

The Influence of Accounting Information Systems (AIS) on Performance of Small and Medium Enterprises (SMEs) in Iraq

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Abstract

The objective of this paper is to investigate the influence use of Accounting Information System (AIS) performance in Small and Medium Enterprises (SMEs) in Iraq. The study discusses and explores the effects of the use of AIS on the performance of SMEs. The result of this study is expected to help the owners and manager of SMEs to understand the importance of the use of AIS to achieve performance. The use of AIS is influenced by several characteristics enjoyed by the accounting information such as: reliability, relevance, and timeliness that effect on SMEs' performance. The result of this study and modern literature shows that AIS characteristics enjoyed by the accounting information such as: reliability, relevance, and timeliness have significant effects on the use of AIS and SMEs' performance. Prior researches have shown that is crucial for SMEs to use AIS to ensure business continuity and survival in the increasingly competitive environment and to enhance their business operations capability and efficiency. The study is one of few that shed light on how the use of AIS affects the performance of SMEs. In this study, the authors propose that dimensions of using AIS are important for improve the performance of SMEs.

JEL Classifications: D21, L21, M41

Keywords: accounting information system (AIS), performance of small and medium enterprises (SMEs)

1. Introduction

Small and Medium Enterprises (SMEs) are responsible for most net job creation and they make an important contribution to productivity and economic growth. They play a significant role in all economies and are the key drivers of innovation and growth (Ali, Rahman, & Ismail, 2012; Harash, Al-Tamimi, & Al-Timimi, 2014a; Harash, Al-Timimi, & Alsaadi, 2014c & d). According to the Organization for Economic Cooperation and Development (2006:21) SMEs are now recognized worldwide to be a key source of dynamism, innovation and flexibility. In the Iraq, they account for over 99 % of all companies. Furthermore, the available data from the Central Organization for Statistics (COS) indicates that 91 % of these enterprises are micro-firms with less than 10 workers. Given their importance in all economies, they are essential for the economic recovery (Harash, Alsaad, & Ahmed, 2013, Harash *et al.*, 2014a, c, & d). In addition, SMEs are very important to the

social-economic development of Iraq (Harash *et al.*, 2013).

SMEs are expected to be an important vehicle to address the challenges of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic development in Iraq (Harash *et al.*, 2014a, c, & d). But despite their significance, SMEs are faced with the threat of failure with past statistics indicating that three out five fail within the first few months (Bowen, Morara, & Mureithi, 2009; Mazanai & Fatoki, 2011). Because the availability of reliable data on SMEs is in general difficult, a private survey is needed to get the data on the use of accounting information system (AIS) (Amidu, Effah, & Abor, 2011; Ali *et al.*, 2012; Ismail, 2007; Ismail & King, 2005; Grande, Estébanez, & Colomina, 2011).

Iraq as the one of the less developed country, witnessed many changes during the last three decades, such as, the chaos of political and economic transformations that followed the invasion by the U.S. In addition, the recent unprecedented changes have affected the country significantly in all segments of Iraqi society (Harash *et al.*, 2013; 2014a, c, & d; Harash, Al-Timimi, Alsaad, Al-Badran, & Ahmed, 2014b) and sector of SMEs in particular. These events changed the basic features of sector of SMEs and the instability and constants changes have become a dominant feature of the sector of SMEs in the Iraqi environment as reflected in the use of AIS which affected the performance of SMEs in the Iraq. We find that the use of AIS is a more significant determinant of company performance in Iraq (Lallo & Selamat, 2013). The review of SMEs literature reveals limited research has attempted to investigate the effect of the use of AIS in SMEs, particularly in the Iraqi context.

