


**COHESION OF ACCOUNTING INFORMATION SYSTEM FUNDAMENTALS AND
KNOWLEDGE ROBUSTNESS IN FINANCIAL REPORTING**

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 03 April 2023</p> <p>Accepted 04 July 2023</p>	<p>Purpose: This study aims to verify the impact for the solidity of accounting information system components on the knowledge robustness of accounting financial reports. the study anticipated to shed light and contribute to the ability of the interdependence, integration and homogeneity of the AIS components for providing financial reports enclose a useful knowledge for decision makers.</p>
<p>Keywords:</p> <p>Accounting Information System; Financial Reporting; Financial Sector; Knowledge Robustness.</p>	<p>Theoretical framework: The great development in the business environment and the need for complete, appropriate and transparent accounting knowledge and information to make various investment decisions, this need has become urgent to provide accurate and complete set of accounting reports through proficient accounting information systems.</p>
	<p>Design/methodology/approach: The study follows a quantitative research methodology by constructing a well-structured electronic questionnaire to survey 280 personnel from 70 Jordanian financial sector companies. The collected responses from sample then analyzed by arithmetic mean, simple and multiple regression to validate a set of predetermined hypotheses.</p> <p>Findings: The study results confirmed the availability for the six main elements of AIS in financial sector; knowledge robustness in financial reporting was also obtainable if AIS components are efficient The study also concluded that there is a single positive effect for each component of the accounting information system on the quality and coherence of financial reports. The results also affirmed the joint positive impact of all components of AIS on the knowledge robustness on financial reports.</p> <p>Research, Practical & Social implications: The study conveyed several contributions to AIS literature; it revealed that proper information system fundamentals supports the financial knowledge of decision makers to conduct decisions. performance enhancement can be accomplished strengthening the accounting information system. AIS increases the transparency and reliability of reported outcomes and thus reduces the future uncertainties and risks. The availability for complete set AIS fundamentals empower the communication level among company divisions and facilitate the accessibility for data necessary for work.</p> <p>Originality/value: The value of the study is stemmed from its topic which is considered from the few topics that conducted on this area in our middle east region and particularly Jordan; moreover, this study deeply examines the accounting information system availability and its status from the viewpoints of many professionals.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i7.2612</p>

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COESÃO DOS FUNDAMENTOS DO SISTEMA DE INFORMAÇÕES CONTÁBEIS E ROBUSTEZ DO CONHECIMENTO EM RELATÓRIOS FINANCEIROS

RESUMO

Objetivo: Este estudo tem como objetivo verificar o impacto da solidez dos componentes do sistema de informações contábeis sobre a robustez do conhecimento dos relatórios financeiros contábeis. O estudo espera esclarecer e contribuir para a capacidade da interdependência, integração e homogeneidade dos componentes do SIA de fornecer relatórios financeiros que contenham um conhecimento útil para os tomadores de decisão.

Estrutura teórica: O grande desenvolvimento no ambiente de negócios e a necessidade de conhecimento e informações contábeis completos, apropriados e transparentes para tomar várias decisões de investimento tornaram urgente o fornecimento de um conjunto preciso e completo de relatórios contábeis por meio de sistemas de informações contábeis proficientes.

Projeto/metodologia/abordagem: O estudo segue uma metodologia de pesquisa quantitativa por meio da construção de um questionário eletrônico bem estruturado para pesquisar 280 funcionários de 70 empresas do setor financeiro da Jordânia. As respostas coletadas da amostra foram analisadas por média aritmética, regressão simples e múltipla para validar um conjunto de hipóteses predeterminadas.

Conclusões: Os resultados do estudo confirmaram a disponibilidade dos seis principais elementos do AIS no setor financeiro; a robustez do conhecimento nos relatórios financeiros também pode ser obtida se os componentes do AIS forem eficientes. O estudo também concluiu que há um único efeito positivo de cada componente do sistema de informações contábeis sobre a qualidade e a coerência dos relatórios financeiros. Os resultados também confirmaram o impacto positivo conjunto de todos os componentes do AIS sobre a robustez do conhecimento nos relatórios financeiros.

Implicações sociais, práticas e de pesquisa: O estudo trouxe várias contribuições para a literatura sobre o AIS; revelou que os fundamentos adequados do sistema de informações apoiam o conhecimento financeiro dos tomadores de decisão para a tomada de decisões. O AIS aumenta a transparência e a confiabilidade dos resultados informados e, portanto, reduz as incertezas e os riscos futuros. A disponibilidade de um conjunto completo de fundamentos do AIS fortalece o nível de comunicação entre as divisões da empresa e facilita o acesso aos dados necessários para o trabalho.

Originalidade/valor: O valor do estudo é destacado por seu tópico, que é considerado um dos poucos tópicos conduzidos nessa área em nossa região do Oriente Médio e, particularmente, na Jordânia; além disso, esse estudo examina profundamente a disponibilidade do sistema de informações contábeis e sua situação do ponto de vista de muitos profissionais.

Palavras-chave: Sistema de Informações Contábeis; Relatórios Financeiros; Setor Financeiro; Robustez do Conhecimento.

COHESIÓN DE LOS FUNDAMENTOS DE LOS SISTEMAS DE INFORMACIÓN CONTABLE Y SOLIDEZ DE LOS CONOCIMIENTOS EN LA INFORMACIÓN FINANCIERA

RESUMEN

Objetivo: Este estudio pretende verificar el impacto de la solidez de los componentes del sistema de información contable en la robustez del conocimiento en los informes de contabilidad financiera. El estudio espera aclarar y contribuir a la capacidad de la interdependencia, la integración y la homogeneidad de los componentes del SIE para proporcionar informes financieros que contengan conocimientos útiles para los responsables de la toma de decisiones.

Marco teórico: El gran desarrollo del entorno empresarial y la necesidad de disponer de conocimientos e información contables completos, adecuados y transparentes para tomar diversas decisiones de inversión han hecho urgente la provisión de un conjunto preciso y completo de informes contables a través de sistemas de información contable competentes.

Diseño/metodología/enfoque: El estudio sigue una metodología de investigación cuantitativa mediante la elaboración de un cuestionario electrónico bien estructurado para encuestar a 280 empleados de 70 empresas del sector financiero jordano. Las respuestas recogidas de la muestra se analizaron mediante media aritmética y regresión simple y múltiple para validar una serie de hipótesis predeterminadas.

