UNIVERSITY OF EDUCATION, WINNEBA

COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

ACCOUNTING INFORMATION SYSTEM AND THE GROWTH OF

SMALL AND MEDIUM ENTERPRISES IN THE KUMASI METROPOLIS

JOHN MENSAH

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SMALL AND MEDIUM ENTERPRISES IN THE KUMASI METROPOLIS

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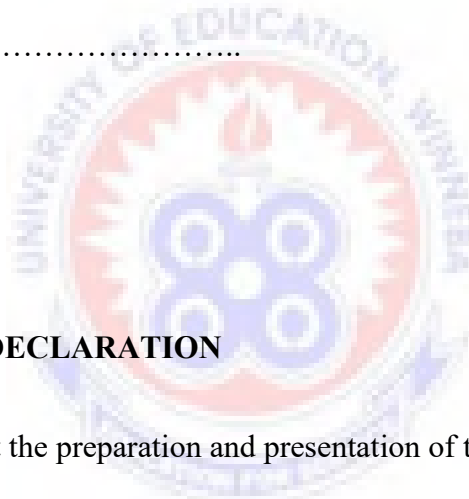
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DECLARATION

STUDENT'S DECLARATION

I, John Mensah declare that this Dissertation, with the exception of quotations and references contained in the published works which have all been identified and duly acknowledged as entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE:………………………….

DATE:…………………………..

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Dissertation as laid down by the University of Education, Winneba.

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SIGNATURE:…………………………..

DATE:……………………………….

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LIST OF ABBREVIATIONS

AIS	-	ACCOUNTING INFORMATION SYSTEM
CIMA	-	CHARTERED INSTITUTE OF MANAGEMENT ACCOUNTANT
DV	-	DEPENDENT VARIABLES
ECT	-	EXPECTATION CONFIRMATION THEORY
ERP	-	ENTERPRISE RESOURCE PROGRAMME
EU	-	EUROPEAN UNION
FDA	-	FOOD DRUGS AUTHORITY
FRS	-	FINANCIAL REPORTING SYSTEM
GDP	-	GROSS DOMESTIC PRODUCT
GEDC	-	GHANA ENTERPRISE DEVELOPMENT COMMISSION
GL	-	GENERAL LEDGER
GRA	-	GHANA REVENUE AUTHORITY
GSS	-	GHANA STATISTICAL SERVICES
HR	-	HUMAN RESOURCE
IASB	-	INTERNATIONAL ACCOUNTING STANDARD BOARD
ICAG	-	INSTITUTE OF CHARTERED ACCOUNTANT GHANA
ICT	-	INFORMATION COMMUNICATION TECHNOLOGY
IS	-	INFORMATION SYSTEM
IT	-	INFORMATION TECHNOLOGY
IV	-	INDEPENDENT VARIABLES
KMA	-	KUMASI METROPOLITAN ASSEMBLY
MIS	-	MANAGEMENT INFORMATION SYSTEM
MRS	-	MANAGEMENT REPORTING SYSTEM
NBSSI	-	NATIONAL BOARD FOR SMALL SCALE INDUSTRIES

NIP   -   NIPD - NET INCOME PLUS DEPRECIATION

OM   -   OPERATION MANAGEMENT

R&D   -   RESEARCH AND DEVELOPMENT

ROA   -   RETURN ON ASSETS

ROE   -   RETURN ON EQUITY

SA   -   STRONGLY AGREE

SAP   -   SYSTEM APPLICATION AND PRODUCTS IN DATA PROCESSING

SD   -   STRONGLY DISAGREE

SME   -   SMALL AND MEDIUM ENTERPRISE

SPSS   -   STATISTICAL PACKAGE FOR SOCIAL SCIENCE

TAM   -   TECHNOLOGY ACCEPTANCE MODEL

TIN   -   TAX PAYER IDENTIFICATION NUMBER

TPS   -   TRANSACTION PROCESSING SYSTEM

UNIDO -   UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

US   -   UNITED STATE

ABSTRACT

The study examined the accounting information system and the growth of small and medium scale enterprises (a study of SME's in Kumasi metropolis). Four theories were used in the research to have a wide scope in the study, namely; the Contingency Theory and the Design of Accounting Information System and the Technology Acceptance model (TAM), the Expectation Confirmation Theory (ECT), and the Sales Growth Theory. The sample of the study comprised ten SME's in Kumasi Metropolis, five from the Central Business District (CBD) of Kumasi and five from Suburbs of the city. Primary data was used in the study. A structured questionnaire was used to collect necessary data from the selected staff of the SME's. The purposive sampling technique was used to select two hundred (200) staffs from ten (10) SME's. In furtherance, twenty (20) staffs were selected per each enterprise selected. The data collected are subjected to the quantitative analysis of descriptive statistics and chi-square technique. *Findings of the study showed that* accounting information system has significant effect on the sales growth of SMEs in Kumasi Metropolis *(value of chi-square is 11.55, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom);* accounting information system has significant effect on the profit growth of SMEs in Kumasi Metropolis *(value of chi-square is 10.05, and the critical value of chi-square is 9.49 at 5% level of significance and 5 degree of freedom;.* accounting information system has significant effect on the asset growth of SMEs in Kumasi Metropolis *(value of chi-square is 14.92, and the critical value of chi-square is 11.07 at 5% level of significance and 5 degree of freedom;* accounting information system has significant effect on the Net cash flow growth of SMEs in Kumasi Metropolis *(value of chi-square is 10.52, and the critical value of chi-square is 9.49 at 5% level of significance and 5 degree of freedom.* The study concludes that accounting information system has significant impact on the sales, profit, asset and net cash flow growth of SMEs in Kumasi Metropolis. The study suggests amongst others that, SMEs should improve their accounting system in order to generate quality, reliable and timely accounting information, Owners of SMEs should integrate accounting information system in their decision processes, SMEs should endeavor to consult accountants regularly in order to be able to maintain high and generally acceptable accounting practices, Accounting training programmes for SMEs should be organized by the Ministry of Trade and Industry for those who do not know the importance of maintaining accounting records to come to grips with it, Government should stipulate the minimum number of books to be kept by all SMEs that meet certain criteria which certifies them to operate in Ghana, SMEs should ensure that the cost of acquiring AIS does not outweigh the benefits the company would gain from using them.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

In this chapter, the reader is provided with the background to the study to get to understand the need for the research as whole from where the problem emanated from, statement of problem, purpose of the study which the writer justify the need for the study, specific objectives of carrying out the research and the research questions which are set by the researcher. The chapter also look at the significance of the study to the SMEs in Kumasi Metropolis, the scope of the study, delimitations, and organization of study.