This study examined the use of AIS effect on the performance of SMEs. Therefore this study is aimed, based on previous literature, at measuring the relationship between the use of AIS by the SMEs in Iraq and Performance these Enterprises. This study provides value added in accounting literature given the scarcity of works dealing with the relationship between the application and the use of AIS and performance indicators in SMEs in Iraq. It is common knowledge that the main objective of a business is to maximize profit either in terms of improve performance and increases in business productivity or by achieving rapid expansion in market shares domination. To achieve this goal, SMEs need to be responsive to the changes in the environments, in particular to the use of AIS. Nowadays, using AIS is a must in many businesses. It is difficult to gain competitive advantage and survive without some adoption or implementation of this advancement in technological products. Studies have shown that the most widely use of AIS, specifically in financial reporting aspects (Marriott & Marriott, 2000; Riemenschneider & Mykytyn Jr., 2000; Ismail, 2007).

In the previous literature also the use of AIS can play a dominant role in assisting SMEs to performance small and medium enterprises better and stronger. Where, that many researchers (Amidu *et al.*, 2011; Ismail, 2007; Grande *et al.*, 2011) are of the opinion that the role of using AIS is important to enable SMEs to develop performance there (Ali *et al.*, 2012; Lallo & Selamat, 2013). To achieve this goal, SMEs need to be responsive to the changes in the environments, in particular to the information technology revolution. Nowadays, information technology is a must in many SMEs. It is difficult to gain competitive advantage and survive without some adoption or implementation of this advancement in technological products. Studies have shown that the most widely use of information system is to use AIS, specifically in financial reporting aspects (Amidu *et al.*, 2011; Ismail, 2007; Grande *et al.*, 2011). Therefore, this study examines the relationship between use accounting information system and the performance of SMEs.

Previous studies (Amidu *et al.*, 2011; Ali *et al.*, 2012; Ismail, 2007; Ismail & King, 2005; Grande *et al.*, 2011) show that large companies were more likely to use AIS than SMEs, although most of the literature was not specific to SMEs. Large companies are more likely to perform well and are more likely to use accounting information system than SMEs because companies with greater sales and higher revenue from using AIS are better able to cover the costs. These literatures offer scant

evidence of the relationship between these AISs and performance measures; though it is important to highlight the previous studies which discovered a positive association between using AIS and SMEs and SMEs' performance.

2. Accounting Information System (AIS)

As it is known, in the business world there is an increasing dependency on Information technology (IT). This is because of the need to improve business efficiency (Lallo & Selamat, 2013). Al-Jalily and Taha (2010), Lallo and Selamat (2013; 2014), Pathak, (2004), and Salehi, Rostami, and Mogadam (2010) revealed that AIS is interdisciplinary in nature and seems to integrate the fields of accounting and Information Systems (IS). This opinion is supported by Lallo and Selamat (2013, 2014), and Saira, Zariyawati, and Annuar (2010). The authors explained that AISs have been perceived as a means of providing financial information to organization (Mia, 1993). There has been considerable evidence that within SMEs financial accounting has remained the principle source of information for managers (Saira *et al.*, 2010). These studies have also found out that SMEs are still having ineffective information management, poor system control, and most decision making is on ad hoc basis despite having used AIS. Previous literature above reason that this situation could be attributed to the initial objectives of Information Technology (IT) adoption (Salehi *et al.*, 2010). The accounting system original role of replacing manual accounting process (Al-Jalily & Taha, 2010; Lallo & Selamat, 2013 & 2014; Pathak, 2004) has hindered further usage and exploration on the system benefits.

Marriott and Marriott (2000) further concluded that financial awareness among SMEs' managers vary considerably and the use of computers for the preparation of management accounting information is not at its full potential. Research in information systems is well aware that the use of AIS does not directly affect SMEs' performance (Ismail & King, 2005; Saira *et al.*, 2010). The AIS must be used and exploited to achieve its intended objectives. Therefore, before moving towards adopting more sophisticated and advanced AIS; it is important to determine SMEs current usage of existing accounting information system (Lallo & Selamat, 2013, 2014; Pathak, 2004). In this context, Amidu *et al.* (2011), underscoring the strategic importance of using AIS, noted that the use of accounting information could be linked to the success or failure of a small or medium enterprise. In order to survive, SMEs' owners and managers need updated, accurate and timely accounting information (Amidu, 2005).

