

Efficiency of Accounting Information System and Performance Measures – Literature Review

Dr. Daw Hla¹ and Susan Peter Teru²

¹Faculty of Economics and Finance, Department of Accounting and Finance, University Malaysia Sarawak

²Phd Student, Department of Accounting and finance, Faculty of Economics and Business, University. Malaysia Sarawak

Accepted 20 Sept 2015, Available online 26 Sept 2015, Vol.3 (Sept/Oct 2015 issue)

Abstract

Accounting information system had been widely used by many organizations to automate and integrate their business operations. The main objective s of many businesses to adopt this system are to improve their business efficiency and increase competitiveness. The qualitative characteristic of any Accounting Information System can be maintained if there is a sound internal control system. Internal control is run to ensure the achievement of operational goals and performance. Therefore the purpose of this study is to examine the efficiency of Accounting Information System on performance measures using the secondary data in which it was found that accounting information system is of great importance to both businesses and organization in which it helps in facilitating management decision making, internal controls, quality of the financial report, and it facilitates the company's transaction and it also plays an important role in economic system, and the study recommends that businesses, firms and organization should adopt the use of AIS because adequate accounting information is essential for every effective decision making process and adequate information is possible if accounting information systems are run efficiently also, efficient Accounting Information Systems ensures that all levels of management get sufficient, adequate, relevant and true information for planning and controlling activities of the business organization.

Keywords: Accounting Information System, Businesses, Internal Control, Efficiency, Effectiveness Organization, Performance, Organization, Management, And Secondary Data.

Introduction

Accounting information system is a computer based system that increases the control and enhances the corporation in an organization. In managing an organization and implementing an internal control system, the role of accounting information system is very crucial Nicolaou (2000). The qualitative characteristic of any Accounting Information System can be maintained if there is a sound internal control system. In any AIS environment, the qualities of internal controls adaptation affect operations and management and in turn influence internal control system. Internal control is run to ensure the achievement of operational goals and performance. Wilkinson et al (2000), the main function of accounting information system is to assign quantitative value of the past, present, and future economics events. AIS through its computerized accounting system produces the financial statement namely, income statement, the balance sheet, and cash flow statement. Normally, the system will process the data and transform them into accounting information during input, processing and output stages that can be used by a variety of users like

the internal and external users. Therefore, if companies are able to adjust their computerized techniques of internal control mechanism according to AIS, they will be able to ensure the reliability of financial information processing and boost the control measures of effectiveness of the financial information reliability. When the controls are used properly there will be better operating effectiveness and efficiency which will result in better financial information reliability. Managers at various levels need AIS to make decisions in internal controls (U. Hoitash and Bedard 2009).

Efficiency and Effectiveness of Accounting Information System

Toposh K. (2014) asserted that other qualitative characteristics of accounting information can also be maintained if there is sound internal control system in an organization. Internal controls are procedures set up to protect assets, ensure reliable accounting reports, promote efficiency and encourage adherence to company policies. Internal controls are essential to achieve some objectives like efficient and orderly conduct of accounting

transactions, safeguarding the assets in adherence to management policy, prevention of error and detection of error, prevention of fraud and detection of fraud and ensuring accuracy, completeness, reliability and timely preparation of accounting data. If good internal control exists in any organization, management can use information with greater reliance to maintain their business activities properly which provide AIS. But if internal control is not strong, management cannot achieve its goal. The study by Topash (2014) also found that the following criteria or indicators are supposed to be present in any accounting information system for it to be efficient in any organization which is, cost effectiveness, good documentation, existence of proper security measures, independent internal and external audit, separation of other operation from accounting, and effective internal control.

Marshal and Romney (2015) alleged that developing an internal control system requires a thorough understanding of information technology (IT) capabilities and risks as well as how to use IT to achieve an organizational control objectives. Accountant and systems developers help management achieve their control objectives by (1) designing effective control systems that take a proactive approach to eliminating systems and detect, correct, and recover from threats when they occur. (2) making it easier to build controls into systems at the initial design stage than to add them after the facts. They also alleged that internal control perform the following important functions;

- *Preventive controls*: which deter problems before they arise. Examples include hiring qualified personnel, segregating employee duties, and controlling physical access to assets and information.
- *Detective control*: which discovers problems that are not prevented. Example, duplicate checking of calculations and preparing bank reconciliations and monthly trial balances.
- *Corrective control*: which identifies and correct problems as well as correct and recover from the resulting errors. Examples include maintaining backup's copies of files, correcting data entry errors and resubmitting transactions for subsequent processing.
- *General control*: controls designed to make sure an organization's information system is stable and well managed. Example, includes security infrastructure, software acquisition, development and maintenance control.
- *Application controls*: Controls that prevent, detect, and correct transaction error and fraud in application programs. They are concern with accuracy and authorization of data captured, entered, processed, stored, transmitted to other system and reported.

