

THE ROLE OF ACCOUNTING INFORMATION SYSTEMS (AIS) IN INCREASING PERFORMANCE EFFICIENCY (IPE) IN JORDANIAN COMPANIES

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ABSTRACT

An accounting information system (AIS) is a method of keeping track of a company's accounting and commercial activities. The purpose of this research is to look into the role of the accounting information system (AIS) in increasing performance efficiency (PE). The relationship between the accounting information system (AIS) indicated by verifiability (VE), accuracy (AC), and reliability (RE), and increasing performance efficiency (IPE) in Jordanian companies is investigated in this quantitative study. Participants were given questionnaires to gauge their perceptions of the AIS's involvement in IPE. The study sample consisted of 55 Jordanian companies. This study analysed the data using the (SPSS) program, and the results revealed a statistically significant relationship (at the significance level ($\alpha \leq 0.05$) between the AIS represented by VE, AC, and RE and PE. This means that the AIS provides accountants with relevant information, information that assists them in checking the outcome of planned actions, information that is reliable, and opportunities to improve their work. Furthermore, the AIS contribute to data integrity and IPE.

Keywords: Accounting Information System (AIS), Verifiability, Accuracy, Reliability, Increasing Performance Efficiency (IPE).

JEL Classification Code: M41, M49, M00, P17, L25

INTRODUCTION

Accounting information systems comprise a mixture of principles, practices, and theories associated with accounting, information, and systems. Further, AIS operates based on the established rules, regulations, methods, procedures, and techniques explained in Al-Dalaïen & Khan (2018), where the AIS gathers, saves and processes financial and accounting data to provide reports that managers and other stakeholders can use to make business decisions, to assist business management in enhancing performance efficiency (Fidel, 2007). As a result, the accounting system must be designed to give essential information at a fair cost. The accounting system's data must be collected and examined. Into a collection of reports that may be used to present a company's financial results and condition, as well as to provide more specific financial reports (Al-Ramahî, 2008). AIS is a computer-based method used by businesses to gather, store, and process accounting and financial data, which is then utilized by internal users to generate reports for various stakeholders, such as creditors, investors, and tax authorities (Amidu et al., 2011). Decision-makers can receive relevant information from AISs and utilize it in decision-making and strategy development to help the firm accomplish its goals and objectives and improve its performance (Amidu et al., 2011).

To assure and maintain the quality of accounting information, managers must commit to and execute particular activities, such as controlling the input data and data processing process (Ganyam & Ivungu, 2019). Organizations must provide appropriate training to employees who use new technologies to improve their talents, thus increasing their performance as well. Management commitment has a big impact on the AIS's quality and helps managers make better decisions. Each firm is working towards cost-cutting through the application of digitalization in the era of digitalization. AIS has aided in the reduction of physical labor and the cost-effectiveness of the same procedure (Susanto & Meiryani, 2019). In recent years, information and communication technology (ICT) has become a key component of effective accounting systems and high organizational performance. ICT has been utilized to improve the accuracy of accounting data and the performance of organizations (Taiwo, 2016). As a result, the timeliness of accounting information has improved, allowing accountants to generate reports and conduct operations analysis, which provides management with a clear picture of current operations for increasing performance efficiency (Jarrah & Iskandar, 2019). According to Akanfe (2014), accounting information is a prerequisite for success in all fields, especially in the industrial and service fields, because without an adequate information base, it would be impossible to comprehend and use the information properly (Al Buhaisi & Najm, 2009). As indicated in Stankovic et al. (2012), the firm's superior performance is a reflection of its effectiveness and efficiency in managing its resources for operational, investment, and financing undertakings.

Therefore, this study makes important theoretical and practical contributions. Theoretically, it contributes significantly to the existing body of knowledge for financial managers about the role of AIS in IPE. In particular, it is hoped that the proposed conceptual framework and the findings of the present study can offer a better understanding of factors that affect performance efficiency. Practically, the present research contributed to much better adherence to issues linked to performance, where the findings show that several factors are significantly affecting IPE in companies. The present study could help companies to understand as well as to achieve better knowledge about delivering the successful role of AIS in IPE. Hence, the current research could be important to these companies practically. Also, the present study intends to find the answer to each of the objectives of research as presented below:

1. Identify the role of verifiability in the AIS in IPE in Jordanian companies.
2. Identify the role of accuracy in the AIS in IPE in Jordanian companies.
3. Identify the role of reliability in the AIS in IPE in Jordanian companies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT ACCOUNTING INFORMATION SYSTEMS (AIS)

AIS are a set of interconnected components that work together to gather information, raw data, or regular data, and transform it into financial data for reporting to decision-makers (Taiwo, 2016; Wongsim & Hongsakon, 2015). Many companies have been using the AIS to automate and unify their corporate activities. Many firms' key motivations for adopting the AIS are to improve their organizational efficiency and competitiveness (Jarrah & Iskandar, 2019). As a result, AIS might provide businesses with the necessary capabilities and resources to achieve corporate goals and objectives while also improving performance efficiency (Ganyam & Ivungu, 2019).