Accounting systems are responsible for analyzing and monitoring the financial condition of companies, preparation of documents necessary for tax purposes, providing information to support the many other organizational functions such as production, marketing, human resource management, and strategic planning. Without such a system it will be very difficult for SMEs to determine performance, identify customer and supplier account balances and forecast future performance of the organization (Amidu, 2005; Amidu *et al.*, 2011; Ismail & King, 2005; Saira *et al.*, 2010). Using standardized guidelines, the transactions are recorded, summarized, and presented in a financial report or financial statement such as an income statement or a balance sheet. Here, using AISs is viewed as a system that helps management in planning and controlling processes by providing relevant and reliable information for decision making (Gordon & Miller, 1976). It suggests that AIS's functions are not solely for the purpose of producing financial reports. Its role goes beyond this traditional perspective. Generally literature on accounting in the AIS shows that several scholars have investigated the adoption of the system among large companies only. Very little knowledge is known about the evolution of computing in SMEs (Grande *et al.*, 2011).

SMEs' AIS implementation and success have been extensively researched. Recent research development focuses on the relationship between SMEs' performance of with the sue of AIS (Amidu *et al.*, 2011; Ismail, 2007). These studies suggested that there are positive relationship

between AIS and SMEs' performance. A studies conducted by Ismail (2007), Ismail and King (2005), and Saira *et al.* (2010) discovered that the use of AIS will be more efficient if the systems implementation is new information systems with the SMEs' performance.

This argument is supported by Grande *et al.* (2011) asserting that the use of AIS proves to have positive impact on SMEs' performance. In addition, Ali *et al.* (2012) highlighted the importance of having a good fit between the use of AIS and efficient of the SMEs' performance. The mismatch between what is needed by the firms and service offered by the AIS will yield poor performance. Nevertheless, Ismail and King (2005) also added that sophisticated the use of AIS aligned with ineffective performance measure will yield lower performance outcome. This raises the need for careful planning and strong justification process to be undertaken before firm reaches the decision to implement an AIS. This issue is more profound within SMEs due to their limited resources and experience in using AIS (Amidu *et al.*, 2011; Ismail, 2007; Grande *et al.*, 2011).

AIS's definition is 'a system that processes data and transactions to provide users with information. They need to plan, control and operate their businesses' (Saira *et al.*, 2010). According to Lallo and Selamat (2014) and Saira *et al.* (2010), they define an AIS as 'a system that processes data and transactions to provide users with information. They need to plan, control and operate their businesses'. Here, AIS is viewed as a system that helps management in planning and controlling processes by providing relevant and reliable information for decision making. It suggests that AIS's functions are not solely for the purpose of producing financial reports. Its role goes beyond this traditional perspective. AIS should be utilized to include planning and managing business activities. It could also be used as a controlling mechanism such as budgeting. Therefore, full adoption of the system is essential to fully attain the system's benefits.

Prior researches have shown that information system adoption did increase companies' performances and operations efficiency especially in big company (Saira *et al.*, 2010). AIS is a tool which, when incorporated into the field of Information and Technology systems (IT), were designed to help in the management and control of topics related to companies' economic-financial area (Salehi *et al.*, 2010). AISs also provide information on both actual and budget data which would help company to establish, plan, and control operation (Grande *et al.*, 2011). Good management of resources and better control of expenditure, budgeting and forecasting enhance the wellbeing of company (Saira *et al.*, 2010).

AIS refers to collection, storage and processing of financial and accounting data to help managers to make planning, controlling and evaluating (Emeka-Nwokeji, 2012; Saira *et al.*, 2010). AIS also refers to perceiving of user information satisfaction to decision making and monitoring when company has coordination and control with information that is produced from AIS (Islam, Khan, Obaidullah, & Alam, 2011). AIS is one of an important component of modern information system (IS) (Abdallah, 2014).