Accounting information system is considered as important organizational mechanism that is critical for

effectiveness of decision management and control in organizations. Daft (1983) defined organizational effectiveness as the degree to which organization realized its goals. Oguntimehin (2001) said that organizational effectiveness is the ability to produce desired result. Wilkinson (2000) noted that an effective accounting information system performs several key functions such as data collection, data maintenance, data information accounting systems and knowledge management, data control (including security) and information generation. (Avolio, Gilder, and Shleifer 2001) defined efficiency as the optimal use of available resources in order to achieve value added in the organization, value chain. Thus the efficiency means the achievement of the goals at the lowest possible cost (Abdullah and Qattani 2007). While other researchers such as Hassani and Kharabsheh (2000) defined effectiveness as the relationship between achieved goals and planned goals. In other words, it could be quantified as a ratio to show the effectiveness of an entity.

There are many factors that affects the efficiency and effectiveness of accounting information systems such as qualified human resources, software and hardware and data bases. Thus, the accounting information systems combined from these three factors, if any system has to be effective it should include a combination of well qualified human resources, the best software, and hardware and databases. (Ramly, 2011).

Hafnawi (2001) stated that the accounting information system has to possess the following characteristics to be effective and efficient:

1. Accurate
2. Timely.
3. Provide administration by necessary information to achieve control and evaluation of the economic activities.
4. Provide administration by necessary information that helps them in planning.
5. Provide administration by feedback
6. Flexible to suit the environmental changes.

Accounting Information System and Data Quality

Accounting information system (AIS) output depend on the quality of data, garbage in garbage out is the result of poor data quality, and therefore data quality is important to AIS (XU, 2003). All data production processes (data collection, data storage, and data utilization) must work properly in order to achieve high data quality (Lee and strong 2003). According to (Xu 2009), inaccurate and incomplete data may damage competitiveness of firms. They also found out that that input control and competent employees are important to data quality of accounting information system.

Poor information quality may have adverse effect on decision making (Huang, Lee, and Wang 1999). Quality of accounting information can be evaluated by four attribute, Accuracy, timeliness, completeness, and

consistency (Xu 2003) they examined critical success factors for accounting information quality, they identified and interviewed four groups namely (information producers, information custodians, information consumers and information managers). They found and suggested that organizational issue, system and human issue, are very much important to accounting information quality.

(Rahayu 2012) examined the influence of management commitment on data quality and AIS. He finds out that management commitment and quality of data together have adequate effect on the accounting information system, although he suggested that contribution of management commitment need to be improved and also to management adequacy training and funding of resource development need to be considered by organizations.

AIS and Performance Measures

Accounting information system implementation and success have been comprehensively researched but the contemporary literature shows slight evidences of the relationship between Accounting Information System (AIS) and performance measures. AIS can positively impact on organizations by the following; better adaptation to a changing environment, better management of arm's length transactions and a high degree of competitiveness. There is also a boost to the dynamic nature with a greater flow of information between different staff levels and the possibility of the new business on the network and improved external relationships for the firm, mainly with the foreign customers accessed through firms web (Elena et al 2010). With the existence of more intercommunication, there are increased chances for diversification of traditional businesses to improve firm's performance. Ogah (2012) reveals that high level of profitability is not dependent on the use of accounting information. The low explained variability implies that other variables apart from AIS positively impact on the bank's profitability. This is true as the employment of AIS if not supported with necessary and enabling facilities to make it functional becomes monumental, which may affect the bank's operation process.

Thus, the successful integration of AIS will depend on how well other factors are efficiently put in place to facilitate its operation. Similar opinion has been echoed by scholars, for instance, Markus and Pfeffer (1983) asserted that the successful implementation of accounting systems requires a fit between three factors such as perception of the organization concerning the situation, the accounting system must fit when problems are normally solved and the accounting system must fit with the culture, i.e. the norms and value system that characterize the organization. Grande *et al.*, (2011) argued that IT is readily available and using them gives no competitive advantage for achieving improved results.

They argued that many firms have invested in IT but they do not succeed in attaining the established performance goals. This therefore implies that AIS can only be useful in organizational operations when appropriate factors are put in place and operated harmoniously.