Conclusiones: Los resultados del estudio confirmaron la disponibilidad de los seis elementos principales del SIA en el sector financiero; la solidez de los conocimientos en materia de información financiera también puede lograrse si los componentes del SIA son eficientes. El estudio también concluyó que existe un efecto positivo único de cada componente del sistema de información contable sobre la calidad y la coherencia de la información financiera. Los resultados también confirmaron el efecto positivo conjunto de todos los componentes del SIA sobre la solidez de los conocimientos en la información financiera.

Repercusiones sociales, prácticas y de investigación: El estudio aportó varias contribuciones a la bibliografía sobre los SIA; reveló que unos fundamentos adecuados del sistema de información respaldan los conocimientos financieros de los responsables para la toma de decisiones. Los SIA aumentan la transparencia y fiabilidad de los resultados comunicados y, por tanto, reducen la incertidumbre y los riesgos futuros. La disponibilidad de un conjunto completo de fundamentos de AIS refuerza el nivel de comunicación entre las divisiones de la empresa y facilita el acceso a los datos necesarios para el trabajo.

Originalidad/valor: El valor del estudio destaca por su tema, que se considera uno de los pocos realizados en este ámbito en nuestra región de Oriente Medio y, en particular, en Jordania; además, este estudio examina en profundidad la disponibilidad del sistema de información contable y su situación desde el punto de vista de muchos profesionales.

Palabras clave: Sistema de Información Contable; Información Financiera; Sector Financiero; Solidez del Conocimiento.

INTRODUCTION

In view of the great development in the business environment and the need for complete, appropriate and transparent accounting knowledge and information to make various investment decisions, this need has become urgent to provide accurate and complete set of accounting reports through proficient accounting information systems that provide all users of financial data to conduct appropriate investment decisions. Historically, data and information were provided to its users through traditional systems on a manual basis, which resulted in inaccurate, unreliable and distorted information, in addition to the delays in providing such information at the right time. But, after the great development in information systems and data processing, which entered all fields, these systems became so vital to yield the advantage of their benefits in achieving useful information requirements that serve all users. Since the nineties of the last century and after the introduction of information automated systems, accounting was one of the earliest sciences that adopted the use of computers, networks and the internet in order to collect, enter, process and extract financial and non-financial data of various financial institutions, whether at the level of the private for-profit sector and the non-profit public sector.

There was general agreement that among all beneficiaries of accounting reports that, in order to achieve a coherent, integrated, interconnected and automated accounting results, systems of must satisfy a set of requirements that have been identified as fundamentals of accounting information system (AIS). Six fundamentals were approved as basic requirements of AIS and capable to contribute for the extraction of high quality of financial data and information and advanced knowledge for everybody who uses this information. These six components are the competent human element, software, infrastructure, internal and external networks, the Internet, computers and their peripherals, control and control procedures (Romney et al.,2015).

In accounting, the conceptual framework of accounting has determined that the central objective of the accounting system reporting is to serve the users with truthful and relevant financial information, whether such information is provided to internal users or external ones, providing users with such facts enhance the process for assemble rational investment decisions that greatly contribute to corporates to establishment profitability. The conceptual framework also asserted that high-quality information ought to be characterized by reliability, appropriateness, and honest representation, in addition of being comparable and understandable by normal user, who does not need much effort to understand financial information (IASB,2010).

Numerous studies, research, books and scientific papers have circulated around the world on the study concern, whether in developed or emerged countries to verify the efficiency of accounting information systems and their components to provide knowledge, data and financial information with extraordinary quality to beneficiaries. Due to the lack of studies on this topic in the Middle East, especially Jordan, the current study anticipated to be one of the most recent studies that will try to shed light and contribute to the ability of the interdependence, integration and homogeneity of the AIS components for providing financial reports enclose a useful knowledge for decision makers. This study also anticipated to announce complementary results to other studies on the same focus conducted in different environments worldwide; additionally, this exploration is also likely to provide distinguished results after revealing the role of AIS fundamental to financial knowledge. Another value of this study is related to its distinctiveness in focusing on the financial sector; the study also likely to offer valuable recommendations to accountants, designers of information systems, and to makers of various policies related to the development of information systems in general.

The upcoming sections after the significance of the study will include: a section for previous literary studies, followed by section of methodology, then will the results and discussion section, and lastly the conclusions and recommendations section.

The Problem, Objective of the Study and Its Questions

The importance for the solidity and durability of the accounting information system has become one of the necessities of electronic financial work, as the outputs of this system such as documents, records and financial reports must be characterized by reliability and appropriateness to users, thus it has become vital for the business environment to sustain a strong cohesive electronic accounting system in which the primary components of modern

systems are available in order to produce transparent and fair financial results and outputs that serve the goals and needs of decision makers at the internal level in companies or at the level of the external environment. Therefore, this study aimed to verify the availability for the elements of the accounting information system and the robustness of these components in providing financial information, which is the primary element for knowledge that used by decision makers. Therefore, the primary question is as follows:

"Does the accounting information system components are available and cohesive to provide the necessary knowledge in financial reports for the decision making process?"

This question generates the following sub-questions:

1. Is there a positive impact for the availability of computerizing competences on knowledge robustness of financial reports?
2. Is There a positive impact for the availability of availability of system infrastructure on knowledge robustness of financial reports?
3. Is there a positive impact for availability of software and programs on knowledge robustness of financial reports?
4. Is there a positive impact for availability of proper procedures and internal controls on knowledge robustness of financial reports?
5. Is there a positive impact for automation of collecting, entering, storage and producing data on knowledge robustness of financial reports?
6. Is there a positive impact for availability and automated proper output on knowledge robustness of financial reports

The Significance of the Study

After the great global development that witnessed in business environment in general and the financial sector in particular that symbolized in capital investments increase, the emergence of multinational companies, and the growth and expansion of existing companies, there were an urgent need for companies to develop the traditional information systems to higher-level electronic systems that are skillful to meet the work requirements of these companies. Moreover, the growing need from existing and potential investors, suppliers and consumers for more transparent and reliable information on company's results raised the pressure on company's principals to implement solid and strong accounting information systems that fulfill requests to such parties. Beside other types of information systems,

accounting information system is viewed as one of the most crucial electronic systems that are established to respond for the unceasing needs for financial information that imposed by company's owners, suppliers and customers. Also, the amplified awareness in decision making process enforced company's executives to launch more coherent electronic accounting system that offers high-quality and useful knowledge that assist decision makers.