The use of AIS is certainly played an important role that contributes to company's value added by providing internally generated input i.e. financial statements, such into should help company made better strategic plan (Sori, 2009). Developments in the areas of accounting and information system (IS) over the last decades of twentieth century have widened the range and roles of AIS (Abdallah, 2014; Emeka-Nwokeji, 2012). One issue that remains is whether adopters of the use of AIS make maximum use of the system. Marriott and Marriott (2000), Amidu *et al.*, (2011), and Grande *et al.* (2011) noted that SMEs used AIS for the preparation of management accounting information, but usually not to their full potential. It is therefore important that the research in the use of AIS is not limited to adopters and non-adopters, but that for even adopters the extent to which AIS is used to the maximum be studied.

In short, AIS is one of information systems that produce many amounts of data for use by decision makers both within and outside organizations. SMEs' managers need to exploit accounting

information for job success of their organizations (Ismail, 2009; Dastgir, Jamshidian, & Jadidi, 2003). Therefore, job success must be obtaining reliable, relevant and timely accounting information for decision making (Saira *et al.*, 2010). In other words, effectiveness of AIS is reliability, relevance, and timeliness. In measuring AIS the study suggests that no one measure of the use of AIS should be taken on its own and to obtain a true measure of how a company is using AIS, different measures should be used together on the basis of previous studies (Ismail & King, 2005; Salehi *et al.*, 2010; Sori, 2009; Grande *et al.*, 2011). Therefore, in this study the use of AIS in SMEs is measured by Characteristics enjoyed by the accounting information (reliability, relevance, and timeliness) items as profitably applied to area of major concern to the SMEs, is widely used.

3. Performance of Small and Medium Enterprises (SMEs)

In recent years, firm performance has received considerable attention as a substantial academic subject for investigating SMEs in the financial and management literature. Researchers and academicians have chosen different approaches for the exploration of this issue. In the previous studies, the effects of using AIS have analyzed on SMEs' performance by financially and non-financially.

According to literature defining performance is a challenge across the world. Performance and success have been defined in various ways in the literature, and in any business, the related parties always want to see good performance in their business (Harash *et al.*, 2014a, b, c, & d). A wide variety of definitions of company performance have been proposed in literature (Ajanthan, Balaputhiran, & Nimalathashan, 2013; Korir & Imbaya, 2013; Uadiale & Fagbemi, 2012). literatures (Anderson & Reeb, 2003; Ittner & Larcker, 2003; Juhl, Kristensen, & Østergaard, 2002; Petersen & Schoeman, 2008; Özer, 2012; Sacristán-Navarro, Gómez-Ansón, & Cabeza-García, 2011; Selvarajan *et al.*, 2007; Thrikawala, 2011; Watson, 2007) defines performance as a measure of how well a company can use its assets from its primary mode of business and generate revenues. On the other hand, in the modern literature defines performance as the results of the activities of a company or investment over a given period. Performance can also be defined as the accomplishment of specified business objectives measured against known standards, completeness and cost (Davis & Cobb, 2010; Özer, 2012; Sacristán-Navarro *et al.*, 2011; Thrikawala, 2011).

Performance is so common in research about SMEs management that its structure and definition is rarely explicitly justified; instead its appropriateness, in no matter what form, is unquestionably assumed (March & Sutton 1997). Performance can also be defined as the accomplishment of specified business objectives measured against known standards, completeness and cost (Davis & Cobb, 2010; Özer, 2012; Sacristán-Navarro *et al.*, 2011; Thrikawala, 2011).

The performance is the result of strategies the company employs to achieve market-oriented and financial goals (Harash *et al.*, 2014a, b, c, & d). The level of success of a company within the SMEs sector is measured through its performance based on a selected period of time. In business studies, the concept of success is sometimes used to refer to a company's performance (Islam *et al.*, 2011). Given that SMEs often play a significant role in improving the economy of a country and leads to economy development globally, this puts performance as one of the key issues for SMEs where management is concerned. Usually a company's performance is seen from the extent it manages to achieve its purposes and goals (Harash *et al.*, 2013).