Setting up AIS is challenging because each firm is unique in its own way. AIS must be re-evaluated on a regular basis to stay up with changes (Grande et al. 2011). Employees must be

taught a system, which can be costly in terms of time and personnel for businesses. AIS are made up of a variety of components, and nearly all of them are computerized. Some employees may find them difficult to use due to their intricacy (Ganyam & Ivungu, 2019). An employee's understanding of an accounting system can take weeks or months, and most employees still don't fully comprehend the system's capabilities.

Increased understanding of AIS and its use is required for proper and successful use of AIS in order to promote its widespread application in businesses (Awosejo et al., 2014). As a result, AIS is critical to all businesses at various levels in getting the necessary data (Jarrah & Iskandar, 2019). The majority of AIS are computerized. As a result, there is always the risk of losing data due to power outages or system malfunctions (Al-Ramahi, 2008). The financial and accounting data by AIS are crucial to financial managers in assessing the past performance of the organization and in making future plans (Jarrah & Almatarneh, 2021).

There's a potential that all the data in the system will be lost if this happens. Companies prepare for this risk by frequently backing up their files and doing routine maintenance on all computer systems (Susanto, 2013). Anti-virus software is also installed as a precaution. Nonetheless, none of these actions eliminates the possibility of a problem. AISs keep track of a company's financial data for years. When a system crashes, the company suffers a significant setback. All or part of the data has been lost, and there's a chance it'll never be recovered (Jarrah & Iskandar, 2019).

Effective AIS stores and retrieves data using hardware and software. AIS's internal controls are the security mechanisms it has in place to protect sensitive data (Al-Ramahi, 2008). Passwords are one example, but biometric identification is another. Fingerprints, voice, and facial recognition are examples of non-changing human features that could be stored as part of biometric security systems (Ganyam & Ivungu, 2019). Internal controls are required in AIS to guard against unwanted computer access and to limit access to authorized users, which may include some employees (Alawaqleh, 2021).

Verifiability (VE)

Verifiability helps to assure users that information represents exactly the economic phenomena that aim to represent them (Al-Ramahi, 2008). The verifiability concept states that it should be possible for an organization's reported financial results to be reproduced by a third party, given the same facts and assumptions (Adrian-Cosmin, 2015). The verifiability of accounting information is assured by adherence to the rules and regulations related to accounting. Rather, it's about analyzing if the company's accounting results suitable for the facts, based on the assumptions made (Achim, 2009).

According to Hodder et al. (2014), verifiability helps to assure users that information represents exactly the economic phenomena that aim to represent them. The verifiability of accounting information is assured by adherence to the rules and regulations related to accounting. Verifiability means ensuring that information represents what it purports to represent or that the chosen method of measurement has been used without error or bias. Alrjoub (2017) examined the effect of AIS verifiability on performance and found no significant impact of AIS on financial performance. Bukenya (2014), on the other hand, found a positive and significant link between AIS verifiability and financial performance. In light of the above debate, the following hypothesis is proposed:

- H_1 *There is a significant relationship between the VE in the AIS and raising the IPE in Jordanian companies.*

Accuracy (AC)

If all the information about an entity has been reflected in its records, the information is correct. The more accurate the information is, the higher the quality, and the more confidently managers may rely on it in making judgments (Bukonya, 2014). Hanan (2009) explained that the standard must be properly stated so that it does not become vulnerable to interpretation by those who do performance measurement and evaluation. Furthermore, the extent to which the information accurately depicts the circumstance or event it describes determines the degree of accuracy. The level of precision necessary in the data is determined by the user's needs and the nature of the problem (Hanan, 2009).