Review of Related Literature

Accounting literatures argues that strategic success is considered an outcome of accounting information system (AIS) design (Langfield-Smith, 1997). Recently, several studies have asserted that AIS plays a proactive role in the strategy management, acting as a mechanism that enables organizational strategy (Chenhall, 2003, Gerdin and Greve 2004). Present study assumed that organizational performance is a function of the financial performance, performance management, and accounting information system. Fitness will exist in the combination of strategy and AIS that contribute to financial performance (Zejac and Pearce, 1990). Several studies have analyzed the role of AIS in strategic management, examining the attributes of AIS under different strategic priorities (Ittner and Lacker, 1997, Bouwens and Aberneth, 2000). It has also been analyzing the effect of performance of the interaction between certain types of strategies and different design of AIS (e.g. different technique and information). The appropriate design of AIS supports business strategies in a way that it increases the organizational performance (Chenhall 2003). (Elena et al 2010) asserts that increasing AIS investment will be leverage for achieving a stronger, more flexible corporate culture to face persistent changes in the environment.

Innovation is the incentive with which a virtuous circle will be put in place leading to better firm's performance and a reduction in financial and organization obstacles while making it possible to access capital market. Prior researches have shown that accounting information system adoption does increase firm performance, profitability and operations efficiency in Malaysia, Spain, Finland, Pakistan, and Iran. (S.kharuddin, Z.Ashhri and Nasir, 2010; E. Gande, R.Estebanez and C. Colmina, 2010; Gullkvist, B 2002; R.kouser, A Awan, G.Rana and F.Shahzad, 2011. According to (Damanpour and Gopalakrishan, 2001) despite some authors postulates the direction of the cause effect relationship, the companies can achieve a high performance when they can afford the implementation of certain technological development. There are studies which obtain a positive relationship between investment in IT and economic profitability, financial profitability and value added (Menachemi *et al.*, 2006; Huang and Liu, 2005; Ravichandran and Lertwongsatien, 2005; Verhees and Meulenber, 2004.

Nevertheless, other research shows that no clear relationship exists between this type of investment and the performance indicators. (Dibrell *et al.*, 2008; Bharadwaj, *et al.*, 1999; Rai *et al.*, 1996). These authors argue that, currently, IT is readily available and using them gives no competitive advantage for achieving

improved results (Powell and Dent-Micallef, 1997). Similarly, they maintain that many firms have invested in IT but they do not succeed in attaining the established performance goals. Although research on the IT-performance ratio is more abundant in large-sized firms, the analysis of the impact on smaller-sized ones becomes particularly important because investment in these technologies may give them a competitive advantage and the chance to position themselves to achieve better results since they are more flexible and have better response capability (Pérez *et al.*, 2010; Tanabe and Watanabe, 2005;; Larsen and Lomi, 2002). Other researchers indicate that firm performance drops just after the implementation, taking so many years to realize the benefit from IT adoptions.

Perez, Raquel, and Clara (2011) explored the impact of accounting information system (AIS) on performance measures, with an empirical evidence in Spanish small medium enterprises (SMEs). The research study was based on empirical measures on the relationship between the use of Accounting Information System (AIS) and the small and medium sized enterprises (SMEs) in Spain, and firms improved performance indicators and productivity. The research was carried out based on a survey to ascertain the extent to which development and implementation of accounting information systems had taken place in the small and medium- sized enterprises and afterward an analysis was made on the extent of the impact of the introduction of accounting information system on the improvement of outcome indicators and productivity. Following the stage of research an ANOVA analysis was made to compare measures among the four SMEs samples and results. An interesting result was found that there is a positive relationship between the SMEs that use AIS for fiscal and bank management and better performance measures.

Sarai, Zariyawati, &Annuar, (2010), information system had been widely used by many corporations to automate and integrate their business operations. Many organizations adopt the information system to improve their organizational efficiency and increase competitiveness ability. In achieving their study objective which was the information system impact on firm's performance in Malaysian small medium enterprises, they used panel data to analyze firms performance which they said was more relevant because it contains the necessary mechanism to deal with both inter- temporal dynamic behavior and the individualistic of the firms. Based on their findings, they found that adoption of accounting information systems could provide SMEs with the right capabilities and resources in achieving their objectives, and also found out that the Malaysian governments have allocated special grants to assist SMEs to acquire these systems. Hence they suggested that SMEs should use the opportunity on the grants provided by government to acquire AS and a more advance system like the ERP to make them more competitive. Therefore

result from their study revealed that SMEs that use accounting information system do increase their firm's performance.

Kabiru and Abdullahi (2014), asserted that the use of accounting information is relevant in simplifying issues and in the provision of quality information in the Nigerian banking industry, the use of AIS has also led to the timely and accurate preparations of reports, as customers have limitless access to banking service through the aid of internet banking. The information technology has become a critical business resource because its absence could result in poor decision and ultimately business failure. Their study intend to find out the impact of information system on the Nigeria banking sector in which both primary and secondary data were used and analysis of variance (ANOVA) was used to test the hypothesis. Judgmental sampling method was used to obtain a representative sample of the population. It was found that accounting information technology can improve banks performance by reducing operational cost and by facilitating transactions among customers within the same or different network. The study recommends that the impact of the progress in accounting information technology on banking service should not lead to a very strong increase of cost of their processing, which put in question possibility to achieve economy of scale by Nigerian banks. Also all Nigerian banks should continue to utilize and upgrade their information technology for efficient service delivery and profitability.