1.1 Background to the Study

According to Romney (2012) an accounting information system is kind of system which collect, record, process and retrieve data to aid in decision making using modern technology like pastel, oracle, QuickBooks, Sage or simple pen and paper system such as recording in ledgers and cashbooks. Accounting information system plays a vital role in the success or failure of contemporary business institutions. Systems are responsible for recording, analyzing, monitoring and evaluating the financial condition of business institutions, preparing documents necessary for tax purposes, providing information support to many other organizational functions, (Amidu et al. 2011). Accounting information is important as it can help the firms to manage their short-term problems in critical areas like costing, expenditure and cash flow, by providing information which will be used to support monitoring and control (Mitchell et al. 2000; Son et al. 2006).

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Akomea et al. (2012) report SMEs in the developed and developing countries played a major role in terms of job creation and turnover. SMEs are entrepreneurial economy that majority of Ghanaians workforce are found. Major sources of innovation and growth have been emphasized in contemporary research due to the role SMEs play. The role SMEs play is so important that if accounting information system is added it can help organizations management its short-term problems relating to costing, expenditure, and cash flow. The system will provide information which will be used to support and control (Mitchell, et al 2000).

Abor et al. (2006); Agboh (2015) said in Ghana, SMEs constitute about 90% of registered companies, accounting for about 80% of the private sector and 92% of businesses in Ghana .Small and medium enterprises increase people's standard of living, create employment and contribute to the overall economy. The SMEs employs the largest percentage of workforce in the newly developing or emerging industrialized nations, and responsible for income generation opportunities. The bulk of employment and livelihoods are provided by a large number of small and medium enterprises for most poor economies (Jutla et al., 2002). In most occasions, these enterprises get assistance through access to financial and business development services sponsored by government, donor agencies or private intervention like banks.

Luetkenhorst (2004) reported that at Enterprise level, SMEs are found creating more labour-intensive technologies than larger enterprises. They generate the bigger share of productive employment (around 50-70% in developing countries; 72% in Japan; 66% in most EU countries). Talking about productivity, SMEs also performs so well in terms of overall factor productivity which tends to be highest especially in the

medium-sized segment with 50-100 workers (Snodgrass and Biggs, 1996). Also with respect to research by UNIDO (2008) points those SMEs (especially medium-sized enterprises) have strong record. With regards to developed and more advance countries, they were found to contribute most innovation in grown manner, relatively un-concentrated industries (e.g. ICT). This seems to imply that they play an important role in using a new technology to meet customer needs and bring out new products. There is evidence that small firms chunk out innovations with significant higher productivity, than large firms Acs and Audresctch (1990). SMEs accounts about 60% of manufacturing employment according to data collected by Ayagari et al, (2007) for 76 developed and developing countries.

The role of accounting information system such as Sage, Tally, Pastel, SAP, Sun plus and QuickBooks in this modern era of advanced technology is of relevance in managing an organization and implementing internal control. AIS is helps a company to manage its business with potential benefits of improved process flow, reduced inventories, better data customer service, and increased profit margins (Fan et al. 2006). Looking at the benefit mentioned above one can easily say that AIS are accepted as one of most important developments in the world and also most accepted standard business software.

The emergence of information technology has significantly altered the nature of business (Eliot, 1992) and created competitive advantage for those who appreciate its effects (Porter & Miller, 1995). The coming of IT has affected the form and substance of information; accounting is affected by this new trend. The revolution of e-commerce has made a large voluminous and cross-border transactions being worked

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on. This development therefore encourages a firm to alter its accounting systems in order to ensure that outputs from the accounting systems could be prepared in timely manner. However, the demand for online and real-time processing system will naturally arise. Information will be readily available for the purpose of making decisions when proper systems, new and updated financial information are in place. The accounting systems have to be able to capture the non-financial information to support the financial information for the better decision making (Brecht& Martin, 1996). So accounting system should be able to produce reliable, accurate, relevant and timely information system for users.

For SMEs, an adoption of accounting information system (AIS) becomes an important method and determining factor for the survival and success of organization. The motive is that SMEs need to improve the quality and price competiveness of their product and services in order to compete with bigger firms. To this end SMEs are expected to require more information, as they exposed to uncertainty in their environment compared to larger firms (el Louad, 1998). One of the key factors for success in this global-economy era is information being financial or non-financial (Brecht & Martin). SMEs have been experiencing high failures (Ballantine et al, 1998). They also have a small market share and unable to mount barriers to entry to the industry and are highly dependent on a small number of customers (Storey & Cressy, 1995). So in order to compete effectively, a firm of SME category need information system that will help it to prepare reports for more timely. However despite all benefits associated with the use of AIS, it seems SMEs in Ghana have taken a slow approach to adopt this technology.

1.2 Statement of the Problem

The mission and vision of every SMES, is to grow its businesses, grow by its capital base, assets and its ability to expand it size. The problem of getting accurate data to make an inform decision on how to grow their business is what most SMEs lack. There are several SMEs that fold up in Ghana soon after their establishment, due to array of factors which include improper record keeping. Research was conducted earlier on SMEs business growth and development, about the essence of keeping proper record to promote growth and sustainability (Abor& Biekpe, 2006). Many Researchers have identified proper ways of keeping financial records. Some other studies found lack of keeping proper financial records, as the most serious problem to growth of small business. There is strong link exist between how a business performs especially in business record keeping (Bowen, 2009).