According to Kohlbeck & Warfield (2010), accuracy is defined as accounting information that strictly adheres to accounting standards, regulations, and subsequent changes to those standards. Jarrah & Iskandar (2019) discovered that AIS features and financial performance have a statistically significant and positive association. The AIS provides accurate data and an opportunity for accountants to enhance their performance. According to Bukonya (2014), accounting information accuracy and financial success have a favorable and significant association. In light of the above debate, the following hypothesis is proposed:

- H_2 *There is a significant relationship between the AC in the AIS and raising the IPE in Jordanian companies.*

Reliability (RE)

If information is free of errors and bias, and faithfully portrays what it tries to represent, it is considered to be trustworthy (Achim, 2009). Users must be able to trust and rely on the information for a certain purpose. To be trustworthy, data must be verifiable, unbiased, and accurate in describing the state of the economy. According to Karuna (2009), in the accounting profession, report reliability is regarded as an important attribute of financial accounting data. The quality of information that allows consumers to safely rely on it is linked to reliability, which means that the information provided is verifiable, faithfully represented, and judiciously error-and bias-free (Karuna, 2009; Khan, 2016).

The term "*reliability*" refers to the information being devoid of inaccuracies and accurately reflecting economic conditions and occurrences. Bukonya (2014) found a link between AIS quality and financial success that was both positive and substantial. Mushtaha et al. (2011) examined the effect of AIS reliability on financial performance indicators and found a positive and significant effect. Considering the above discussion, the following hypothesis is presented:

- H_3 *There is a significant relationship between the RE in the AIS and raising the IPE in Jordanian companies.*

Increasing Performance Efficiency (IPE)

Accounting is one of the most important sciences taught at universities. Education has emerged to serve the learning process and achieve its goals, and increase performance (Al-Tamimi, 2021; Al-Zoubi, 2017). Efficiency signifies a peak level of performance that uses the

least amount of inputs to achieve the highest amount of output. While achieving the required outcome, it reduces the waste of resources such as physical materials, energy, and time (Su & Tsang, 2015). Performance efficiency is also used for making comparisons between companies from different sectors or industries. A company's performance is a reflection of its competitiveness, business capacity, and economic concerns of the company's management. Performance is the extent to which companies can maximize their wealth by maximizing the return on their investments (Su & Tsang, 2015).

The process of identifying a company's operating and financial characteristics using accounting and financial documents is known as performance. For current and future shareholders, performance refers to the company's ability to distribute dividends, whereas for business associates, performance refers to the company's solvency and stability, taking into consideration the dangers that businesses face (Su & Tsang, 2015).

Accounting Information System (AIS) and Increasing Performance Efficiency (IPE)

The intricacy of the factors affecting the company's performance has an impact on the use of AIS and performance efficiency. Furthermore, as a tool for collecting financial data, AIS has an impact on performance via aspects such as the decision-making process, decision quality, and dynamic personnel in the company, as well as efficiency and effectiveness (Bagranoff et al., 2010; Beg, 2018). A firm's performance is the level of achievement or financial success obtained by a company in a given period, whereas an organization's performance is the degree of achievement or success reached by an organization in a given period. Furthermore, the company's level of achievement or financial success is frequently linked to the amount of profit it earns (Awosejo et al., 2014). Also, earnings management includes a wide range that begins with conservative accounting and ends in the extreme state of fraudulent accounting, and their ultimate purpose is to exhibit the desirable status of the firm and provide a positive image of the firm's performance (Mahmoudi et al., 2017).

Businesses involve transactions that generate data for company performance analysis, and successful AIS can improve the speed and quality of such data. The AIS's implementation has an impact on the company's performance efficiency (Bagranoff et al., 2010). The effectiveness of AIS, in particular, can generate financial accounting data that is both valid and dependable (Adrian-Cosmin, 2015). An accounting information system (AIS) is a set of tools and systems designed to collect and display accounting data so that accountants and executives can make educated decisions. AIS is made up of the people, records, and procedures that are used to collect financial data about company events, record them, process them, and convey them to end users and decision-makers. In other words, an accounting system encompasses everything and everyone engaged in the company's financial transactions collection, recording, and organization (Awosejo et al., 2014).

METHODOLOGY

The purpose of this study is to analyze the function of the AIS in enhancing IPE in Jordanian enterprises, and the data was collected using a questionnaire method to examine the relationship between the AIS and IPF. We used the Statistical Package for the Social Sciences SPSS version 25 to analyse the data. Employees working in Jordanian businesses make up the study's sample. In addition, a total of 55 businesses took part in the research. In line with

Bourque & Fielder (2003), a self-administered questionnaire was used as the survey's instrument, which is a popular data collection strategy in survey studies. The complete group of individuals, events, or items of interest that the researcher desires to explore is referred to as the population. The source material or device from which a sample is taken is referred to as a sampling frame. It is a list of all those who can be sampled from a population, which may include individuals, households, or institutions (Castillo, 2009; Sekaran, 2003). Sekaran (2003) recommended using sample approaches in which the sample size is determined by a number of parameters, such as the needed level of accuracy, the number of variables considered, and the statistical instruments used.