After the ascend of accounting systems importance worldwide a portion of studies have started to verify the efficiency of these accounting systems to companies and to stockholders in different contexts. These studies were dispersed over many environments, and due to the shortage of studies on this theme particularly in the Middle East the current study is inspired to shed more light on the role of these accounting systems for improving knowledge in terms of financial information.

The significance of the current study is highlighted by the fact that it is one of the few studies conducted in the region and is considered complementary to other studies, which focused on measuring the robustness of the accounting information system in emerging markets.; moreover, the study is also acknowledged for its emphasis on the financial sector with its all categories that compromise banks, real estate companies and financial services companies. Another distinction of the study lies its inclusion for all the components of the accounting information system and their joint impact on the quality and robustness of financial reports from the point of view of the users directly operates this system; beside this, the study also attempts to challenge any allegations for the weakness and incompatibility of accounting information systems in developing countries. The outcomes of the study are likely to offer valuable information to management, employees and system operators and to those continuously in touch with accounting systems; also, the study observations and conclusions are anticipated to be valuable for recipients of accounting reports, investors, lenders or customers...etc. From the additional significances of the study its framework that assembled to unveil strengthen and weaknesses aspects of AIS under in order to recommend the proper course of action that settle any problem and empower any strengthen aspects that enable companies to realize the desired confidence in information and knowledge delivered by these systems. Some of the study findings are also will be advocated to aid government agencies and company's principals whom rest high reliance on the accuracy of these systems when obtaining calculations on performance of this sector and its contribution to local taxes and national income. The annotations of the study are also likely to offer suggestions, guidance and close look to designers of accounting systems on how advance the processes, maintain and develop

system operations and sealing any possible gaps or deficiencies in the system; another worthiness of the study is dedicated to policymakers whom can benefits from the study results to improve systems procedures and controls or develop future plans so as to acquire a well-organized satisfactory accounting systems that supports the accomplishment of company strategic goals.

THEORITICAL FRAMEWORK

The accounting information system is defined as a set of components that interact and integrate with each other in order to provide financial and non-financial information capable of serving decision makers. It is also known as the computer system that collects, enter, process, analyze and store data in order to extract electronic financial and non-financial information, statements and statistics that serve the attainability of companies short-term and long-term objectives. Many historians and academics affirmed that any information system must perform at least four primary functions, that are, data entry, data processing, data storage, and output extraction (Romney et al.,2015; Oleiwi, 2023).

Beside other types of information system the Accounting Information System (AIS) is usually adopted for financial purposes; its main role is to provide all departments within the establishment with the necessary financial information that they need in order to complete their various activities, that helps companies to achieve its goals. Traditionally, a set of necessary components have been developed for this system to run properly, these components are as follows as suggested by (Romney et al.,2015): First, people or users, systems cannot be operated without human element that operates and manage the system, such people have to be empowered with knowledge, and experience in order to activate the system appropriately. Second, procedures and instructions, which are a set of sequential steps for the smoothness of the system and its demonstrates how data is collected, processed and stored. Thirdly, the data that the system consists of; which comprise data about the company resources, divisions, human resource, customers, suppliers and all other necessary data for the company operations. Fourthly, the software and programs, which is electronic computer programs through which the system is managed, it includes basic software and additional application software's that are installed to the system and have to be consistent with the nature of the company's activities. Usually systems work as a communication device that links the internal company actions to its external environment, thus the fifth component is the infrastructure elements for example networks, internet, and any connection devices. The six and final element is the internal controls

that protect company from internal and external risks and threats through establishing safety measures which are procedures and safeguarding techniques embedded in the system, whose purpose is to protect the operation, information, and maintain the sustainability of the system.

The accounting information system normally is adopted by companies with the aim of increasing the added value to business, the system adds value via improving the value of business operations in terms of reducing costs and increasing profitability and thus achieving the overall business strategy. Information systems are also created to realize the efficiency concept for companies by assisting them to sustain the concept of optimal use of resources, that is the least inputs with high outputs; in addition to this, systems are designed to enhance sharing of knowledge and information among personnel in different company divisions which improves the communication lines for more coordination to internal operations. Moreover, the accounting information system also aims to support the continuous development of both value chain and supply chain; the system also activates the controlling system by setting numerous controls and procedures to preserve and protect the enterprise's resources and information from internal and external sources of intimidations. The ultimate goal for establishing effective accounting information system is to improve the decision-making process at all levels, whether at the company's management level, staff, owners or any interested party.

The quality of financial reports concept emerged after the establishment of the conceptual framework for accounting in 1989, which was issued by the International Accounting Standards Board (IASB), and this framework was amended in 2001 after the convergence project that accomplished between IASB and the American Accounting Standards Board. The framework was established to set the basic building blocks for accounting reporting. The conceptual framework compromised general objectives of the financial reporting in addition to underlying assumptions that govern the accounting profession and the qualitative characteristics of financial reporting (IASB,2010).

The conceptual framework of accounting defined the quality of financial information as the data that reflects the true economic picture of the company economic situation, and this quality can only be achieved by a set of distinctive characteristics to this data (Sunarta and Astuti, 2023; Wilkinson et al., 2004; Bettner, 2015; Bodnar and Hopwood, 2014). The qualitative characteristics of the financial reporting as stated in the conceptual framework are divided into two sets: basic characteristics and supporting characteristics. As for the basic characteristics, they consist of the relevance and faithful representation of the financial statements; relevance is advocated to the ability of the financial data to make a change in the

decision of user if this data is reformed, that means, data leads the decision maker perception when conducting investment decisions, and in order for these data to be relevant, it must have a predictive value for future and a confirmatory value to past; the predictive value enables decision makers or companies to reduce uncertainty and increase the ability for prediction of performance and future monetary values for example, cash flows, sales and profits; the confirmatory value allows the current monetary values confirms the previous valuations for monetary values. And in order to achieve the adequacy in the financial statements, the conceptual framework indicated that attention should be focused on data materiality (relative importance), which have a direct relationship to the size and quality of numerals included in the financial reports (IASB,2010).