Most SMEs fail to keep proper books of account and also fails to observe proper accounting procedure especially those in developing country like Ghana (Amoako 2013). As result their unable to declare exact financial position of enterprise. This tends to prevent most SMEs to access credit from financial institutions and other sources for expansion and diversification. The financial statements such as profit and loss account, statement of financial position and cash flow statements cannot be easily be prepared. Under such circumstance yearly profit cannot be obtained. SMEs in Ghana are however faced with these challenges in accounting and financial management. Some of them have poor record keeping, lack of accounting information for to support their managerial decision making. Low quality and reliability of financial data are part of the main problems of financial management concerns of SMEs in Ghana.

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Again short planning, lack of financing, ineffective accounting and management practices is the major cause of failure of SME management. This claim is affirmed by Germain (2009) failure to record financial transactions have end up businesses being collapsed within a few month of setting up. Carefully observation of SMEs in Kumasi shows that most have not adopted Accounting information system to aid their quest for growth and also most don't have the skills men to manage the system and couple with lack of knowledge for record keeping. SMEs in Kumasi complain of slow growth of their sales, their profit, their asset and net cash flow. It is on these factors that this study seeks to investigate accounting information system and its impact on the sales, profits, assets, net cash flow of SMEs in Kumasi Metropolis. Investigating of SMEs which use accounting information system already in their organizations their financial statements, and their views on the system use, will answer the research problem of this study.

1.3 Purpose of the Study

This research is an enquiry into whether accounting information system affects the growth of SMEs in Kumasi Metropolis. If not, why not, what could be done to improve matters. The research is being done ascertain the relevant of accounting information system and how it affects the SMEs businesses. The research study seeks to increase the knowledge of the researcher. An implementation of software and hardware system in recording of accounting data in SMEs will help the researcher to get knowledge in software utilization. The successful completion of the study will also be partial fulfilment of requirements of Masters Degree in accounting. The study again will sharpen the critical thinking and analytical skills. These are essential life skills when acquired it will go a long way to help the researcher. Additionally, the

researcher will be sufficiently equipped with knowledge to establish a successful SME. The researcher who has shown interest and have passion in SME will have opportunity to investigate and access their need using circumstances in real life.

The SMEs in Kumasi will also benefit from this study. This will be done through focusing on the other aspects that are contributing to slow growth that are not given the needed attention. There will be the increased in their average revenue and resource application to the benefit of segment markets, thereby increasing their market share and their total contribution to economy. The gross domestic product will be increased as a result of the firms channelling their resources to areas which will give a higher return since the decision making will have been made easier. There will be growth in employment levels as SME managers will recruit someone to help them as an accountant, servicing consultancy firms' ones in a while to record and present their accounting information. Purchasing and updating of software is something that has to be done intermittently.

Lastly, the university will use the completed research study as an assessment of the performance of the researcher in determination of their mark and also the study will be accessed by other researchers as literature review.

1.4 General Objective

The general objective of the study is to examine accounting information system and the growth of small and medium enterprise: a case study of SMEs in the Kumasi Metropolis.

1.5 Specific Objectives of the Study

The specific objective of the study includes;

1. To determine the effect of Accounting information system on sales growth

2. To determine the effect of Accounting information system on profit growth

3. To determine the effect of Accounting information system on asset growth

4. To determine effect of Accounting information system on net cash flow growth

1.6 Research Questions

1. What is the effect of accounting information system on sales growth?

2. What is the effect of accounting information system on profit growth?

3. What is the effect of accounting information system on asset growth

4. What is the effect of accounting information system on net cash flow growth?

1.7 Significant of the Study

A company operated in a good accounting information system is an aid to effective management. Management are assured on reliability of decision taken by them and that the decisions taken by them are in accordance with the company's goals and objectives. This research work seek to draw attention to management of SMEs or other managers, the importance of appropriate, full and reliable set of financial records using accounting information system, for the purpose of correcting decision making, effective planning, controlling and also quick delivery reports.

To the employees and customers, it will help them access their accounts quickly and whatever balances is on their account to help them in their financing decisions. Oftentimes employees may need a salary loan and the bank may require such account statements to process the loan, so if the firm has accounting information system it can

easily print employee account statement for them to secure the loan. The research work will be beneficial to government in terms of tax collection and regularization of businesses. Whenever organizations have system like this government take advantages monitor their activities. Lastly, the study will be contributed to the body of existing literatures on the topic therefore it will be useful to prospective researchers. There is going to be some limitations to this research as a result of the time frame to complete as well as resources to finance it to have accurate results from wider sample. Also the responses from respondents' might be needed or biased and therefore affect the choice of the hypothesis.

1.8 Delimitation of the Study

The research will focus on problems being faced by SMEs sector of the economy and assesses whether AIS can eradicate these problems to enable SMEs to grow nationwide. The research sample will be confined to the SMEs businesses located in the Kumasi Metropolitan area. The study will make use of questionnaires which are more time effective as more information will be collected from a wider population in the minimum amount of time. There share also be observation in some firms to feel what will be happening on the ground during the research.

1.9 Definition of Terms

Accounting: It's the timely process of recording, communicating, summarizing, analysing and reporting of financial information.

Accounting information: This refers to the system of storing, processing of financial and accounting data that are used by decision makers.

Accounting information system: it's defined as a computer based system or manual based system that use for record keeping and preparation of accounts

Small scale businesses: This refers to a generally privately own business that employs a small number of workers and does not have a high volume of sales.

Medium scale enterprises: This refers to the typically result from the slow and steady growth that results from a successful small business income or will appreciate in the future

Sales Growth: This is the increases of sales level, typically from year to year

Profit growth: This is the increase of profit level typically from year to year

Assets Growth: This is a corporate events associated with asset expansion.

Net cash flow growth: This is increase and sustaining positive cash flow levels.

Ethical Values: The set of established principles governing virtuous behaviour.

Effective Accounting Systems: An effective accounting system is a type of system that is accurate, useful and timely. Its purpose is to provide information for external entities, such as tax agencies and investors, and for internal purposes, such as evaluating efficiency and profitability.

Human Resources: it is use to describe both the people who work for company or organization and department responsible for managing resources related to employees.