Demographic Characteristics (DC)

Table 1 shows the demographic information of the respondents included in the study. Table 1 represents the frequencies and percentages of the demographic variables.

Table 1			
DESCRIPTIVE STATISTICS OF DEMOGRAPHIC CHARACTERISTICS (N=55)			
DC	Categories	Frequency	Percentage
Gender	Male	43	78.1
	Female	12	21.9
	Total	55	100.0
Age	20–30 years	28	50.9
	31–40 years	21	38.1
	40 years and above	6	11.0
	Total	55	100.0
Education	Bachelor's degree	41	74.5
	Master's degree	8	14.5
	PhD	6	11.0
	Total	55	100.0
Experience	Less than 5 years	18	32.7
	from 6-10 years	25	45.5
	from 11-15 years	8	14.5
	More than 16 years	4	7.3
	Total	55	100.0

Table 1 shows the demographic information of the respondents included in the study. As evident from Table 1, (78.1%) responses were received from male respondents, and (21.9%) responses were received from female respondents. Thus, this study's respondents were dominated by male respondents. The age profile indicates that a great proportion of the respondents were middle-aged. The biggest age group was between 20–30 years (28 respondents, representing (50.9%) percent). The respondents were also asked to specify their education level. The results showed that (74.5%) of the respondents had a bachelor's degree, (14.5%) had a master's degree, and (11%) had a Ph.D. Also, the respondents were asked to specify their years of experience, and the results showed that (32.7%) of the respondents had less than 5 years of experience, (45.5%) had an experience of 6-10 years, (14.5%) had an experience of 11-15 years, and (7.3%) had more than 16 years of experience.

Reliability and Descriptive Statistics

Cronbach's alpha was used to determine the study's reliability. Cronbach's alpha is a measure of internal consistency, or how closely a group of things are related to one another. It is regarded as a scale dependability indicator. In addition, the descriptive function was computed using the covariance matrix method in the descriptive analysis to ensure that all variables were included in the study. The composite scores of all the variables were generated by parceling the initial measurement item scores. The sum averages of multiple individual indicator items depending on loadings on the building are referred to as parcels. A 5-point Likert scale was used to determine the mean and standard deviation of the constructs. Table 2 shows the mean and standard deviation for AIS (including VE, RE, and AC) and IPE Table 2: Reliability (Cronbach's Alpha) and Descriptive Statistics. Also, this study examined the average variance extracted (AVE) and specified that all AVE values were greater than the recommended value of (0.50) (Hair et al., 2017), consequently, the convergent validity is satisfied convergent validity as presented in Table 2.

Table 2 RELIABILITY AND DESCRIPTIVE STATISTICS					
Variable	Cronbach's Alpha	Reliability	Mean	S.D	AVE (> 0.5)
VE	0.86	0.85	3.60	1.01	0.64
AC	0.85	0.84	3.77	0.89	0.61
RE	0.92	0.91	3.85	1.84	0.67
IPE	0.82	0.82	3.20	1.90	0.71
Total	0.87	0.87	3.66	1.80	

In Table 2, the greatest Cronbach's alpha score was (0.92) for RE, followed by (0.86) for VE, (0.85) for AC, and (0.82) for IPE, suggesting reliability acceptance. Table 2 also shows that RE had the highest mean (3.85), followed by AC with a mean of (3.77), VE with a mean of (3.60), and IPE with a mean of (3.20).

Varimax Rotation Test

Table 3 FACTOR ANALYSIS LOADINGS OF AIS USING THE VARIMAX ROTATION				
ROTATED COMPONENT MATRIX COMPONENT				
	1	2	3	4
A1	0.72144			
A2	0.69253			
A3	0.66224			
A4	0.68392			
A5	0.58407			
A6	0.39158			
B1		0.436814		
B2		0.44175		
B3		0.55954		
B4		0.51692		
B5		0.51415		
B6		0.59887		
C1			0.59096	

C2			0.52377	
C3			0.70194	
C4			0.77098	
C5			0.77375	
C6			0.75387	

Varimax rotation is a statistical technique used to clarify the relationship between factors at one level of factor analysis. In most cases, the procedure entails changing the coordinates of data obtained by a main component analysis. The purpose of the adjustment, or rotation, is to optimize the variation shared across the elements. The shared variance is maximized, resulting in findings that more discretely portray how data correlates with each primary component. Increasing the squared correlation of items related to one component while decreasing the correlation of any other factor is a common way to maximize variation. In other words, the varimax rotation simplifies item loadings by eliminating the middle ground and determining the factor on which data is loaded more precisely. This is shown in Table 3, the loading of each AIS variable on its domains. The results confirm the validity of the factors:

