantity, quality of financial accurately and timely and 3) to ensure increasing of external information for planning purposes [28]. Information systems can be considered as a set of interrelated elements that work together to collect, retrieve, process, store and disseminate information to support decision-making, coordination, control, analysis and observation of the organization [17]. At the same time, information system is a group of individuals, equipment,

procedures, software, communications, databases, operated manually, mechanically or automatically, to gather information, stored, processed and then sent to the beneficiary [19]. AIS is a set of parts and subsystems that are associated among them and with the surrounding environment, where each part of which depends on the other to achieve the objectives sought by the system of accounting [22]. Consequently, AIS is a network of procedures connected with each other and governed by the principles and rules of sound. That is, prepared in an integrated way to provide data and information to the decision maker appropriate for its needs [2].

Accounting Information Systems Effectiveness

The effective of AIS is providing the correct and accurate information, which relates to an administrative decision under processing to do the proper thing. To provide AIS effective, it is necessary for designers of systems to work closely with the managers, users of AIS and others to determine their information accurately [9]. The effectiveness of AIS refers to the perceived user information satisfaction on decision making and monitoring when an organization has coordination and control over the information produced from AIS [21]; [27]. These AISs use computer-based systems to affiliate information among business function areas, including information sharing between purchase and accounting function [36]. To measure the effectiveness of AIS there are several dimensions, where DeLone and McLean [5] and Nicolaou [21] pointed out that system effectiveness can be displayed through a number of different perspectives. In this study, the researcher will use decision-makers satisfaction of the information that produced by the AIS to measure the effectiveness of AIS.

Data Quality

Data are collected, stored, elaborated, retrieved and exchanged in information system, then used in the company to provide services for the business processes [22]. Thus, DQ defined as the capability of data that is fit for use, which become an important consideration for many organizations to perform better in their business (Wongsim & Gao, 2011). According to Tee, Bowen, Doyle and Rohde [31], commitment can be shown by participation by the managers, because managers involved in the organization could be seen as an indication of a commitment of achieving and maintaining high DQ. Data usually refer to the input of AIS, as the data are processed in the AIS to generate information that needed for decisions making [22]. Zailiani and Rajngopal [37] identified environmental, technological and organizational characteristics as factors that impact on DQ. These factors can translate to consequences at the level of organizational, the legal level or at the technical level [4]. Many factors affecting on DQ as stated by Nwokeji [22]: Data acquisition architectures, tools, organizational structure, system, process integration, evaluation of cost/benefit tradeoffs, application and data storage architecture, top management's commitment to information quality, organizational culture, management's responsibility and training, customer focus, audit and reviews, teamwork communication and internal control system. Obviously, the conditions need attention from the senior management in the organizations. There is a need to

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management commitment by the organization to determine and get the quality of the necessary data in the production process of information [14], because DQ is one of the asset that is unique and decisive in the company [11]. As well, management commitment is essential in determining the scope of DQ clearly; this is because not all data need to be linked with AIS [33]. Subsequently, data are considered as built into the top of AIS effectiveness. Where AIS quality relies on the input quality, process, and output quality [26]. Inputs of AISs are the data that relate to monetary units and properly documented [11]. DQ is inevitable since, also it is essential in AIS [11]. If data are not eligible and contain many errors and inconsistencies, the quality of the information declines and then it becomes meaningless [32]. Rahayu [24] stated that accounting and AIS require quality data in order to work effectively, where the quality of data affect AIS, whilst AIS affect the quality of information. Furthermore, AIS requires technology adoption to develop, support tools and help to supply an integrated set of instruments to manage all the stages of AIS [34]. In particular, when adopting information AIS, it has become an important to consider the quality of the system and the quality of data used throughout the adoption process [6] The results of many studies show that the improvement project of information system requires quality of data [35]. Good DQ is the foundation of the information system [24]. Where in study has done by Ahmed, Ayasra and Zawaideh [1] which addressed the importance of the issues of data quality in any AIS, reached that data quality is considered as the main priority in different organizations, since it is fundamental in information systems. In addition, the study done by Nwokeji [22] stated that, the quality of data in AIS of the companies conforms to data quality dimension and these contribute to the effectiveness of AIS, thus, improved performances those companies. Moreover, DQ issues are one of the important problems facing organizations in the current business environment.