Various scholars have attempted to provide a clear definition of performance, but they had yet to come to an agreement over a common definition, particularly regarding some aspects of terminology issues, analytical levels, and the conceptual basis for assessment (Harash *et al.*, 2013). Performance of a company can be defined in various ways depending on the questions in mind when we inquire about a company's performance. The findings of many studies have not managed

to provide a common definition to indicate or ascertain performance (Harash *et al.*, 2014 a, b, c, & d).

Regardless of the differences among researchers on what the definition of performance is, they agree that it is generally associated with expectations for success (Davis & Cobb, 2010; Harash *et al.*, 2014 a, b, c, & d; Islam *et al.*, 2011). According to Richard, Devinney, Yip, and Johnson (2009) performance encompasses three specific areas of company outcomes: (i) financial performance (profits, return on assets, return on investment, etc.); (ii) market performance (sales, market share, etc.); and (iii) shareholder return (total shareholder return, economic value added, etc.).

SMEs' performance may be measured using objective, subjective, or operational measures. According to Previous studies Ittner and Larcker (2003), Juhl *et al.*, 2002, Petersen and Schoeman, (2008), and Selvarajan *et al.*, (2007), the study suggest the goal approach as a composite measure of SME performance. The goal approach measures performance using financial (objective) and non-financial measures (subjective) measures (Dowling & Helm, 2006; Thrikawala, 2011; Watson, 2007). According to these literatures financial measures of performance can be referred to as the results of a company's operations in monetary terms. Financial measures of performance are derived from the accounts of a company or can be found in the company's profit and loss statement or the balance sheet. In addition, financial measures are also referred to as objective measures because they can be individually measured and verified. However, it is essential to introduce non-financial measures of performance in conjunction with financial measures in order to fully measure performance (Ittner & Larcker, 2003; Juhl *et al.*, 2002; Petersen & Schoeman, 2008; Selvarajan *et al.*, 2007). The non-financial measures are also known as the subjective performance measures of performance (Petersen & Schoeman, 2008). Non-financial measures are measures not found in charts of accounts of a company (Ittner & Larcker, 2003; Selvarajan *et al.*, 2007). The use of non-financial measures of performance supplements accounting measures and gives data on progress relative to customer requirements or competitors and other non-financial objectives that may be important in achieving profitability (Ittner & Larcker, 2003; Juhl *et al.*, 2002; Selvarajan *et al.*, 2007).

In the modern literature, researchers have utilized measures financial and non-financial, as the most important this measures in the measurement of SMEs' performance. The study suggests that no one measure of performance should be taken on its own and to obtain a true measure of how a company is performing, different measures (financial and non-financial) should be used together on the basis of previous studies (Anderson & Reeb, 2003; Bhagat & Bolton, 2008; Davis & Cobb, 2010; Dowling & Helm, 2006; Ittner & Larcker, 2003; Juhl *et al.*, 2002; Petersen & Schoeman, 2008; Sacristán-Navarro *et al.*, 2011; Selvarajan *et al.*, 2007; Thrikawala, 2011; Watson, 2007). Therefore, in this study Performance measuring SMEs is measured by financial measures (Return on Assets (ROA), Return on Equity (ROE), Sales growth, and Profitability growth) and non-financial measures (Employee growth, Customer satisfaction, Satisfaction with performance compared to competitors, and Overall satisfaction) items as profitably applied to area of major concern to the measuring SMEs, is widely used by one or more users, and improves the quality of their performance.

4. Contingency Framework

This study investigates the impact of using AIS on performance of small and medium enterprises (SMEs) in the Iraq. The conceptual framework of this study below shows the relationship between the variables under study. The independent variable is the use of AIS and the dependent variable is the performance of SMEs. The model describes the effective mechanism of the use of AIS on performance of SMEs. It shows how the dimensions of the use of AIS impact the aspects of performance SMEs. Based on their underlying rationale, the following sections present the detailed

proposition related to these relationships.