As for the second quality of basic characteristic of financial information; the faithful representation, it is placed in order to mandate accountants to mirror the true economic substance in a manner that shows the actual reality of economic events, so its main emphasis on substance rather than form of accounting transaction. This true representation of the financial information is merely realized by some ingredients such as completeness (full disclosure), which fulfilled by reporting all economic events during a certain period without omitting any true event. Furthermore, faithful representation cannot be achieved also without accurateness of prepared information that disclosing numbers free from errors; neutrality is also suggested as crucial third element for faithful representation which prohibits accountant to prepare for the benefit of a specific party on the expense of another parties. The accounting standard setters meant from these basic characteristics to sustain integrity of accounting information so that the financial statements are not distorted or manipulated to serve exceptional benefits for particular parties. (Walton et al., 2003; Collier, 2003; Rapina, 2014; IASB, 2010)

The second set of qualitative characteristics are the supporting characteristics, these enhancing qualities are two; the first characteristics, comparability of the financial statements and comprehensibility. Comparability aim to increase the ability of firm to make comparison of performance among different period. Comparability also comprises the ability of the decision-maker or the user of financial statements to compare the company's reports with other companies in the same industry. So, in order to do this comparison, the conceptual framework obligate companies for consistency in accounting practice by adopting unified accounting policies and follow the exact method for measurement in all accounting periods. The comparability concept also stressed on the rational valuation for accounting estimates by applying the principle of caution (conservatism) so that overstatement or understatement in

accounting numbers does not occur, which may lead to a weakness in the comparison between accounting results for different periods. (IASB,2010; McShane and Glinow, 2010; Bettner, 2015)

As for the second supporting characteristic that is understandability, it is viewed as the capacity of data to be understandable thus they must be presented in a clear manner, concise, distinct and uncomplicated, and that the statements should be easily understood at a minimum by ordinary users who are not financially specialized. Understandability requires that information ought to be organized in a way that facilitates the access to information rapidly which speed up the decision-making process. Understandability is also can be completed with the attachment for clarifications and notes in separate statements related any ambiguous numbers or results. The conceptual framework also stressed that only data of relative importance should be shown in the financial reports, and this is determined by comparing the cost and benefit for any financial data presented in the financial reports (IASB, 2010)

Related Studies

Technology symbolized in hardware, work station, mainframes, PCs, and programs are suggested one of the essential components for the recent business environment. At the present-day, without a doubt, it is difficult for everyone who interferes with the companies' business to abandon the advances of such technology including investors when dealing with business environment. Reported company information typically utilized by many stakeholders such as internal managers, government agencies, customers and suppliers; this produced information are diversified according to the needs for stakeholder but mainly focuses on providing them with vital knowledge and information that assist them when interacting with company activities. From the most essential information provided by business to others is the financial information concerning income, financial position and cash flows; such information have great important for different parties conduct decision related to their financial purpose from dealing with companies. So if companies want to have dynamic business environment it must provide accurate, fast and complete financial information to its working environment; therefore, an efficient information system became from the necessities to fulfil this objective. Moreover, the enhancement of company operation related to sales, purchase and controlling of inventory place more demand for the existence of high quality AIS that works as a mechanism to improves company performance.

Recently, researchers have shown increased interest for the ability of information systems to produce useful information to interested parties. The studies that dealt with accounting information systems and their impact on the informatics of financial data were among the important studies that added distinguished results and recommendations in this field. However, the rapid changes in the competitive business environment have established the necessity for AIS to provide information for users from inside and outside the company (Romney and Steinbart, 2015; Gelinas et al., 2012); much of current literature hypothesized that the ideal method for companies' success and growth depends on the knowledge and information introduced by its elaborate accounting information system. Surveys such as that conducted by (Haseeb and Hartani, 2018; Gelinas et al., 2012; Meiryani Lusianah, 2018) debated that companies should increase their investment in accounting information systems, which in the end will facilitate their tasks and operations, that lead to an increase in their chances of success. Among the other great benefits of accounting information system, as indicated by some researchers, is the prevention of corruption and manipulation in financial information and reports (Kareem et al., 2022; Beshi and Kaur, 2020); improving the services provided to beneficiaries (Rocha Menocal and Sharma, 2008); that is, the information system works on integrating the company's activities to achieve its strategic goals (Coronel, 2001), and also it enhance employees performance and update work techniques that result in better exploitation of resources to attain sustainable development and survival for the company (Susanto, 2017). Williams (2015) showed that the use of information accounting systems reduces future uncertainty, which assists businesses to set more accurate future budgets in addition to elevate their skills when predicting future cash flows. There is a consensus among mentioned historian opinions that the availability and coherence of the accounting information system components affect the robustness of knowledge provided by the financial reports hence the main hypothesis of the study is:

H1: There is a positive significant impact for availability of cohesion accounting information system on knowledge robustness of financial reports.

Other researchers such as Selase and Selase (2019) emphasized that, the company's goals are hardly to be achieved with the absence for the essential fundamentals of information system that works harmonically together in order to provides high quality of financial data for decision-making, this perceived result confirmed by the conclusions of Salehi and Torabi (2012) that the accounting information system components such as competent of users and necessary computing infrastructure are vital to achieves the characteristics of financial data.

Also another researchers (Kurfi, 2017; Amankwa et al., 2020) pointed out that accounting information system controls are the key success for reducing the misleading financial behaviors such as earnings management that practiced by many companies accountants, whether this earnings management with the intention for improving the company's position or for illegal purposes like beneficiaries to some parties, their papers results revealed also that, the competent and expertise of users in addition to a the proper infrastructure are capable to prevent and detect any practices for earnings management and thus prohibit manipulation and distortion of the financial figures published by companies about their income or financial position. Therefore, in order to verify the individual influence for each fundamental of accounting information system on robustness of financial reports the following two sub-hypotheses are formulated:

H1-1: There is a positive significant impact for the availability of computerizing competences on knowledge robustness of financial reports.