Investment: it is an asset item that is purchased with the hope that it will generate income in the future.

Expectations refers to the attributes that a person anticipates that they will be related to the entity which may be a product

Financial records are records of income and expenditure that are kept for tax purposes.

A **metropolis** is the largest, busiest, and most important city in a country or region.

A system is defined as set of interrelated components that interact to achieve a goal.

1.10 Organization of the Study

The research will be made up of six chapters. That is chapter one to chapter Six (1-6). The chapter one will be the introduction of the study which will consist of the chapter's introduction, background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, scope of the study ,delimitations, definition of terms, organization of the study will be discussed. Finally, the researcher will give the summary of the chapter.

The second chapter will be the literature review section of the study. Here the researcher appreciates the work of the others. The chapter will begin with introduction and then follow by review of key concepts, review of relevant theories, review of industry in which the topic is focused, development of conceptual framework to display the key concepts and variables in addressing the research problem. The summary of the chapter two will be given.

In the third chapter, the researcher will be looking at the methodology of the study and this will be consisting of chapter's introduction, the study area, research design, study population, research philosophy and the research strategy. The sampling techniques to be used and also the data collection methods are going to be assessed and research procedure is identified. In this same chapter, the analytical tools, ethical

considerations, limitation of study will be assessed and then finally the chapter summary.

The fourth chapter will be results /findings. The writer begins with introduction, followed by results presentation and then analysis of the data, the response rate, report of research results. The outcome of the research shall be presented and explained in this chapter. The findings shall be made in prose and references made to tables and figures. The chapter four will be concluded by chapter summary.

The fifth chapter of the study will be discussion of findings. The researcher will begin with the chapter introduction and the set the tone for major discussion of the study. Significant and novel findings will be identified, interpreted and discussed. The discussion dwells on the major findings of the research objectives and the inference made from them in view of findings from related previous studies. The researcher will again conclude with chapter summary.

The sixth chapter of the study will be summary of findings, conclusions and recommendations. In this chapter summary of major findings of study will be given. Then conclusion of the research project will be told. The final part of the chapter will be devoted for the recommendations.

1.11 Chapter Summary

The chapter revealed about the way local SMEs struggles in their quest to grow globally especially in Ghana the Kumasi Metropolis and highlighted that AIS has been the missing factor which has not been taken into account. It has gone further to

explain challengers currently being faced in sector and the next chapter the researcher will evaluate whether AIS implementation would really result in growth of this important sector of the economy by reviewing the work of the previous researchers.

CHAPTER TWO

REVIEW OF LITERATURE

2.0 Introduction

The purpose of this study is to examine whether the use of accounting information system is the factor that influence growth of SMEs so for that matter this chapter is looked into key concepts in the topic, appraise other studies done on this subject matter and related areas. It will focus on the review of literature related to research objectives and provides explanation to the relevant themes discussed in the research. All the research findings, reports, publications that are applicable to the study were duly consulted and reviewed.

2.1 Concept of Review

2.1.1 Concept of Accounting Information System (AIS)

AIS in short are acronym of Accounting Information Systems. AIS have been defined differently by different academics in the realms of empirical study. Before looking at the definition of AIS, there is need to firstly disintegrate the terms and define them separately. Accounting is define as process of the collecting, recording, analyzing and reporting financial information on the firm's activities and communicating the information to various users who might need this information in an easily understandable form.

Romney and Steinbart (2008) define a system as a set of interrelated components that interact to achieve a goal. Therefore in general AIS is a set of interrelated components for the analysis and interpretation of accounting information.AIS is a system that is systematically designed to make the completeness of accounting function possible.

AIS processes data and transactions to provide users with the information they need to plan, control, and operate their businesses. AIS can be in the form of manual, or a computerized system using computers. Regardless of the type, AIS is designed to collect, enter, process, store, and report data and information (Selehi, 2010). Nang (2017) studied that an accounting information system (AIS) is a software package that is operated on a computer system and used to accomplish all accounting tasks, including recording, storing, retrieving, sorting, analysing, presenting and transferring accounting information to different stakeholder groups. It enhances the quality of accounting information and promotes transferring efficiency between organisations' departments and between organisations' branches and their different users or stakeholder groups.

Accounting information system (AIs) also defined as process of combining computer based electronic system to collect, store and process financial data with the aim of providing support for organizational decisions making process (Haitham et al, 2018). Both Haitham et al (2018) is an agreement with Selehi, (2010). This brings to the definition of accounting information system as set of interrelated components of whether manual or electronic system to collect, store and analyze data for reporting.AIS subsystems process financial transactions and nonfinancial transactions that directly affect the processing of financial transactions. For example, changes to customers' names and addresses are processed by the AIS to keep the customer file current. Although not technically financial transactions, these changes provide vital information for processing future sales to the customer.

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Hall et al. (2011) AIS is composed of three major subsystems: (1) the transaction processing system (TPS), which supports daily business operations with numerous reports, documents, and messages for users throughout the organization; (2) the general ledger/financial reporting system (GL/FRS), which produces the traditional financial statements, such as the income statement, balance sheet, statement of cash flows, tax returns, and other reports required by law; and (3) the management reporting system (MRS), which provides internal management with special-purpose financial reports and information needed for decision making such as budgets, variance reports, and responsibility reports.