Many researches stress the importance of the use of AIS as a strategy to improve performance of SMEs and sustainable competitive advantage for SMEs (Ismail & King, 2005; Lallo & Selamat, 2013; Lallo & Selamat, 2014; Pathak, 2004; Saira *et al.*, 2010). In Figure 1, the conceptual model proposes how the use of AIS impacts on the performance of SMEs. In order to exam the proposed relationships between the use of AIS and the performance of SMEs. Therefore, this paper posits the hypothesis as follows:

The performance of small and medium enterprises (SMEs) will vary with the choice of accounting information system (AIS) adopted.

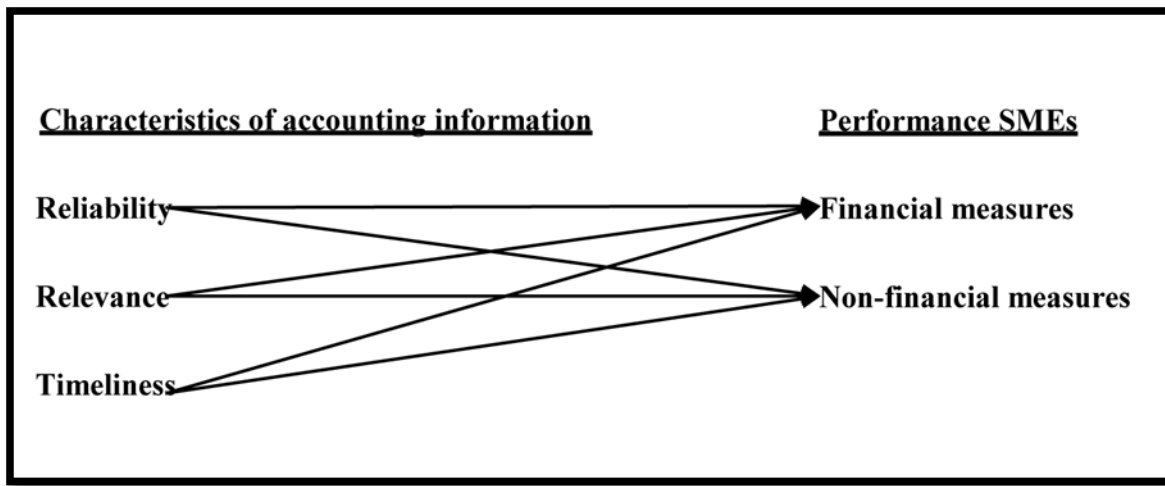


Figure 1. Proposed theoretical framework

5. Conclusion

The most common form of business organization is SMEs in the world. SMEs have different characteristics which separate them from the large, companies by diverse shareholders, and these characteristics may result greater efficiency and higher profitability than other companies. The use of AIS is one of the most important indicators for SMEs sustainability. In the literature, there is no study focusing on relationship between the use of AIS and the performance of SMEs in Iraq, and this article is an example to fill this gap. The objective of this study is to investigate the effect of the use of AIS and the performance of SMEs in Iraq. Most previous studies on the AIS and the performance were focus on the data of large companies. Our study is one of the few that shed light on how companies use AIS to affect the performance of SMEs.

Conceptually, the study indicate the performance of SMEs vary with the choice of the AIS they adopted. The study indicates also that the previous literature investigated factors that influence the use of AIS in SMEs. Both authors generally agreed that SMEs using AIS were mainly influenced by the perceived benefits of implementing the systems and stems from the pressures received from competitors, customers, and suppliers to ensure business continuity and survival in the increasingly competitive environment. Many SMEs use AIS aiming at collecting more information to assist decision making performance which will eventually lead to improve efficiency and SMEs' profitability and performance there. Studies showed that SMEs' that acquire extensive AIS resources are able to create competitive advantage. Nevertheless, prior researches have difficulty providing evidence on positive relationship between the use of AIS and SMEs' performance.

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