RESULTS

Multiple regression analysis was utilized to determine the association between the role of the AIS, including the "VE, AC, and RE," and enhancing IPE in Jordanian enterprises. Simple linear regression is expanded into multiple regressions. When we wish to anticipate the value of a variable based on the values of two or more other variables, we utilize this method. The dependent variable is the one we use to make predictions about (or sometimes, the outcome, target or criterion variable). Independent variables are the factors we utilize to predict the value of the dependent variable (or sometimes, the predictor, explanatory, or regress, or variables). As a result, Table 4 reveals:

Table 4 RESULT OF MULTIPLE REGRESSIONS ANALYSIS ON THE RELATIONSHIP BETWEEN THE ROLE OF THE AIS INCLUDING "VE, AC, RE" AND RAISING THE IPE (N= 55)								
Variables	"t" value	"t" sig	β	R	R ²	"F" value	"F" sig	Result
VE	7.105	0.002	0.355	0.904	0.819	355.350	0.01	Supported
AC	6.761	0.000	0.234					Supported
RE	5.410	0.001	0.220					Supported
* IV: (AIS); * DV: (IPE)								

Table 4 reveals a statistically significant link between the AIS encompassing the "VE, AC, and RE" and IPE in Jordanian enterprises at a significance level of (0.05). The "F" value in this case was (355.350) and it was statistically significant (0.01). The value of (R) was (0.904), and the value of (R²) was (0.819) with a t value of (7.105) ($\alpha \leq 0.00$). The VE criterion appears to have a larger influence on raising the IPE. The t value for the AC criteria was (6.761) ($\alpha \leq 0.00$). The t value for the RE criteria was (5.410) ($\alpha \leq 0.00$).

DISCUSSION

The AIS can create a variety of data, including accounting and non-accounting data, to aid management in the management of short-term issues as well as long-term strategic plans

(Kurniawati & Saputra, 2019; Issam, 2012; Matovu, 2005; Klinsukhon & Ussahawanitchakit, 2016; Sahawneh et al., 2016; Budiarto, 2014; Odero, 2014). Jarah & Iskandar (2019) discovered a statistically significant link between AIS features and financial success at the significance level (0.05). According to Bukenya (2014), there is a considerable link between accounting information accuracy and financial performance. According to Sumaryati et al. (2020), the use of an AIS and an internal control system has no impact on the quality of financial statements. The AIS has a good and considerable impact on business performance and environmental performance, according to Susanto & Meiryani (2019). The results by Jarah & Almatarnah (2021) reveal the relationship between the effect of management qualification as a moderating variable between the accounting information system and perceived performance. According to Ha (2020), the AIS improve the operational performance of small and medium-sized businesses.

CONCLUSION

The findings of this study demonstrated a statistically significant link between AIS and IPE in Jordanian enterprises at the significance level (0.05), where the AIS offer access to essential information. It also provides accurate data and a chance for accountants to improve their work. Furthermore, the AIS contribute to data integrity. Where this result is in line with several studies, the researchers concluded that the accuracy, relevance, and reliability of AIS is very important for increasing the performance efficiency of companies. Also, based on the findings, the study recommends that in order to improve quality AIS, companies must employ highly skilled and competent professionals and accountants to generate financial information and have appropriate academic qualifications.

Limitations and Directions for Future Research

In light of the ongoing developments in AIS, it is mandatory to develop methods and procedures for error-free perceived performance in Jordanian companies without mistakes. In this study, they scrutinized the relationship between AIS and IPE. A detailed discussion of the findings of this study is presented. Relevantly, important findings with theoretical and practical dimensions that can be of great assistance were highlighted to address the concerns at the level of the financial managers in Jordanian companies. Based on the findings, it is suggested that additional studies be conducted to establish the impact of other elements, such as the legal and regulatory framework, societal participation, and micro and macroeconomic factors, on increasing company performance.

Implications

The findings of this research are expected to help practitioners to formulate strategies for activity management through the role of AIS in order to IPE. In relation to this, a low level of perceived performance indicates the need for the company to shift to more updated management accounting and internal organizational factors to enhance performance. Therefore, performance in companies can be improved through the information produced by AIS that is more accurate and detailed for internal and external use, effective organization control and fulfillment of the strategic aims and objectives of the organization.

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