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Influence of Accounting Knowledge on Accounting System Effectiveness: The Experience of Smes Owners in Sokoto, Nigeria

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Abstract
The broad objective of this study is to examine the influence of accounting knowledge on Accounting Information System (AIS) Effectiveness in the specific context of SMEs in Sokoto State. The technology diffusion and resource-based theory formed the bases for the conceptual model. *The study used descriptive survey research design. Multiple regressions were adopted in analyzing the data. The results showed that managers accounting knowledge and the effectiveness of vendors and accounting firms significantly contributed to AIS effectiveness. The study complements previous studies by having supported this association within a Sokoto state of Nigeria context. Hence, it recommends the need for managers of SMEs to acquire sufficient accounting knowledge as well as engage accounting firms and qualified AIS vendors who have experience and understand unique characteristics of SMEs.*

Keywords: Accounting, Knowledge; Information System; Effectiveness; SMEs
JEL Classification: M41

1. Introduction

The globalization of products, services, markets, and competition has increased the need for flexibility, quality, cost effectiveness, and timeliness. A key resource for attaining these requirements is effective information systems, particularly accounting information systems (AIS) (Mitchell et al., 2000; Hunter et al., 2002; de Guinea et al., 2005). The reason is that accounting information can help SMEs manage short-term problems in the areas such as costs, expenditure and cash flow, by providing information to support monitoring and control. AIS can also help SMEs to operate in a dynamic and competitive environment in order to integrate operational considerations within long-term strategic plans. Most SMEs do not prepare financial reports and the few that did only do so for statutory purpose, and as such fail to use it (Arriyo 2011). SMEs owners/managers either lack the technique for using financial statements (Byron and Friedlob 1984); or are simply unaware that they can use them to support financial decisions. Poorly prepared accounting information renders most SMEs unable to evaluate their own financial situation, or to demonstrate viability, and or to facilitate loan financing. This situation causes improper financial decisions and ends up with low performance and high failure rate.

The research tradition in the AIS field, concentrating on, for example, transaction processing, data structure modeling, computer fraud and security as well as system development methodologies, seems not to have produced a useful understanding of the interplay between modern AIS and accounting knowledge (Grandlund and Mouritsen, 2003). Interestingly, there are no recent studies on relationship between accounting knowledge and accounting system effectiveness. The closest to this area of study were studies investigating relationship between technology and accounting information system such as Al-Okaily, et al. (2020), Jasim & Raewf (2020 and Soudani, 2012). These studies (Al-Okaily, A., *et al*. (2020); Jasim & Raewf, (2020); Soudani, 2012) dwelt on accounting information system effectiveness from an organizational perspective, Information Technology's Impact on the Accounting System, The Usefulness of an Accounting Information System for Effective Organizational Performance. However, a close look at these areas of study would reveal that they do not explain effect of accounting knowledge on accounting system effectiveness. This aroused the interest for this study given that accounting is the fulcrum of Accounting Information System (AIS) and not technology. This is because accounting plays a vital role in running a business because it helps businesses to track income and expenditures, ensure statutory compliance, and provide investors, management, and government with quantitative financial information which can be used in making business decisions. Thus, the broad objective of this study is to examine influence of accounting knowledge on accounting system effectiveness in the specific context of SMEs in Sokoto State of Nigeria. The study attempts to provide answers to the level of managers' accounting knowledge among SMEs in Sokoto State; and also the level of managers' participation in AIS implementation among SMEs in Sokoto State, as well as the effectiveness of external accounting expertise on AIS effectiveness.

2. Literature Review

Accounting has been defined "as the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are in part at least of a financial character and interpreting the results thereof"(American Institute of Certified Public Accountants, quoted in Anao 1995). Accounting can also be said to be a process that collects, collates, records, analyses, interprets and communicates financial information to end users in the form/format that they will understand (Investment Accountants, 2011). It is obvious from the above definitions that accounting involves two main elements and activities; an information process that identifies, classifies and summarizes the financial events that take place within an organization; and a reporting system that communicates relevant financial information to interested persons which allows them to assess performance, make decisions and/or control the economic resources in the organization.