H1-2: There is a positive significant impact for the availability of availability of system infrastructure on knowledge robustness of financial reports.

plenty of literature at the present time has been concerned with the impact of automated accounting information system on the financial performance measures issued by companies at the end of their fiscal year. The results of these studies showed a great correlation among performance measures and the establishment of computerized financial system. From these studies (Bartov et al., 2005) paper that was conducted in Germany to determine the level of improvement German companies' revenues after the implementation proper financial software's in accounting information systems. The results of the study confirmed that after the application of the accounting information system programs the revenues increased and the performance measures were improved. Similarly, Lin and Chen (2005) on the Chinese environment proved that stock prices and stock returns were enhanced after using suitable accounting information systems, this result is also indicated by the study of Callao, et al., (2007) on Spanish companies, where quality of financial metrics such as return on assets and equity appeared without bias and more appropriate and the knowledge was more beneficial to the owners after adopting more qualified accounting information systems. With the same result came out the study of Paglietti (2010) on the Italian setting, where his results are comparable to previously mentioned studies that assured the automation of accounting information system greatly improves the quality of companies financial results such as: profitability, liquidity and improves use of capital. Consequently, automation of financial systems via proper software's

and programs is apparent to have significant role on robustness of financial reports; hence, our third sub-hypothesis is:

H1-3: There is a positive significant impact for availability of software and programs on knowledge robustness of financial reports.

In the view for the importance for the influence of accounting systems components on the quality of financial reports, numerous studies have attributed to this concern. The importance of these components to knowledge robustness of the accounting information was originated in the studies that steered by (Al-Dalabih, 2018) and (Nnenna, 2012) both pointed out that proper systematic procedures and adequate controls result in relevant and timeliness information which is of great importance to the decision-makers in order to make their decisions at the right.; they also asserted that accounting information system with accurate controls fasten the response of decision makers beyond information announcements; furthermore, the adequate controls protects the company information from competitor's embezzlement and safeguard companies entended actions when considering any market investment opportunity. Results from other sources (e.g, Susanto, 2017; Chidoko and Mashavira, 2014; Okour, 2016; Aladwan et al., 2021) also revealed a strong correlation between controls of AIS and corporate governance with valuable financial information. Further, they convey that, if business stress on achievement of the preferred profitability, principals have to establish an a strong, integrated, coherent and effective accounting information system; this conclusion also supported by the findings of (Augustine et al., 2014; Patel, 2015; Diem and Hiep, 2023); thus our fourth sub-hypothesis is:

H1-4: There is a positive significant impact for availability of proper procedures and internal controls on knowledge robustness of financial reports.

Over the past three decades' adequate number of former studies on the same theme have showed that companies in general adopts the information system and in particular accounting system for several purposes. Ponemon and Nagoda (1990) indicated that the company's intention from the information system is to increase reliance on automation techniques that collect, process and produce data in order to eliminate the human interaction and avoid errors or misstatement results from human element when entering, processing and producing financial information, this elimination result in more confidence and reassurance for owners and users of the financial reports for the accuracy of information; other researchers like suggested that the adoption of accounting information systems enable companies to produce more reliable results and statistics on usage of available resources and reflect faithful numbers on sales,

customer orders, expenses hence system controls enable companies to attain efficiency (Nwinee et al., 2016). Some researchers for example, (Aladwan and Alhawatmeh, 2023; Grande and Colomina, 2011; Ngo, 2023) indicated that the automation of data input and output facilitate the access to all company information and thus increase the collaboration between the company's departments which improves the availability for full information on company activities; other scientists pointed out that the automation of all data inputs, processes, and outputs on company and market assist managers to identify any possible opportunities and any challenges that the company might faces which not possible to offer by traditional manual systems (Hopwood, 1978). The benefits of automated accounting systems were also noted by other few academics, as they proposed that such automation in system empowers good planning, effective coordination, continuous control and feedback, in addition to protection of resources, improving decision-making and preventing manipulation, among other goals (Simons, 1987; Susanto, 2015; Sajady and Nejad, 2008; Huber, 1990). Grounded on mentioned literacy our two last hypotheses we propose are:

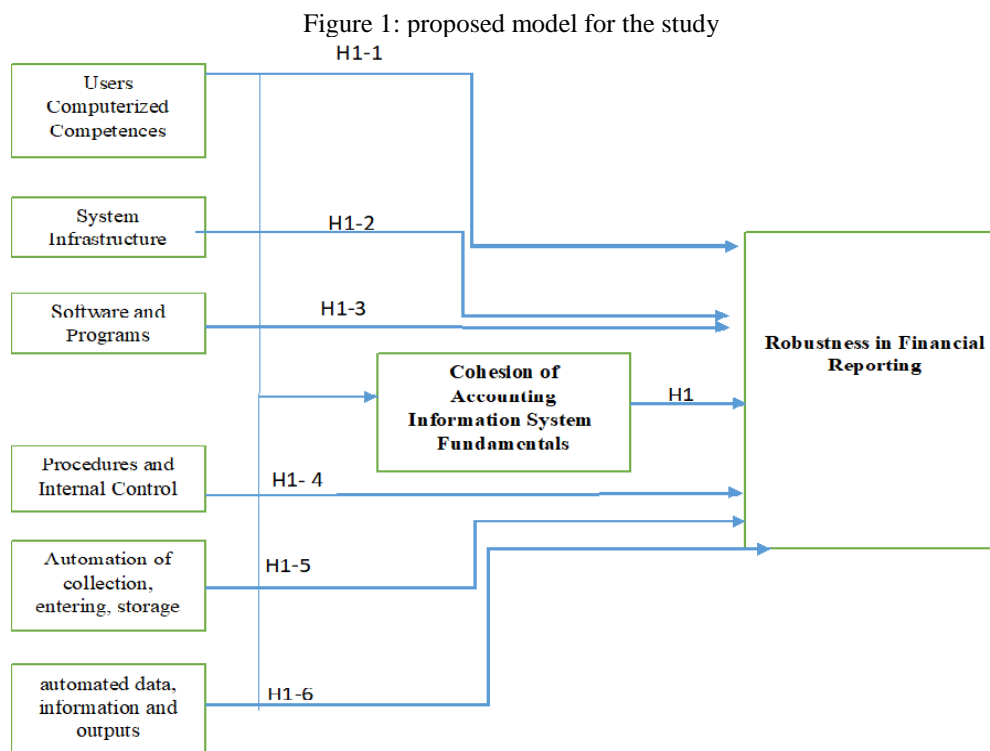
H1-5: there is a positive significant impact for automation of collecting, entering, storage and producing data on knowledge robustness of financial reports.