Onaolapo and Odetayo (2012) believe that accounting information system has a significant effect on organizational effectiveness with a research study carried out in a selected construction companies in Ibadan Nigeria. The study examined the effect of accounting information system on organizational effectiveness specifically on quality of financial report and decision making. Descriptive and inferential statistics tools were used to analyze the data with the aid of statistical package for social sciences SPSS.ANOVA was used in testing the hypothesis the results showed accounting information system has effect on organizational effectiveness. Recommendations were subsequently made to both the managers of such organizations and government on how to use the AISS known as 'contract-plus –Financial and project accounting' package software can enhance performance in finance department.

Ikhatua, O.J.(2013),conducted a study to ascertain if accounting information contributes to stock volatility in the Nigeria capital market .The study investigated the effect of accounting information on the volatility of stock market returns in Nigeria using GARCH model. The result from models showed that accounting information explains and account for stock volatility in the Nigerian stock market, specifically, information on book values earning per share, and dividend per share is found to be related to stock volatility.

Khurram and Aisha (2014), tested for the value relevance of accounting information and its impact on stock prices, a case study of listed banks at Karachi stock exchange in which the pooled regression technique was used on nineteen private banks, his findings shows that earning per share is more value relevant than book values, while accounting data explains a high proportion of the stock price. The findings show that accounting information system influences the economic decision of users by helping them evaluate past, present and future events.

Haddad and Atmeh (2007) studied the factors relating to information technology and environment affecting the role of accounting information system in decision making strategy in Jordanian industrial companies. The researchers distributed 114 questionnaires to key officers in the Jordanian industrial companies e.g. the CEO, Financial managers, production and marketing managers. The statistical method used by them was t-test, spearman correlation, R square to study the studies hypothesis. Their findings based on their analysis showed that there is a positive relationship between information technology, environment, and accounting information system but did not find a relationship between accounting information and strategic decision making.

Thaer, Laith and Anyam (2014) explored the research study on the factors affecting the effectiveness of accounting information system in Jordanian private higher education. Criterion validity analysis was conducted by using the dependable variable (human resource efficiency, software and hardware efficiency, database efficiency) and the undependable variable Accounting Information Systems efficiency. Pearson correlation was used to quantify the strength of the relationship between the two variables. Their results showed that the human resources, hardware, software and data bases have a positive relationship with the efficiency of AIS. Hakkim (2007) studied the impact of using databases on accounting information in controlling the public sector in which he focused on identifying the weaknesses in controlling function in the system analysis stage. In his findings, he found out that accounting information system is being enhanced by the use of database in designing accounting information system and operation.

Siamak (2012) said AIS is the whole of the related components that are working together to collect, store and disseminate data for the purpose of planning, controlling, coordination, analysis and decision making. He studied on the usefulness of AIS for effective organizational performance on which ANOVA statistical approach was conducted, the objective of the test was to find the relationship between the independent variable and dependent variable. For the purpose of testing the hypothesis, regression analysis was employed. The results of the study showed that although AIS is very useful and have effect on organization performance to listed companies in Dubai financial market, but there is no

relationship between AIS and performance management. Ahmad e-tal (2013) examined the factors that affect accounting information system implementation and accounting information quality, a survey in university Utara Malaysia, which he found out that the relationship between management commitment and data quality are not significantly related to accounting information quality but significantly related accounting information systems and human resources. Questionnaires was used as data collection instrument, to ensure questionnaire reliability, Cronbach's alpha was used as a measure of internal consistency of the questionnaire and a regression analysis was used to test the hypothesis. The study recommends that comprehensive training programs should be organized to get the sufficient knowledge in accounting information system implementation and the importance of data quality, however the study recommends that top management should support AIS implementation to get full benefit of accounting information. According to (Rahayu 2012), the management commitment on data quality together have adequate effects on accounting information system, although the contribution of management commitment to data quality needs to be improved based on their research, and also finds lack of top management adequacy for training and funding for resources development. As the management commitment increase, accounting information system effectiveness improves, management commitment is "engaging in maintaining behaviors that others achieve their goals". Thong, e-tal (1996) believed that if there is low level of top management support, then top management may not involve in aspects of IS Implementation such as the review of the consultant recommendations, participate in decision making, or monitor the project, expect approving the purchase of computer system, furthermore they found out that management commitment increases the effectiveness of information system.