One important point to make here is that accounting is not an end in itself. Accounting is a means to an end i.e., it provides the most relevant and reliable information possible to allow for the real work to be done-the making of the best possible decisions. Accounting information is the compilation of a company's financial transactions. It provides vital insight into a company's current financial position and is a valuable indicator into how a firm will perform in the future. It signals decisions that are needed, and provide information useful to making decisions(Gibson 1963 quoted in Thomas and Evanson 1987).AIS is used to assess the profitability of alternative courses of action, measure performance, and evaluate the position of enterprises in terms of profitability, liquidity, activity and leverage(Ismail and King 2007).

Qualitative Characteristics of Accounting Information

Companies present accounting information to internal and external business stakeholders for making decisions. Most companies must present AIS according to national accounting standards. In Nigeria, Generally Accepted Accounting principles (GAAP) represent the most authoritative accounting standards. GAAP requires AIS to include qualitative characteristics on which business stakeholders can rely.

Accounting information often has quantitative and qualitative characteristics. Quantitative characteristics refer to the calculation of financial transactions. Qualitative characteristics include the business owner's perceived importance of financial information. Business owners often require financial information when making business decisions. Incorrect or inappropriate information can hamper decision-making or cause business owners to make incorrect assessment about their companies. According to Anao (1995), the qualitative characteristics are:

Understandable: Accounting information must be understandable. This is an important qualitative characteristic for small business owners. Many small business owners do not have a strong accounting background. Financial information that is too technical or cannot be understood by a layman can be ineffective for business owners. Small business owners often use professional accountants to complete various accounting functions. Business owners should choose an accountant who can prepare information in an easily understandable manner.

Useful: Business owners need accounting information that is applicable to the business decision at hand. They can request financial statements, accounting schedules, reconciliations or cost-benefit analysis. For example, cost allocation reports may not provide sufficient information for business owners who must make a decision on hire employees .Cost allocation usually refers to applying business costs to goods or services produced by the company, which has very little to do human resources. Business owners should carefully request and review accounting information to ensure that it provides the most useful information for decision making process.

Relevance: Accounting information should relate to a specific time period or contain information regarding individual business functions. Business owners often conduct a trend analysis when reviewing financial information. The trend analysis compares historical financial Information to the company's current accounting period information. Irrelevant historical information can severely distort the trend analysis process. For example, reviewing the production process for chairs requires relevant information on the cost of materials for chairs. Cost information on the materials to produce cups would be irrelevant.

Reliability: Accounting information must be reliable, so that business owners can be reasonably assured that it presents an accurate picture of the company's financial health. Business owners often use accounting information to secure external financing for their business. Information that is not reliable or accurate may cause lenders and investors to question the business owner's management ability. Business owners may also struggle to secure external financing with poor accounting information.

Comparable: Comparability allows business owners to review their companies' Accounting information against that of a competitor. Business owners use comparison to gauge how well their companies operate under certain market conditions. Owners often use the leading company of an industry for the comparison process. These companies usually have the most efficient and effective business operations. Non-comparable information can make this a difficult process. For example, business owners should consider preparing financial statements according to standard accounting principles. The statements can then be compared to other companies' financial statement prepared in a similar manner.

Consistent: Consistency refers to how business owners and accountants record financial information in a company's general ledger. Business owners need to ensure financial transactions are handled the same way. Inventory purchases should be recorded the same way as yesterday, today and tomorrow. This helps companies create accurate historical records and limit the amount of financial accounts or journal entries including their general ledgers.

Theoretical Framework

The theory of technology diffusion (Attawell, 1992) and the resource-based theory of the firm (Wernerfelt, 1995) have been adopted by previous researchers. They were used as theoretical foundation to investigate the roles of managerial commitment and external AIS experts to overcome the lack of knowledge and resources that SMEs face in the implementation of accounting information system (Thong *et al.*, 1996; Thong, 1999, 2001; de Guinea *et al*., 2005).

Therefore, taking technology diffusion and resource-based theory into consideration, the conceptual model in this study theorizes that managerial commitment and external expertise are factors alleviating the knowledge barrier and resource poverty that SMEs face in their use and implementation of AIS. These theories acted as guide to this work by identifying managers' commitment and external experts' effectiveness as the two key factors influencing AIS effectiveness.