 Summary of the definition, uses and environment of the AIS in the general model shown below:

Figure 2.1: A general model showing Summary of definition, uses

and environment of the AIS
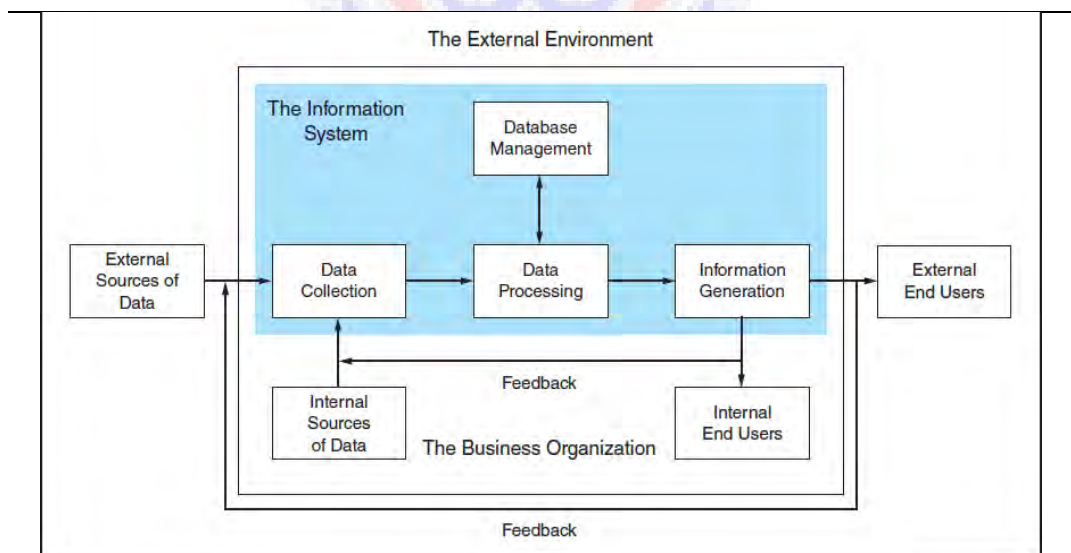
Source: Hall 2011

2.1.2 Effective Accounting System

Accounting system is a kind of system in which an entity records and reports its financial information. It can also be seen as the methods, principles, procedures and standards followed by an organization in recording and reporting business events and transactions. This system is made up of all the people and machines informed in accounting information. From the Business Dictionary, it is referred to as 'an organized set of manual and computerized accounting methods, procedures, and controls established to gather, record, classify, analyze, summarize, interpret and present accurate and timely financial data for management decisions'. An accounting system is used to manage the income, expenses and funding of a business. In old times, accounting systems were commonly manual but now they are mostly computer-based. Accounting system on its own is very tasking as it entails dealing with great figures and numbers, bulk calculations and much writing but ICT has made it easier to maintaining the system (Nzoma, 2013).

An effective accounting system is also defined as providing accurate, useful and timely information. Its purpose is to provide information for external entities, such as tax agencies and investors, and for internal purposes, such as evaluating efficiency and profitability. The effectiveness of an accounting system depends on how it is created and maintained. It should be set up to closely reflect a company's operations, including its different sources of revenue and different types of expenditures. It should be maintained as regularly as necessary, depending on the volume of business that the company transacts and its requirements for reporting to tax agencies and financial stakeholders.

Puasa (2019) said definition of system effectiveness has been studied and discussed in contexts that are more specific. For example AIS effectiveness is defined as the decision makers' perception of the ability of the system to provide information that meets their requirements for coordination and control purposes. The system is expected to benefit the system's users and the organization in terms of operational improvements and better decision-making. According to Salehi et al. (2010), AIS effectiveness refers to successfully applied systems that meet users' requirements.

Adapting the definition of Nikolaou (2000), Dehghanzade et al. (2011) take further consideration in their measurement by considering the capacity of the system in providing the expected information, considering the relevant legal obligations, preparing financial reports and providing adequate control structures in order to meet decision-makers' requirements. A study by Chalu (2012) viewed AIS effectiveness as a multidimensional construct by taking into account four dimensions, including accounting information quality, system quality, user satisfaction and organizational performance. Another study conducted by Pornpandejwittaya (2012) specifically defined the effectiveness of the AIS according to features of information quality: reliability, relevance and timeliness. These definitions are more likely to focus on the role of the AIS in providing information for its users

Thong (2001) AIS effectiveness is one of the most common dependent variables in the AIS literature. Raymond (1990) defined AIS effectiveness as the extent to which AIS actually contributes to achieving organizational goals. However, AIS researchers are still wrestling with the problem of which construct has the greatest influence on AIS since the definition and conceptualization of AIS effectiveness varies

considerably among studies (de Guinea et al., 2005). Among the popular measures of AIS effectiveness include AIS usage (Lai, 1994; Magal & Lewis, 1994; Foong, 1999), user satisfaction (Bailey & Pearson, 1983; Montazemi, 1988; Yap et al., 1992; Raymond & Bergeron, 1992; Foong, 1999), and project success, service success, and economic success (Soh et al., 1992).

Ismail (2009) The evidence suggests that the major factors that influenced AIS effectiveness among the sample firms were managers accounting knowledge, vendors effectiveness and accounting firms effectiveness. Thus, this study has made an important contribution by increasing current understanding of AIS implementation and its influence factors in SMEs. Manager participation in AIS implementation, manager AIS knowledge, effectiveness of consultants and government agencies, 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.

2.1.3 Human Resource

Human resources is used to describe both the people who work for a company or organization and the department responsible for managing resources related to employees. The term human resources was first coined in the 1960s when the value of labor relations began to garner attention and when notions such as motivation, organizational behavior, and selection assessments began to take shape. Human resource management is a contemporary, umbrella term used to describe the management and development of employees in an organization. Also called personnel or talent management, human resource management involves overseeing all things

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related to managing an organization's human capital. Batt (2002) affirmed that human resource management by examining the role of high-involvement work systems in creating firm-specific human capital. It identifies one type of employee behaviour-quitting-that mediates the relationship between HR practices and performance. The work design dimension accounts for most of the mediation results, suggesting that it may be useful for future researchers to examine how different dimensions of the HR system affect different types of employee behaviour.

Muda et al. (2017) said that the human resources competency significantly have a positive influence on the Implementation of the Regional Financial Accounting System in Labuhanbatu regency. The use of Information Technology significantly has a positive influence on the Implementation of the Regional Financial Accounting System in Labuhanbatu regency. The implementation of Regional Financial Accounting System mediates the influence of human resources competency significantly has not positive influence on the quality of Local Government Financial Report of Labuhanbatu regency. And the Implementation of Regional Financial Accounting System mediates the influence of the use of Information Technology (PTI) significantly has not positive influence on the quality of Local Government Financial Report of Labuhanbatu regency.