H1-6: there is a positive significant impact for availability and automated proper output on knowledge robustness of financial reports.

The generalizability that publicized in many of aforementioned published research on the relationship between the cohesion of the accounting information system and the level of knowledge and robustness of financial information appeared in many inquiries globally in different environments, most scholars confirmed that accounting information systems achieve high performance as it appeared in Turkey by Esmeray (2016) and that the effectiveness of all companies, regardless of their size and type of activity, improved through up-to-date information systems; this supposition is also specified by Nwinee, et al (2016) on Nigeria environment. Hezabr and Qatanani (2015) in Bahrain shown that companies are unable to realize the required performance results due to the lack of accounting information systems, also this notion was set by Rapina (2014) in Indonesian companies. In Jordan, Moqbel (2014) explained that the low success in electronic commerce is mainly caused by the weakness of accounting information systems; furthermore, the inability of electronic systems to communicate with the company's local and external environment with regard to customers is also contributed to the absence of modern accounting systems. As for the study of Harash et al (2014) in Iraq on medium and small-sized companies, the study proven that this category of

companies is not convinced by the possibility of improving their results through accounting information systems, this perception was negatively reflected on the financial results for several decades on Iraqi companies. In Korea also, the study of Rachmawati and Lasniroha (2014) showed that customer satisfaction was only achieved after the start of the implementing effective information systems for customer service. This outcome was also gotten by Jakovic and Spremic (2012) in Croatia, where sales to customers increased and the number of customers has also increased after companies improved their accounting information systems.

The proposed model for the study is exhibited in figure 1.



Source: *Own Compilation*

METHODOLOGY

The study follows a quantitative research methodology; a well-structured electronic questionnaire was designed and submitted to obtain a response from the sampled respondents. The questionnaire was constructed to capture the indications for the availability of the six vital accounting information system fundamental (Users Computerized Competences; System Infrastructure; Software and Programs; Internal Control Procedures; Automation of collection; automated inputs and storage of data; automated data, information and outputs); and their effect on quality of financial reports that represents the robustness of financial information knowledge. The study community of the study was the financial economic sector, that

comprises banks, insurance companies, real estate companies and financial services companies. The reason for choosing this type of sector is that it is one of the most developed sectors in information systems during the last three decades in Jordan. The electronic questionnaire was submitted to a sample of 280 respondents in positions of financial manager, chief accountant, internal auditor, and internal control staff. Four questionnaires were sent to four employees in 70 financial companies; the chosen sample was from those whom directly works in activities related to accounting information systems. The number of retrieved questionnaires were 271 with a response rate of 75%; and after evaluating the retrieved questionnaires 203 of them were valid for our analysis.

Measurement

The questionnaire was organized as follows: first section was about respondent's demographic information; the second section measures the availability for the six fundamental by 24 items, 6 questions for each component; the last section enclose 8 items that measures the dependent variable robustness of financial information. Except for demographic information all paragraphs were assembled using 5-points Likert scale, ranged from 1 (strongly disagree) to 5 (strongly agree). The collected data on demographic variables about respondents was analyzed by descriptive statistics (Table 1), other responses related to the fundamental of AIS will be examined by arithmetic mean for each component of accounting information system. Moreover, in order to validate the study sub-hypotheses a simple regression will be performed to test the effect of each components of accounting system on the quality of the financial data. And the last step in our presumed measurement is testing the primary hypothesis by multiple regression to verify the combined effect of these components on the quality of the financial reports.

Table 1. Demographic Statistics

Demographic variables		Frequency	Percentage
Education	Diploma	44	22%
	Bachelor	118	58%
	Master	24	12%
	PHD	17	8%
specialization	Business administration	27	13%
	economic	10	5%
	finance	21	10%
	Accounting information system	32	16%
	accounting	113	56%
position	Financial managers	51	25%
	Chief accountant	87	43%

	auditor	42	21%
	internal control	23	11%
experience	Less than 4 years	18	%9
	4-10 years	39	%19
	11-15 years	121	%60
	More than 15 years	25	%12
Professional certificates	CPA	5	%2
	JCPA	13	%6
	Other certificates	55	%27
	none	130	%64

Source: *Own Compilation*

Referring to table 1, the education ratios showed that around 80% of the sample hold a bachelor's degree or higher, this percentage indicate that the respondents have proper scientific knowledge on the subject of the study, which may achieve more realistic responses. The demographic data on type of education in the same table, show that the percentage of respondents from the accounting majors exceeded 70%, and this also by enhances the quality of the information provided by respondents to the study, because as the greater the number of specialists in accounting systems or accounting the greater the knowledge that provided by accounting systems. Data related to the position type, the percentage of respondents in the position of chief accountant amounted to 43%, and the second percentage refers to financial manager with a percentage of 25%, while personnel in audit and internal control positions and auditors where about 32% of sample; these percentages can be seen as reasonable ratios grounded on the fact that, the personnel number auditor or internal control occupation are the least compared to accounting and finance positions. Table 1 also indicates that the experience of the sampled group for respondents with more than 10 years was about 72% as; this ratio could enrich the study with logical answers from high experienced personnel capable to evaluate the effectiveness of accounting information systems. As for the demographic statistics on the number and percentage for holders of professional certificates, the percentage for holders of professional accounting certificates or any specialized financial certificates amounted to 33%, this percentage theoretically is acceptable for personnel in these positions because such certifications are more required in high senior positions.

Adequacy and Reliability of Model

In order to verify the adequacy of the study sample to assure the possibility for proper validation of the study hypotheses, (KMO) and Bartlett's examination was employed; as table 2 show the sample was adequate, the test scores was (0.903) and statically significant. Also the

study instrument was confident and reliable based on the result of Cronbach's Alpha ($\alpha = 0.901$).

Table 2. The sample distribution for professional certificates

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.903	
Bartlett's Test of Sphericity	Approx. Chi-Square	395.423
	Df	21
	Sig.	0.000
Sample number	Cronbach's Alpha (α)	
203	0.901	

Source: *Own Compilation*

RESULTS AND DISCUSSION

Since the one of study objective is to verify the availability for components AIS information system in sampled companies table 3 summaries the Arithmetic mean for availability of these six components as independent variables; also the same table show the Arithmetic mean for the robustness of financial reports as dependent variable. The table show that the minimum value scored for all means to variable did not fall below 3.38 and all average means were above 3.63; these values provides preliminary evidence for the availability of AIS components and financial reporting status is informative and appropriate.