Augustine M, Maurine K, Jian Z.(2014), conducted a research on impact of accounting information on profitability of small scale business in Kampala city in Uganda east Africa. Descriptive method was used, where qualitative data were collected. Secondary data was collected to analyze the impact of accounting information system on profitability level of small scale businesses. The major problem found was that, most small scale businesses do not have accounting information system which always results to low performance levels. The research findings revealed that accounting information plays an important role in our economy and social systems especially in its management and a great works it does in facilitating management decision making process. They also found out that, most small scale businesses do not apply accounting information systems which results into low profit. More so, the finding shows that there is a positive relationship between accounting information system and profitability level of small scale businesses.

The researchers therefore recommend that the government should come up with policies and guidelines that will facilitate the implementation of these systems in the small scale business environment. Such policies should include tax waivers or tax reduction on equipment to be used in these systems. Also policy makers should be provided with information in assessing the relationship between the accounting information systems and profitability of small business, hence making better policies regarding information technology facilities. They also recommend that business organizations to adopt the use of other measures of profitability like cost profit volume analysis since it is more user friendly and easily adaptable in the small scale business.

According to research findings by Cushing and Romney (1984), profitability is the only realistic measures of return from funds invested in the business. It is measured in terms of market share which has been gained over a given period of time. David, H.L. (1983) asserts that profitability ratios like return on sales or profit margin are neglected by small scale businesses because of lack technical know-how which are normally used by business enterprises to ascertain profit proportions on income. It is noted that small scale businesses have difficulties in making performance comparison with other firms to assess its competitiveness. According to research findings by Ogah, I.J (2013) and Saudani, S. N (2012), many small scale businesses do not use Accounting Information System which resulted in poor performance levels as a result of lack of business information records keeping. Furthermore, issues like fluctuation, in demand, or change in customers attitudes towards certain product or services cannot be easily forecasted or easily determined by management Dwinvedi, D.N. (2002) and Mwangi, B.W (2011). Research findings also shows that accounting information systems (AIS) has a direct impact of profitability level of small scale businesses as it speeds in processing data, Data is easily classified in more detailed fashionable way which resulted into time saving. Rahena e-tal (2011), information system are mainly used by many organization to improve efficiency of business activities by automating existing operations. Past researches showed that by adopting accounting information system firm performance can be improved. There is always significant improvement in firm's performance whenever they adopt the AIS. Accounting information system is a superior system that focuses on user orientation. Core objective of AIS is to collect and record data and information that is concern with event that can economically impact on firms. It processes information and communicate this information to both external and internal stakeholders. A research was carried out by them on the effect of Accounting Information System on profitability of Pakistani firms. The study investigated the adapters and non-adapters of accounting information system. Their sample data was taking by using purposive sampling of

some selected public listed companies on Karachi stock exchange .The study used profitability as independent variable which is measured by ROA, Leverage which is quantified using debt ratio, and firm size is measured by taking natural logarithm of total assets, these independent variable is taken on the basis of high availability as determinant of profitability. Their study was to check the overriding role of accounting system on this relation, so Accounting Information acts as the dependable variable in the study. Their findings revealed that firm's performance differs years after years with or without accounting system but similarly, it was shown by the regression analysis that accounting information has a significant relationship on the profitability .They recommended that firms should use enterprise resource planning (ERP) because they have many benefit and they are becoming necessities for business organizations worldwide . Government should take a leading role to initiate ERP training academics so that trained ERP users could be produced who can use them effectively. Awareness should be given to both public and private sectors to use these systems.

Omar A.A and Ali M. (2012) conducted a research on "the impact of Accounting Information System in planning, controlling and decision –making processes in Jodhpur hotels. The descriptive analytic method has been used to collect data by means of a questionnaires distributed to various hotel accountants. After the statistical analysis of the questionnaires, appeared several key findings most of which are that hotels in Jodhpur didn't use the method of accounting information system in planning, control and decision making processes. The study shows that there is no relationship between accounting information system and planning, controlling and decision making in four and five star Jodhpur hotels. The study recommends an increase in the rehabilitation of all cadres and develops the information system at Jodhpur hotels towards the efficient application of accounting information system. The study also recommend that the Jodhpur hotel management should use accounting information system in controlling information to get more relevant , cost effectiveness , accuracy, timeliness and clarity. The study by Sajady PhD, M. Dastgir , PhD, and H.Hashen Najed M.S,(2008) ,under the title " evaluation of the effectiveness of accounting information systems of the finance managers of the listed companies at Tehran stock Exchange " was evaluated, the results indicate that the implementation of accounting information systems of these companies caused the improvement of manager s decision –making process , internal controls and the quality of the financial reports and facilitated the process of the company's transaction. The results did not show any indication that performance evaluation process had been improved.