3. Methodology

The study made use of **s**urvey design. To achieve this, a questionnaire survey was carried out from October to December 2021 to gather the data. The Sokoto State Business Directory provides a total of 188 addresses of SMEs as defined in this study. Thus, the study population is 188 SMEs that were found in the Sokoto state business directory. AIS effectiveness in this study was assessed using DeLone and McLean's (1992) model which was validated as a summated measure for AIS effectiveness by Al-Mushayt's (2000). According to Krejcie and Morgan (1970) sample size determination criteria, as cited in Ismail and King (2007) a sample of 306 is appropriate for a population of 1500. It will be difficult to access all the SMEs across the length and breadth of Sokoto state that constitute the target population. This is due to constraints of time and resources available to the study, Therefore, the study relied on SMEs located in the Sokoto metropolis that are listed in Sokoto State Business Directory. The directory grouped the SMEs into five industries as represented in Table 3.1.

Table 1: SMEs in Sokoto State

Industries	Number of SMEs	Sample Selected
Provision Stores, supermarkets and Distributors	80	21
Business Centres and General Consultancy Services	39	10
Hotels and Guest Inns	25	7
Motor Cycles, Motor Vehicles and General Consultancy	15	4
Private Educational Institutions	29	8
Total	188	50

Source: Field Survey

However, it was discovered that the SMEs in each of the group possess similar features. Hence, coupled with the limited time available for this study and the need to select a sample that will give a fair representation of all the industries, the researcher randomly selected 50 SMEs from all five sectors by sharing the sample proportionately. Thus, only 50 SMEs were selected to give the total sample size.

Based on the necessity of selecting SMEs that will represent the various industries, the study adopted purposive sampling in selecting the SMEs. More so, the managers of the selected SMEs automatically become the respondents. Therefore, the study adopted a purposive sampling technique for generating the primary data.

The collected data was analyzed using the Statistical Package for Social Scientists (SPSS). The correlation analysis was used to establish the nature and strength of the relationship between the variables while the regression analysis was used to determine the variance in usage of accounting information system that is explained by system quality, information quality, information use, user satisfaction, individual impact and organizational impact.

To test the hypotheses, the research model shown in Table 1 is represented in the following regression equation in line with similar studies conducted by Al-Mushayt (2000), DeLone and McLean's (1992):

$Y = \alpha + \beta X_1 + \beta X_2 + \beta X_3 + \varepsilon_t$………………………………………………………… 1

Where Y = Accounting information system effectiveness; X_1= Managers' accounting knowledge; X_2= Managers' participation in AIS implementation; X_2= external experts effectiveness; α=intercept or constant; ε_t =error term

4. Results

The inferential statistics presents summary of the correlation and regression results respectively. The correlation result is used in establishing the nature and strength of the relationship between the research variables, while the regression result is used in examining the variance in the effectiveness of accounting information system (AIS) that is explained by the joint variations in Manager accounting knowledge, and Managers AIS knowledge and Effectiveness of external expertise.

Table 2: Summary of Correlation Result

Variables	AIS Effectiveness	Manager Accounting Knowledge	Manager participation in AIS implementation	Effectiveness of External Expertise
AIS Effectiveness	1.00			
Manager Accounting Knowledge	0.881***	1.00		
Manager Participation in AIS Implementation	0.822***	0.909***	1.00	
Effectiveness of External Expertise	0.892***	0.654***	0.768***	1.00

Note: (***) indicates significant at 1% level of significance (2 – tailed).

The Table 2 presents the summary of correlation analysis result between independent variables and the dependent variable at 2 - tailed. The result showed the existence of significant correlation between AIS effectiveness and Manager accounting knowledge (+ 0.881) at 1% level of significance. A highly significant correlation relationship (+ 0.909) exists between AIS effectiveness and Manager AIS knowledge at 1% significance level. Again, there is also significant positive correlation in the relationship between AIS effectiveness and effectiveness of external expertise with correlation coefficients of + 0.654, and + 0.861 respectively at 1% level of significance. Based on these correlations in the Table 2, there are positive relationships among AIS effectiveness, Manager accounting knowledge, Manager Participation in AIS implementation and Effectiveness of external expertise. This is in line with the findings of Duxbury, Decady and Tse (2002); Ismail and King (2006); Ismail and King (2007).