Table 3. Arithmetic mean & Average arithmetic mean for study variables

variable	Type of variable	number of paragraphs	Range of means	Average mean
Availability of Users Computerized Competences	independent	6	3.38-4.02	3.63
Availability of System Infrastructure	independent	6	3.65-4.17	3.96
Availability of Software And Programs	independent	6	4.18 -4.25	4.25
Availability of Internal Control Procedures	independent	6	3.99-4.40	4.22
Automation of collection, entering, storage and producing data	independent	6	3.88-4.19	4.08
Availability automated data, information and outputs	independent	6	3.98-4.10	4.03
Quality of Financial Reports	dependent	8	3.91-4.17	4.07

Source: *Own compilation*

According to Hair et al. (2010) the fitness and validity of any proposed model is accepted by R-squared value and in significance of variables coefficients. Table 4 screen the values for adj. R-squared and coefficients of simple regression results for the single impact of accounting information system fundamentals on robustness of financial reports.

Table 4. Results of Simple Regression

Ind. variables	B	T	Sig.	Adj. R ²	F	F- Sig.
computerized competences	0.467	5.967	0.000	0.253	35.600	0.000
computerizing infrastructure	0.508	6.113	0.000	0.254	35.710	0.000
software's and programs	0.696	8.883	0.000	0.433	78.900	0.000
procedures and controls	0.706	6.907	0.000	0.314	47.706	0.000
computerized input, process and storage	0.754	7.216	0.000	0.334	52.073	0.000
computerized information and output	0.740	10.899	0.000	0.536	118.783	0.000

Dependent variable: Knowledge Robustness in Financial Reporting.

Source: *Own compilation*

The proposed model for the study and the main hypothesis was symbolled to accumulate conclusive evidence for the joint impact of all accounting system fundamental on robustness of financial reports; therefore, all fundamentals of AIS were regressed together as independent variables in one model and knowledge robustness in financial reporting was the dependent variable, the results are presented in table 5; the results of multiple regression in table as appear all positively significant.

Table 5. results of multiple reg. for dependent and independent variables output

Dependent variable	Adj. R Square	F-value	F- Sig.	Variable	B	T-cal.	Sig.	T-stat
Knowledge Robustness in Financial Reporting	0.699	135.442	0.000	(Const)	0.164	0.456	0.649	1.98
				VAR 1	0.279	2.905	0.018	
				VAR 2	0.258	2.273	0.029	
				VAR 3	0.260	2.377	0.019	
				VAR 4	0.371	4.965	0.000	
				VAR 5	0.275	2.555	0.023	
				VAR 6	0.478	5.058	0.000	

Dependent variables: Knowledge Robustness in Financial Reporting

Independent variables: six components of accounting information system

Source: *Own compilation*

The undertaken inquiry intended to verify to what extent accounting information components are available and whether this availability supports the knowledge of financial

reports or not. The proposed framework model constructed to validate one main hypothesis and six derivative sub-hypotheses; the main hypotheses (hypotheses 1) that assumed the possible impact of accounting information fundamentals on knowledge robustness of financial results was confirmed positive. Referring to multiple regression results that reported in table 5 we observe that the joint effect of all components of AIS on the knowledge robustness of financial reporting was positive and influential, as these variables collectively explained approximately around 70% (Adj. R Square=0.699) of the change in the quality of the financial reports; furthermore, the table shows that the proposed model was active and capable for predicting this relationship, as the value of F was 135.442; and the results for t-calculated to all six variables of AIS (components of accounting information system) have significant positive values and greater than 2, note that the t-statistical was 1.98; thus all realized results in respect to the primary premises were consentient with (Romney and Steinbart, 2015; Gelinas et al., 2012) and with Rocha Menocal and Sharma (2008) whom indorse the great benefits for AIS components on transparency and reliability of financial reports. Similarly; our results validated this conclusion that assumed by our main hypothesis that the components of AIS have positive and effective impact on the robustness of knowledge provided by financial reports produced by the accounting information system.

The availability of AIS components for the sampled companies were confirmed positive to all components; by reference to table 3, the responses from respondents to the availability of computer competences were valued by all respondents with greater than 3.38; with an overall mean for all paragraphs of 3.63, this specifies that personnel in companies whom operates AIS have the required knowledge, experience and competence to manage these systems accurately. The second component of AIS; the availability of sufficient requirements for computerizing such as hardware, LAN, WAN, accessories, etc., was also approved positive; the responses to all paragraphs showed values ranged between 3.65 and 4.17 for paragraphs and the overall mean for all paragraphs was 3.96, this result ascertains that the financial sector companies have sufficient infrastructure (devices, LAN, WAN, accessories, continuous maintenance and appropriate financial allocations) to run the AIS. The mean responses for the availability of proper accounting software, programs and applications for all paragraphs was ranged between 4.18 and 4.25, the general mean for all responses was 4.12, thus it is verified by such values that the companies preserve the necessary applications and programs. As for the availability of procedures and control requirements the results in table 3 also show that the average of answers was between 3.99 and 4.40, where all paragraphs provided evidence for the availability of

relevant procedures and controls that protects the accounting information system, the average for all paragraphs was 4.228. The automation for collection, entering and storing was appeared from the most crucial components of AIS system; retrieving values on the availability for this component we find that the mean values for all paragraphs were between 3.88 and 4.19, which confirms the strength of companies' accounting systems; the general mean for all paragraphs was greater than 4, this value affirm that AIS is electronically efficient and the human interference with its minimum levels for entering, processing and extracting results. The results for the sixth component of AIS, the ability of the systems to deliver automated data, information and outputs that support quick decision making process; the value of mean for all paragraphs were close or higher than 4, the mean values ranged between 3.98 and 4.10, and the overall mean for all paragraphs was 4, this value also in line with the results of the previous variables.

Users of financial reports assert that the financial results produced by traditional manual systems lacks reliability, relevance and timeliness for decision making relative to highly automated systems; therefore, there were a continual wish by all users to be yield with fast, transparent, high-quality and complete information that provide them with sufficient knowledge to conduct decision. Review for the last row in table 3; the responses confirmed that a high-quality of financial information are conveyed to users; the values of all means for all paragraphs, ranged between 3.91 and 4.17, which ascertain that AIS in financial sector companies delivers high-quality financial information and reports, the mean of all paragraphs as reported was 4.07, this indicates that accounting systems in sampled companies provides transparent, relevant, understandable and reliable information to decision makers.