According to (Sajady, M.Dastgir, and Hashem Nejad, 2008) benefit of AIS can be evaluated by its impact on improvement of decision making process , quality of

accounting information ,performance evaluation ,internal controls and facilitating company's transaction. The effectiveness of organizational performance depend on the five variables above.

Discussion and Conclusion

The objective of this study is to examine the efficiency of accounting information system on performance measures based on secondary data in which it was noted that the system is of great importance and has a great value to businesses, organization and the economy. The flow of reliable information is very crucial to the growth every economy. Performance management has a key role to play in improving the overall value of an organization. Prior researches have shown that accounting information system adoption does increases firm's performance, profitability, and efficiency operations. The biggest impact IT has made on accounting is the ability of companies to develop and use computerized systems to track and record financial transactions. Paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports. This allows companies to create individual reports quickly and easily for management decision making. Accounting systems allow accountants to process large amounts of financial information and process it quickly through the accounting system. Reports issued to outside investors and stakeholders have been improved by computerized accounting systems. Improved reporting allows investors to determine if a company is a good investment for growth opportunities and has the potential to be a high-value company. Past researches discovered that by adopting accounting information system there is significant improvement in firm performance .Others indicated that firm performance drops just after the implementation of AIS taking so many years to realize the benefit. However, recent researches provides evidences that human resources consider important part in success of accounting information system (Luna-Arocas and Camps,2012).Human resources affect organization performance ,they are the main part of accounting information as they are involve in data entry ,processing and output., therefore ,human resource s are likely to be the sources of sustained competitive advantage. Other researches shows no clear relationship exist between AIS and performance indicators. Therefore, the researchers recommends that the businesses should adopt the use of AIS in their business management for their business to progress and the businesses or firms that have already implemented these systems should train all their staff on the effectiveness use of the system most especially the compute-rise system however, if companies are able to adjust their computerized techniques of internal control mechanism according to AIS, they will be able to ensure the reliability of financial information processing and boost the control measures of

effectiveness of the financial information reliability. When the controls are used properly there will be better operating effectiveness and efficiency which will result in better financial information reliability. Adequate accounting information is essential for every effective decision making process and adequate information is possible if accounting information systems are run efficiently and also, efficient Accounting Information Systems ensures that all levels of management get sufficient, adequate, relevant and true information for planning and controlling activities of the business organization.

For this reason, and in view of the scarcity of studies on the subject most especially in the Nigerian context, I recommend the following avenues for further research

- Analysis of the impact of AIS on the performance measures
- Evaluation of efficiency of AIS with internal control in relationship to human resource, ERP, Account Receivable, Account Payable and Cash Control management.
 - Study of the extent to which AIS has impacted on the performance of the firms registered in the Nigerian stock exchange.

Acknowledgement

I would like to acknowledge and appreciate my supervisor Dr Daw for her immeasurable effort, time, and encouragement given to me and also want to appreciate the administration of UNIMAS for providing a conducive environment for learning.

References

- [1]. Abdullah, K., & Quattani, K. (2007): The effect of banking environment on accounting information system efficiency. *Jordanian Journal for applied Science* , 10(1),18-39
- [2]. Al-Hiyari, A., AL-Mashre, M. H. H., & Mat, N. K. N. (2013). Factors that Affect Accounting Information System Implementation and Accounting Information Quality: A Survey in University Utara Malaysia. *American Journal of Economics*, 3(1), 27-31
- [3]. Avolio, G., Gilder, E& Shleifer, A. (2001).Technology information production, and market efficiency. Retrieved from <http://www.kc.frb.org/publicut/sympos/2001/paper/sheleifer.paper.814pdf>.
- [4]. Bourne, M., Neely, A., Mills, J., & Platts, K. (2003). Implementing performance measurement systems: a literature review. *International Journal of Business Performance Management*, 5(1), 1-24.
- [5]. Bouwens, J., & Abernethy, M. A. (2000). The consequences of customization on management accounting system design. *Accounting, Organizations and Society*, 25(3), 221-241.
- [6]. Camps, J., & Luna-Arocas, R. (2012). A matter of learning: How human resources affect organizational performance. *British Journal of Management*, 23(1), 1-21.