Table 3 presents summary of regression result. The result show that the coefficient of determination (R^2) is 0.81, indicating that approximately 81% variation in AIS effectiveness is explained by the joint variations in the independent variables. While the F – statistics is 63.086 and significant at 1% level of significant. This shows that the model is significant and adequate in explaining AIS effectiveness of

Sokoto State's SMEs. From Table 3, the estimated coefficient of the constant is positive and significant at 1% level of significance. This shows that AIS

Table 3: Summary of Regression Result

Dependent variable: AIS Effectiveness		
Variables	Coefficient	Probability
Constant	0.360 (0.092)	0.000***
AIS Effectiveness	0.261 (0.091)	0.006***
Manager Accounting Knowledge	0.370 (0.057)	0.000***
Manager Participation in AIS Implementation	0.154 (0.056)	0.008***
External Experts Effectiveness	0.127 (0.086)	0.145
$R^2 = 0.81$		
F – statistics = 63.086		
Prob.(F – statistics) = 0.000***		

Note: (***) indicates significant at 1% level of significance.

effectiveness will increase by 36% if all the independent variables remain the same. More so, the estimated coefficient of Mangers accounting knowledge is also positive and significant at 1% level of significance. This indicates that percentage increase in Managers' accounting knowledge will increase AIS effectiveness by 26% all other variables remaining constant. Furthermore, the estimated coefficient for manager participation in AIS implementation is also positively significant at 1% level, indicating that percentage change in managers' participation in AIS implementation changes AIS effectiveness by 15%, all other independent variables remain the same. However, only the estimated coefficient of external expertise effectiveness is positive but insignificant. This shows that external expertise effectiveness is not a necessary requirement for AIS effectiveness in SMEs in Sokoto State of Nigeria. This finding varies with that of Ismail and King (2006) and Ismail and King (2007). However, it is supported by the findings of Apulu and Latham (2009).

This study first explored the level of AIS effectiveness, managers' accounting knowledge, managers' participation in AIS implementation and effectiveness of external experts among SMEs in Sokoto state of Nigeria. Then, it examined the relationships between AIS effectiveness and three potential influence factors: managers' accounting knowledge, managers' participation in AIS implementation and effectiveness of external experts in terms of AIS effectiveness, most respondent firms used computer mainly for administrative and operational tasks. The adoption of analytical-based applications for strategic decision-making is still minimal. These findings are in tandem with those of previous studies such as Hussin et al. (2002), Breen et al. (2004) and Ismail and King (2007). It is also interesting to note that managers accounting knowledge appeared to have a significant impact on the effectiveness of AIS implementation among SMEs. This evidence suggests that, while gaining advices from external experts such as accounting firms and vendors could be important to SMEs, manager's accounting knowledge is crucial for the firms to implement effective AIS. Furthermore, since most SMEs adopted accounting-based applications, accounting knowledge is becoming more necessary for managers of SMEs. These findings imply that manager's accounting knowledge, probably with the help of effective external experts, plays a crucial role for SMEs to achieve better AIS effectiveness.

Finally, this study found support for (H_4), which postulated a negative relationship between external expertise effectiveness and AIS effectiveness. These rather unexpected findings could be a reflection of the firms not seeking direct expert advice from vendors and accounting firms. The availability of powerful but user-friendly packages might also explain these findings. Furthermore, engagement of technical personnel to handle IT implementation and administration might be sufficient for the firms. As Zarowin (1998) argued, the simple business structure of SMEs may also facilitate the tasks of identifying and tailoring AIS to the firm's strategy and information needs. Thinking in the context of SMEs, these advantages may increase their understanding of business information requirements and accessibility to sophisticated AIS and eventually leads to more effective AIS.

5. Conclusion and Recommendations

From the findings, the evidence suggests that the major factors that influenced AIS effectiveness among the sampled firms were Managers' accounting knowledge and Managers' participation in AIS implementation Thus, this study has made an important contribution by increasing current understanding of AIS implementation and its influence on SMEs. External expertise effectiveness however, appeared to have insignificant relationship with AIS effectiveness. These unexpected findings indicate the need for further research into the processes associated with the effectiveness of AIS implementation in SMEs by including other potential phenomena, such as AIS maturity in SMES, nature of business activities and size of firms, which may affect the results. It is evident that AIS among SMEs in Sokoto state cannot be said to be very effective, which leads to poor financial and investment decision making. For both practice and research, the study therefore recommended that; managers of SMEs need to acquire sufficient accounting knowledge as accounting is the most important component of modern AIS within SMEs. Engaging external experts such as vendors would not guarantee future AIS success without a proper transfer of knowledge to the firms.

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