2.1.4 Investment in Technology

Ghasemi et al. (2011) reported that investment in Accounting programs or software can help accountants or business owners create sales forecasts, economic business models and other business decision tools. They will also automatically input the business' financial information, limiting the number of human data entry errors.

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Standard defaults and mathematical verification processes are additionally important features of accounting software. These processes ensure that the company's accounting books are always in balance and do not violate any preset requirements. Small business accounting software packages are usually basic programs created with the non-accountant in mind. This allows owners and managers to complete traditional accounting functions without much formal training or technical knowledge. Small business owners may also be able to transfer this information electronically to their public accountant for tax purposes. Electronically transferring information is usually more accurate and timely than handing over a stack of manual accounting ledgers.

Shea et al. (2019) affirmed that IT investments result in positive shifts in both alpha and beta overall. Additional analyses showed that positive alpha shifts occurred for high IT-intensive firms, larger firms, firms that invest in technologies and firms investing in IT after 1992. There were also positive beta shifts for small firms, high firms and firms that invest in technologies. Only firms that invest in automate technologies displayed negative beta shifts. These results show that investors who invest in firms that adopt IT increase their portfolio returns. However, not all investors have the resources needed to invest wisely in IT investing firms.

2.1.5 Ethical Values

The word ethics referred to doing good or doing the right thing. Ethical values are the kind of values that have to do with being good or doing the right thing. In the accounting field, professional standards have been created to inhibit accounts from engaging in unethical behavior. Such standards play an important role in accounting because accounting processes aid management in decision-making processes that

impact a wide range of other individuals and the organization as a whole. It is important for accountants to understand accounting information systems from an ethical perspective because they have the professional responsibility to protect and safeguard assets and financial information. In accounting, standards of ethics are defined as implied or expected norms of accountant conduct (Chunhui, Lee, & Nan 2005). Ethical guidelines are viewed as equally applicable to each individual within the profession. (Mastracchio Jr, Jimenez-Angueira, Toth 2015)

Rogerson (2019) reported that there is a need to increase awareness, interest and action concerning the ethical dimension of Information Systems both as a discipline and as a practice. Dhillon (2006) affirmed that for maintaining IS security in organizations, it is necessary to go beyond technical considerations and adopt organizationally grounded principles and values. Friedman (2008) said that unanticipated values and value conflicts often emerge after a system is developed and deployed. Thus, when possible, design flexibility into the underlying technical architecture so that it can be responsive to such emergent concerns. The control of information flow through underlying protocols, and the privacy concerns surrounding such control, is a strongly contested area. Ubiquitous computing, with sensors that collect and then disseminate information at large, has only intensified these concerns. He suggested that underlying protocols that release information should be able to be turned off (and in such a way that the stakeholders are confident they have been turned off).

2.1.6 Concept of Small and Medium Enterprise (SMEs)

SME is an acronym of small and medium enterprises. SMEs definition has quite challenging even though several attempts have been made to define it. According to Anokyewaa, (2016), different economies or countries group firms as SME or other considering varied factors, commonly it size of the economy and its micro and macro development indicators. Some of the definitions are based on capital employed, level of technology etc. Hallberg, (2004) says that SMEs in Africa is defined based on economic activities within particular geographical area. Operational definition for small enterprises are those that have less than (10) employees, including the owner whilst the medium enterprise those that are between to (10-50) employees, including the owner. According to the National Board for small scale industries (NBSSI, 1990) Small scale enterprise is firm which is does not have more than nine employees, and plant and machinery(which does not include land, buildings and vehicles) not exceeding GHC10 million and micro enterprise has workers less than five.

In Ghana Osei et al 1993 described SME (Fagbemi et al, 2016) in terms of employment cut of 30 workers. Osei et al. continued to make further divisions of SMEs into three categories. First one is micro, that those firms employing less than 6 people. Second category is very small, are those employing 6-9 workers and the last category is small between 10 and 29 employees. Egypt defined SMEs as set firms having more than 5 and fewer than 50 employees. Australian Bureau of statistics (2001) defined SMEs as business (excluding agriculture) that employs not more than 200 people.

According to Nang (2017), classification is on vital financial information that is needed by the small scale enterprise to increase their competitiveness or success into; taxation financial accounting, management accounting and strategic planning and these services are different between "fast growth stage" and "enterprise companies". Abor and Quartey (2010) reported that the issue of what constitutes a small or medium enterprise is a major concern in the literature. A lot of authors have usually given different definitions to this category of business. SMEs have indeed not been spared with the definition problem that is usually associated with concepts which have many components. The definition of firms by size varies among researchers. Some attempt to use the capital assets while others use skill of labour and turnover level. Others define SSBs in terms of their legal status and method of production.

Storey (1994) tries to sum up the danger of using size to define the status of a firm by stating that in some sectors all firms may be regarded as small, whilst in other sectors there are possibly no firms which are small. According to Flora (2003), an African economist, she sees Small Scale Business as a small-scale enterprise that employs a small number of workers and does not have a high volume of sales. An alternate criteria used in defining small and medium enterprises is the value of fixed assets in the organisation. However, the National Board of Small Scale Industries (NBSSI) in Ghana applies both the `fixed assets and number of employees' criteria. It defines a small scale enterprise as one with not more than 9 workers, has plant and machinery (excluding land, buildings and vehicles) not exceeding 10 million Cedis (US$ 9506, using 1994 exchange rate).

The Ghana Enterprise Development Commission (GEDC) on the other hand uses a 10 million Cedis upper limit definition for plant and machinery. According to Atijosan (1998), a small scale business is any manufacturing, processing or servicing industry that satisfies any or all of the following conditions: 1. Capital, but excluding cost of land and not exceeding N750, 000 2. Staff strength not exceeding 50 persons and wholly Nigerian owned. 3. A manufacturing, processing or servicing industry, exceeding the units of investment stated is relatively small compared to prevalent size of plant and the technology is fairly labour intensive.