- [7]. Caruthers, B.G. and Espeland, W.N. (1991) Accounting for Rationality: Double entry book keeping and the Rhetoric of Economic Rationality. The University of Chicago Press. *The American Journal of Sociology*, Vol 97 No, 1
- [8]. Chenhall, R.H. (2003). Management control system design within its organizational context. Findings from contingency based research and direction for the future. *Accounting organization and society*, 28(2-3), 127-168
- [9]. Cushing and Romney, A. (1984). *Accounting Information Systems*. Wisely Publishing Company, city publication, United State of America.
- [10]. Cushing and Romney, A. (1984). *Accounting Information Systems*. Wisely Publishing Company, city publication, United State of America
- [11]. Daft, R.L. (1983) Organization theory and design, Minnesota, west publishing company.
- [12]. Damanpour, F., & Gopalakrishnan, S. (2001). The dynamics of the adoption of product and process innovations in organizations. *Journal of Management Studies*, 38(1), 45-65.
- [13]. Dandago, K. I., & Rufai, A. S. (2014). Information Technology and Accounting Information System in the Nigerian Banking Industry. *Asian Economic and Financial Review*, 4(5), 655-670.
- [14]. David, H.L. (1983). Accounting information system a control emphasis. Home word Illinois Richard D. Irwin.
- [15]. Fernandez, Z., & Nieto, M. J. (2006). The Internet: Competitive strategy and boundaries of the firm. *International Journal of Technology Management*, 35(1-4), 182-195.
- [16]. Grande, U.E., Estebanez, P.R., & Colomina, M.C. (2010): The impact of accounting information on performance measures: empirical evidence in Spanish SMEs. *The international journal of digital accounting research*, 11 (2011), 25-43.
- [17]. Gullkvist, B. (2000). Towards paperless Accounting and Auditing. E-Business Research center, Finland.
- [18]. H. Sajady, M. Dastgir and Hashemnejad (2008). Evaluation of the effectiveness of accounting information systems. *International Journal of Information Science & Technology*, vol. 6, no. 2.
- [19]. Haddad, & Atmeh. (2009). *Accounting information system* (1st Ed.). Amman: Al Mareekh.
- [20]. Hafnawi, M. (2001). *Accounting Information System* (1st Ed.) New Jersey Lawrence Erlbaum Associate.
- [21]. Huang, K. Wang, R.W., Lee, Y.W. (1999). *Quality information and knowledge*, Prentice Hall PTR.
- [22]. Hussani and Kharabsheh (2000). Requirement of financial controlling department on performance controlling administrative sciences journal 27(2), 34-56.
- [23]. HWood, F. et al (1996). *Business Accounting*. Pearson professional limited, 7th edition Khatua, O. J. (2013). Accounting Information and Stock Volatility in the Nigerian Capital Market: A Garch Analysis Approach. *International Review of Management and Business Research*, 2(1), 265-281.
- [24]. Itner, Lacker, Bowens & Abernethy (2000). Quality strategy, strategic control system, and organizational performance. *Accounting organization and society*, 22(3/4), 293-314
- [25]. Jawabreh, O. A., & Alrabei, A. M. (2012). The Impact of Accounting Information System in Planning, Controlling and Decision-Making Processes in Jodhpur Hotels. *Asian Journal of Finance & Accounting*, 4(1), 173-188.
- [26]. Kouser, R., Awan, A., Rana, G., & Shahzad, F. (2011). Firm Size, Leverage and Profitability: Overriding Impact of Accounting Information System. *Journal of Management and Business Review*, 1(10), 58-64
- [27]. Kouser, R., Awan, A., Rana, G., & Shahzad, F. (2011). Firm Size, Leverage and Profitability: Overriding Impact of Accounting Information System. *Journal of Management and Business Review*, 1(10), 58-64
- [28]. Langfield-Smith, K. (1997): Management control systems and strategy. A critical review. *Accounting information and society*, 22(22), 207-232. [http:// dx.doi.org/10.1016/S0361-3682\(95\)00040-2](http://dx.doi.org/10.1016/S0361-3682(95)00040-2)
- [29]. Larsen, E., & Lomi, A. (2002). Representing change: a system model of organizational inertia and capabilities as dynamic accumulation processes. *Simulation modeling practice and theory*, 10(5), 271-296.
- [30]. Lee, Y.W., & Strong D. M. (2003). Knowing -why About Data Processes and Data Quality. *Journal of management information system*. 20 (30), 13-39.
- [31]. Markus, M. L., & Pfeffer, J. (1983). Power and the design and implementation of accounting and control systems. *Accounting, Organizations and Society*, 8(2), 205-218
- [32]. Marshal B. Romney & Paul John Steinbart (2015): *Accounting Information Systems*. Thirteen Edition. Pearson Education Limited. Pp 214-234.
- [33]. Marshal, B.R & Paul J.S. (2015): *Accounting Information Systems*. Thirteen Edition. Pearson Education Limited 2015. Pp 214-234.
- [34]. Muhindo, A., Mzuza, M. K., & Zhou, J. (2014). Impact of Accounting Information Systems on Profitability of Small Scale Businesses: A Case of Kampala City in Uganda.
- [35]. Nicolaou, A. (2000) "A contingency Model of perceived effectiveness in Accounting Information System: Organizational Coordination and control effect" *international journal of accounting information systems* Vol. 1 pp. 91-105
- [36]. Ogah, I.J. (2012). An evaluation of the relevance of accounting system as a management decision tool in Union bank of Nigeria PLC. Uyo branch of Akwa Ibom Greener. *Journal of business and management studies* ISSN: 2276-7827 VOL 3 (1), PP. 38-45, JANUARY 2013
- [37]. Oguntmehin, A. (2000): Teacher effectiveness; Some practical strategies for successful implementation of universal basic education in Nigeria, *African Journal of education management*, 9(1) 151-161
- [38]. Onalapo, A. A., & Odetayo, T. A. (2012). Effect of Accounting Information System on Organizational Effectiveness: A Case Study of Selected Construction Companies in Ibadan, Nigeria. *American Journal of Business and Management*, 1(4), 183-189.
- [39]. Pérez, R., Urquía, E., & Muñoz, C. (2010). Information technology implementation: evidence in Spanish SMEs. *International Journal of Accounting & Information Management*, 18(1), 39-57.
- [40]. Powell, T. C., & Dent-Micallef, A. (1997). Information technology as competitive advantage: The role of human, business, and technology resources. *Strategic management journal*, 18(5), 375-405.
- [41]. Rahayu, S. K. (2012). The Factors That Support The Implementation Of Accounting Information System: A Survey in Bandung and Jakarta's Taxpayer Offices. *Journal of Global Management*, 4(1), 25-52.
- [42]. Rahayu, S., K., (2012): The factors that support the implementation of accounting information system. A