To ensure the individual impact for the six components of AIS on the strength and usefulness of reported financial information (H1-1 to H1-6), the simple regression results (see table 4) screen this impact. Similar to Selase and Selase (2019) findings; our results for the impact of availability of computer competencies on the quality of financial reporting (Hypothesis1-1), was proved positive, this component alone explained about (Adj. R Square = 0.253) 25% of the quality of financial reports; this result is supported by the significance of T-value which was 5.967 and F-value that scored to 35.600, which validates the model appropriateness and significance; this conclusion is also supports by the conclusions of Salehi and Torabi (2012). The impact for the availability of the computerized system infrastructure on quality of financial data (Hypothesis1-2) also was approved significant alike to (Kurfi, 2017; Amankwa et al., 2020); the availability of infrastructure as a single component explained about 26% (Adj. R Square = 0.254) for the change in quality and usefulness of the financial reports;

this result approved its importance by the t-value (6.113); furthermore, the model also seemed valuable and statistically significant where F-value was 35.710, moreover, this result affirms the power for computerizing infrastructure on the efficiency of financial reports disclosed by AIS. Equally, the influence for software and programs on robustness of financial reports (Hypothesis 1-3) was established positive; this component alone explained 43% of the goodness of financial information, the value of Adj. R Square scored 0.433, Also, the values for both of coefficient and t-value were significantly positive and maintained this influence; these results agrees with (Callao, et al., 2007; Paglietti, 2010) implications. The equation for H1-3 verified its suitability as the value of F was significant and scored 78.900. The additional review of table 4; results for sub-hypotheses 4 through 6, all of these hypotheses were also significant; the impact of these three components (procedures' and controls; inputs, processes and storage; automated outputs) were positive on knowledge robustness of financial reports, these results were consistent to the contributions of (Chidoko and Mashavira, 2014; Okour, 2016; Patel, 2015); the Adj. R Square for the three variables were (0.314, 0.334 and 0.536 respectively); all of three hypotheses was validated by the significance of t-values and f-values. Consequently, and after detailed evaluation of simple regression results we note that all of our results were in line with (Nwinee et al., 2016; Susanto, 2015) results that were in favor for the positive relationship between the AIS six components and knowledgeability of financial reporting.

The preceding depth review and discussion of all results obtained from all statistical analysis methods; the arithmetic means, simple and multiple regression, explanatory power and fitness of models are summarized in table 6; according to all of these results an empirical sufficient evidence was accumulated to accept or reject the presumed hypotheses of the study. And grounding on these statistical results the following conclusions are recognized: firstly, the arithmetic means results for all suggested six components of AIS were found available. Secondly, the knowledge robustness of financial reports was also available due to the presence of these elements. Thirdly, the results of simple regression for the single impact of each AIS component on quality and usefulness also was approved significantly positive. Lastly, the results of multiple regression for the joint impact for all AIS components on the knowledge robustness also was established its validation. Accordingly, and grounding on the summary of all these results both the predetermined main hypothesis and all of the six derived sub-hypotheses were verified for its accurateness and ascertained for the influence of the independent variables on the dependent variable.

Table 6 validation of hypothesis

hypotheses	Adj. R ²	Mean value	F-value	T-value	Sig.	decision
H1	0.699	4.071	135.442	All >1.98	0.000	accepted
H1-1	0.253	3.632	35.600	5.967>1.98	0.000	accepted
H1-2	0.254	3.962	35.710	6.113>1.98	0.000	accepted
H1-3	0.433	4.127	78.900	8.883>1.98	0.000	accepted
H1-4	0.314	4.228	47.706	6.907>1.98	0.000	accepted
H1-5	0.334	4.086	52.073	7.216>1.98	0.000	accepted
H1-6	0.536	4.033	118.783	10.899>1.98	0.000	accepted

Source: *Own Compilation*

Practical Implications

The outcomes of our research offers some implications that are helpful for sustainability of solid accounting information system in different settings. The adopted model revealed how the maintenance of essential information system fundamentals supports the robustness of knowledge that enhance the decision making process for companies; further, the model suggests that companies are capable to enhance performance metrics by a complete set of system interacted efficient components that upsurge the confidence of owners, creditors and any potential user of AIS financial outputs. Moreover, managers through cohesion systems are more capable to increase the transparency and reliability of company reported outcomes in addition to reduction of future uncertainties and risks. Our implications also include that the availability of complete fundamentals of AIS strengthen the communication level among company divisions by facilitate the accessibility to data and information necessary for work.

CONCLUSION

The major motive for the study was to examine the effect for efficient accounting information system components on the knowledge robustness of accounting financial reports. The study was applied on the Jordanian financial sector through the use of a questionnaire that was submitted via e-mail to a sample of 280 respondents in 70 companies; accountants, auditors, financial managers, and specialists of internal control working in different company of financial sector were selected as a sample due to their direct work and knowledge in accounting information system. The data were collected, organized and tested by several statistical methods such as descriptive statistics, arithmetic mean, simple and multiple regression.

The study achieved several results; the six main elements of the accounting information system were found available and knowledge robustness in financial reporting was also available due to the availability of these essential elements. The study also proved through the results of simple regression that, there is a single positive influence for each component of the accounting

system on the quality and robustness of accounting financial reports as the results of t-values and F-values indicated. Furthermore, similarly the values of multiple regression established an evidence for the joint positive impact of all components of AIS on the knowledge robustness of financial reports.

Even though the present study was an exceptional in nature for our region and succeeded to accomplish its preset objectives, but every study has limitations. One limitation is referred to the selected sector for the study, despite that financial sector is regarded from the most efficient economic sectors in our environment with its early adoption for accounting systems, other economic sectors also worth similar investigation on this issue. Another limitation is donated to the use of financial reports only to evaluate the cohesion of AIS components; therefore, future research on this topic can expanded to include larger sample by including other sectors such as industrial and service sectors, also researchers might utilize other factors rather than financial reports such as costs, internal operations, customer service, inbound and outside logistics response variable to accounting information system.

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