The International Accounting Standard Board (IASB) (2002) refers to small scale enterprises or entities as those entities that do not have public accountability and do not also publish general purpose financial statements for external users. Australian Bureau of statistics (2001) defined small scale business as a business (excluding agriculture) that employs not more than 200 people. Central Bank of Nigeria, defined small scale business as all businesses with a total assets investment of less than one million, an annual turnover of less than one million and with a total number of employees of less than fifty (World Bank Mapping 2005).

According to Ademola (2012), small scale businesses are catalysts for world's economic growth and development which have dominated the industrial sector of both developed and underdeveloped countries. Steel and Webster (1990) in defining small scale businesses in Ghana used an employment cut off point of 30 employees to indicate small scale enterprises. The latter however dis-aggregated small scale enterprises into 3 categories: (i) micro -employing less than 6 people; (ii) very small, those employing 6-9 people; (iii) small -between 10 and 29 employees. In the case of

Malawi, the official definition of enterprise sizes dates back to 1992. The definition is based on three criteria, viz.: the level of capital investment, number of employees and turnover.

Again, Steel and Webster (1990), an enterprise is defined as small scale if it satisfies any two of the following three criteria, that is, it has a capital investment of US$2,000 - US$55,000, employing 5 - 20 people and with a turnover of up to US$110,000 (using 1992 official exchange rate). For manufacturing enterprises, capital investment is taken to mean the cost of plant and machinery, including working capital and the cost of land and buildings. It may be observed that since this official definition was given in 1992, the economic situation in the country has changed drastically, with the value of the kwacha falling from an official rate of MK3.60 to US$1 in 1992 to MK15.30 to US$1 in 1996 and to MK43.15 as of January 1999. The implication is that the existing official definition is out of date and needs to be revised. Such enterprises are generally privately owned and operated sole proprietorships, corporations or partnerships. And depending on the country and the industry, a small-scale company employs between 250 and 1,500 people. Anything above that is a large scale company. Ghana Statistical Service (GSS), (2004) in their report, the Ghana Statistical Service (GSS) considers firms with less than 10 employees as small scale enterprises and their counterparts with more than 10 employees as Medium and Large-Sized Enterprises. Surprisingly, the GSS in its national accounts considered companies with up to 9 employees as Small and Medium Enterprises.

2.1.7 Growth Concept

Growth can be defined and measure in different ways. Business growth is simply defined and measured as using relative or absolute changes in sales, assets, employment, productivity, profits and profit margins (Davidson et al. 2006). Business owners themselves attach high importance to sales as an indicator of business performance as result of readily availability of sales data. Additionally sales are easier to measure compared to some other indices and are much more likely to record. Sales are a good indicator of size and growth. Barringer et al. (2005) describe sales as something considered to be a precise indicator of how a firm is competing relative to their market.

According to Churchill and Lewis (1983) as a new small firm starts and develops, it moves through some growth stages, each with its own distinctive characteristics. Churchill and Lewis (1983) identified five stages of growth: existence, survival, success, take-off and resource maturity. In each stage of development a different set of factors is critical to the firm's survival and success. The Churchill Lewis model gives an insight into the dynamics of SME growth, including the distinguishing characteristics, problems and requirements of growing SMEs and explains business growth processes amongst SMEs. The precise moment in time in which a start-up venture becomes a new business has not yet been theoretically determined. However, the idea of business survival could be equated with a firm that has fully completed the transaction to stage-two organization in the five stages of small business growth. The real issue in new firm growth is that most new SMEs in South Africa do not move from the first stage (existence) to other stages such as survival, success, take off and resource maturity (Olawale, 2010)

Growth is also define by Harvens (2001) as the alteration of the size of a firm over any given time interval, and the growth rate can be represented by the linear interpolation between the observed size at the beginning and the end of the interval.

2.1.8 Growth of SMEs

SMEs growth was seminally and generally defined by Penrose (1959), Schwab et al. (2019) as the increase in a firm size from one period to another. This means from an angle of operations management (OM) that production capacity needs to be adapted to growing demand. Locke (2004) Enterprises that have specific a growth objective do experience improvement in business performance. Research and development expenditures, advertising outlays, and asset growth, as a proxy for plant and equipment expenditures, can logically be expected to influence sales and income growth in similar ways in different environments. If sales and income growth affect profitability and market value measures in simulated and actual environments, the leverage variables may have an indirect as well as a direct impact on profitability and market value. Income growth has the most significant impact on profitability and market value in the business game while asset growth is the most significant variable affecting financial performance in the executive game. Sales growth is the most significant growth variable affecting financial performance in the actual industries examined. The indirect effects vary widely from industry to industry, but research intensity appears to negatively impact sales growth in the durable products industry and has a positive impact on sales growth in the nondurable products industry.

2.1.9 Sales Concept

Sale is the act of selling goods and services; the exchange of goods, services, or property for money. Moreover, it is the total amount of money that an entity received from selling goods or services. In similar manner, sale is any activity related to selling or the amount of goods or service sold at a given time or period, the seller and the buyer complete a sale in response to acquisition, appropriation and requisition or direct interaction with the buyer at the point of sale. One would not be mincing words to say that sale is the act of transferring the ownership of goods or delivering service to customer or consumer, for the fact that this is a way of exchange for mutual benefit to both the seller and the buyer. This sale relies on proper accounting information system (Adenike et al. 2018).

The sale concept is an idea that emphasized the sale of goods and services and not underlying need or want of customers. It does not really consider whether the products are actually needed by the customer or not. The focus is on sales (profit) first and then on marketing. Another term for sales concept is selling concept where the sole aim is sales, and not whether the product is actually required. It is one of the parts of the marketing concept. Profitability is achieved through sales volume but it is not favourable in a competitive environment. Here, the buyer beware concept is followed where buyer should be vigilant because making sales becomes the primary concern of companies and customer satisfaction is secondary. Operating under the sales concept, business would produce goods that it anticipated profitable return from and then attempt to persuade consumers to purchase them by using advertising another sales technique.