- survey in Bandung and Jakarta's taxpayer's offices. *Journal of global management*.
- [43]. Rai, A., Patnayakuni, R., & Patnayakuni, N. (1996). Refocusing where and how IT value is realized: An empirical investigation. *Omega*, 24(4), 399-412.
- [44]. Ramly, F. (2011). Computerize Accounting Information System. *Decision making* 16(1), 12-31
- [45]. Ravichandran, T., Lertwongsatien, C., & Lertwongsatien, C. (2005). Effect of information systems resources and capabilities on firm performance: A resource-based perspective. *Journal of management information systems*, 21(4), 237-276.
- [46]. Saira, K., Zariyawati, M. A., & Annuar, M. N. (2010). Information system and firms' performance: the case of Malaysian small medium enterprises. *International business research*, 3(4), p28.
- [47]. Saira, K., Zariyawati, M. A., & Annuar, M. N. (2010). Information system and firms' performance: the case of Malaysian small medium enterprises. *International business research*, 3(4), p28.
- [48]. Shehzad, K., & Ismail, A. (2014). Value relevance of Accounting Information and its Impact on Stock Prices: Case Study of Listed Banks at Karachi Stock Exchange. *Journal of Economic Info*, 3(1).
- [49]. Taber, T. A. A., Alaryan, L. A., & Haija, A. A. A. (2014). The effectiveness of accounting information systems in Jordanian private higher education institutions. *International Journal of Accounting and Financial Reporting*, 4(1), 28-42.
- [50]. Tanabe, K., & Watanabe, C. (2005). Sources of small and medium enterprises excellent business performance in a service oriented economy. *Journal of Services Research*, 5(1), 5.
- [51]. Thong, J. L., Chees-sing, y., & Raman, K.S. (1996). Top management support, external Exoertise and Information Systems Implementation in Small Businesses. *information systems Research*, 7(2) 248-267.
- [52]. Thong, J. L., Chees-sing, y., & Raman, K.S. (1996). Top management support, external Exoertise and Information Systems Implementation in Small Businesses. *information systems Reseach*, 7(2) 248-267
- [53]. Topash,N.K.(2014): Evaluation of Efficiency of Accounting Information Systems: A Study on Mobile Telecommunication Companies in Bangladesh. *Global Disclosure of Economics and Business*, 3(1), pp40-55.
- [54]. U. Hoitash, R. Hoitash and J. C. Bedard, (2009): "Corporate governance and internal control over financial repaorting; a comparison of regulatory regimes," *Account. Rev.*, 84 no.3, pp. 839-867
- [55]. Verhees, F. J., & Meulenber, M. T. (2004). Market orientation, innovativeness product innovation, and performance in small firms. *Journal of small business management*, 42(2), 134-154.
- [56]. Wilkinson, J.W.,Cerullo, M.J.,Raval,V.and Wong-On-Wing, B.(2000).Accounting Information Systems: Essential concepts and Applications. Network:John Wiley and sons.
- [57]. Xu, H., (2003) Critical success factors for accounting information system data quality, dissertation, university of Southern Queensland.
- [58]. XU,H.,(2009):Data quality issues for accounting information system implementation: systems stakeholders, and organizational factors ,journal of technology research volume 1 , pp, 1-11