Internal Control

An internal control system is a series of procedures designed such that provide management with reasonable assurance that the accounting information that provide by AIS presents is reliable and made available timely [10]. The internal control is the safety valve to the management in all aspects. Internal controls include all the procedures and adopted by the management of an organization to help in reaching management's goals of ensuring, as much as possible, the systematic and efficient conduct of its business, including compliance to management policies, the prevention and prevention of error and fraud, the accuracy and completeness of the accounting records, asset preservation, and the timely preparation of reliable financial information [20]. Internal control affects AIS effectiveness. An effective internal control can confirm the appropriateness of data entry works, storage methods, processing techniques, and the accuracy of producing information [13]. This means, there is need to be a sound internal control system inside the data electronic entry units, where the chances of discover errors is minimized because the electronic systems are unable to detect errors unless specific measures and rules are set up for data entry, treatment and retrieval [10]. The reason for management to design an effective internal control system is so as to

achieve three main goals, namely: reliability of financial statements, effectiveness and efficiency of a company's operations, and compliance with laws and regulations [16]. It's easy to manipulate in accounting information, and difficult to discover this manipulation, unless the internal control systems keep up the developments of technological and are able to discovery and to prevent the occurrence of manipulation, which requires to interesting from internal control and interest in the safety of information [10]. Mndzebele [18] said that there is a significant relationship between AIS and internal control. Where, AIS provides companies with information that is accurate, and information that in due course and a system about internal controls that has clarity, and is used AIS in internal control to get more convenient, timeliness, accuracy and cost effectiveness.

Research Framework
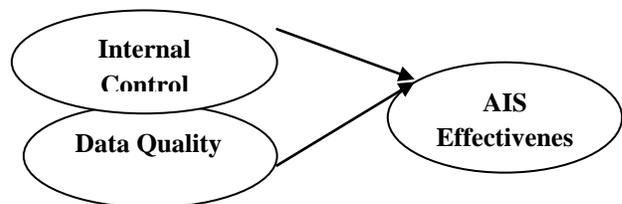
Research Hypotheses

H1: There is a positive relationship between data quality and AIS effectiveness in Jordanian industrial companies.
H2: There is a positive relationship between internal control and AIS effectiveness in Jordanian industrial companies.

Results of the Study

This study adopted a five-point Likert scale to answer the items in the questionnaire, with the mean scores of less than 3.00 were treated as low, 5.00 as high, and from 3.00 to 5.00 as moderate, while Hair et al 2010 suggested that the mean value between 2.5- 5 as moderate and accepted.

Table 1: Descriptive statistics and reliability

Ser.	Variables	Mean score	Standard deviations	Cronbach's Alpha
1	Data Quality	3.46	.81989	.816
2	Internal control	3.48	.79028	.774

Table 1 shows that internal control obtained the highest mean score of 3.48. This result indicates that an effective internal control system plays a significant role in increasing the quality of information that produced by AIS within the Jordanian industrial companies. In addition, the quality of AIS inputs contributes in increasing the quality of AIS outputs, and raising the effectiveness of AIS. Both data quality and internal control indicate acceptable reliability levels at .816 and .774, respectively.

Hypotheses Testing

To test the hypotheses, a simple regression analysis was performed on the effectiveness of AIS in general and the satisfaction of decision-makers on the quality of information that produce by AIS in particular. Table 2 shows the correlation coefficient, R^2, F value, and significance level of the variables.

Table2. Summary of Regression Analysis

Ser.	Variables	Beta	Correlation	Significance level
1	Data Quality	.123	.514	.012
2	Internal control	.241	.569	.000

Table 2 presents the multiple regression coefficients (R) independent variables to the AIS effectiveness as the dependent variable. All variables are significant (p <.05). In terms of beta values, the highest beta coefficient corresponds to performance appraisal, where (Beta = .241). This result indicates that internal control made the strongest contribution to explain the dependent variable (AIS effectiveness). The second highest beta value is seen in data quality with the value of (Beta = .123). As shown in correlation results, the highest correlation value is internal control (r = .569; p<.05), and followed by data quality (r= .514; p<.05). The results indicate that all the variables have a positive relationship and statistically significant at p<. 05. The results of the hypotheses testing (Table 2) indicate that the independent variables significantly correlate with the dependent variable, and thus confirming the significant association between the variables. The analysis suggests lack of multicollinearity in this study because the correlation coefficient is less than 0.80.

Recommendations

AIS effectiveness is closely linked with the quality of the company's performance, where AIS provides correct and accurate information for the companies, which related to the administrative decision under processing to take the proper decision. To improve further the performance of Jordanian industrial companies, these companies must utilize modern technology for developing internal control to ensuring as far as practicable, the orderly and efficient conduct of its business including adherence to management policies, the safeguarding of assets. Moreover, data refer to the input of AIS, as the data are processed in the AIS to generate information that needed for decision making. Therefore, companies must give the data great interest, in terms of monitoring and testing them for accuracy or free of errors; to empower AIS provides information which has high quality, thus raising the company's performance to be good.

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