2.1.10 Sales Growth Concept

Locke (2004) Sales growth is defined as an increase in sales levels in the last 12 months. The amount by which, the average sales volume of a company's products or services has grown, typically from year to year. Sales growth is the percentage change in a company's car sales revenues from the beginning of one 3-year period to the end of the same period. Sales growth is a metric that measures the ability of your sales team to increase revenue over a fixed period of time. Without revenue growth, businesses are at risk of being overtaken by competitors and stagnating. Sales growth is a strategic indicator that is used in decision making by executives and the board of directors, and influences the formulation and execution of business strategy.

It would be hard to overstate the importance of the sales growth metric because it is tied directly to revenue and profitability. Growth is the drumbeat by which all organizations march. When performance declines, pressure mounts on the sales organization to deliver results. Conversely, a high percentage growth in sales is cause for optimism for all stakeholders such as executives, the board of directors, and shareholders.

2.1.11 Profit Growth Concept

Ravenscraft (1983) defined profit as sales minus materials, payroll, advertising, other selling expenses, general and administrative expenses (including applied R&D expenditures), and depreciation. Profit is the amount of money a company makes after deducting expenses. From year to year, or even month to month, profits will change. Profit is an absolute number determined by the amount of income or revenue above and beyond the costs or expenses a company incurs. It is calculated as total revenue

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minus total expenses and appears on a company's income statement. Profit is a financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenses, costs, and taxes needed to sustain the activity. Any profit that is gained goes to the business's owners, who may or may not decide to spend it on the business. Profit is calculated as total revenue less total expenses. No matter the size or scope of the business or the industry in which it operates, a company's objective is always to make a profit.

Profit growth is defined as the increase in profit levels over period. Profit growth can also be defined as the growing of your sales levels over period of time Companies normally want profits to grow. According to McBride (2017) to calculate profit growth, analysts use a percent-change formula. This shows the percentage the profit grew from one period to another. Analysts can use any period to determine the profit growth, such as weekly, monthly, quarterly, semi-annually or annually. Musa (2017) revealed that, there is inefficient use of accounting information to support financial performance measurement by SMEs. This made it difficult for the entrepreneurs to calculate their business profit efficiently. Failure of keeping of accurate records was highly blamed on the lack of skills in this field. The study further revealed that the owners and managers of SMEs were highly willing to learn more about how to keep accurate records of their business transactions. The correlation analysis showed that there is a positive association proper bookkeeping practices and SMEs growth and financial performance (profitability).

2.1.12 Asset Growth Concept

An asset is an expenditure that has utility through multiple future accounting periods. Things that are resources owned by a company and which have future economic value that can be measured and can be expressed in cedis. Examples include cash, investments, accounts receivable, inventory, supplies, land, buildings, equipment, and vehicles. If expenditure does not have such utility, it is instead considered an expense. For example, a company pays its electrical bill. This expenditure covers something (electricity) that only had utility during the billing period, which is a past period; therefore, it is recorded as an expense. Conversely, the company buys a machine, which it expects to use for the next five years. Since this expenditure has utility through multiple future periods, it is recorded as an asset.

If an asset was purchased by an entity, it is recorded on the balance sheet. However, some assets are acquired at such a low cost that it is more efficient from an accounting perspective to charge them to expense at once; otherwise, the accounting staff must track these assets through multiple periods, and determine when they have been consumed and should therefore be charged to expense. When assets are recorded on the balance sheet of a business, they are classified as being either short-term or long-term assets. A short-term asset is expected to be consumed within one year, while long-term assets are to be consumed in more than one year.

Assets are reported on the balance sheet usually at cost or lower. Assets are also part of the accounting equation: Assets = Liabilities + Owner's (Stockholders') Equity. Merton (1973) defined an asset as production technology which is probability distribution for cash flow (valued in consumption units) and physical depreciation, as

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a function of the amount of capital, K(t) (measured in physical units e.g., number of machines), employed at a time.

Asset growth is a pattern in cross-sectional and time series stock returns, according to which corporate events associated with asset expansion in the statement of financial position tend to be followed by periods of abnormally low returns, whereas events associated with asset contraction in the statement of financial position tend to be followed by periods of abnormally high returns (Richardson, 2010).Potential asset expansions in the definition can be related to investment to property, acquisitions, public equity offerings, public debt offerings, and bank loan initiations. Whereas asset contraction in the statement of financial position could include spinoffs, share repurchases, debt prepayments, and dividend initiations.

The important aspect of this definition is that it can be driven by several different factors. These different aspects are linked to investment, accrual and external financing effect. Investment effect is mainly driven by the expansions and contractions in the asset side of the statement of financial position, whereas, the financing effect is related to changes in liabilities side of the statement of financial position. Accrual effect is related to changes both in assets and liabilities side (Richardson, 2010).Investment effect is as a result of the expansions and contractions in the asset side of the statement of financial position, whereas, the financing effect relates to changes in liabilities side of the statement of financial position. Accrual effect relates to changes both in assets and liabilities side of the statement of financial position. Asset growth effect and Investment effect will define a firm's investment activities; investments to fixed assets, and stock returns (Cooper, 2008).Asset growth

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is not a complex concept; it simply means the degree to which an asset increases or decreases in value over time. Asset growth is a prime requirement for a healthy, profitable investment portfolio. Gonenc (2018) found out that a high level of return predictive power for asset growth-related measures in all developed markets of the MSCI World Universe, especially for two-year total asset growth rates. However, little significant return predictive power for these measures is found in emerging markets either by country or as a group.

2.1.13 Net Cash Flow Growth Concept

Cash flow refers to the movement of money in and out of your business in terms of income and expenditure. Ideally, you want to have a positive cash flow – meaning that more money is coming in to the business than goes out. If you have a positive cash flow, your business will be able to settle its bills and invest in growth. A negative cash flow means you'll need to find an alternative source of income to be able to pay off debts (Soenen 1987). Net cash flow refers to the difference between a company's cash inflows and outflows in a given period. In the strictest sense, net cash flow refers to the change in a company's cash balance as detailed on its cash flow statement. Net cash flow is also known as the "change in cash and cash equivalents.' Net cash flow is the amount of cash generated or lost over a specific period of time, usually over one or more reporting periods. This concept is used to discern the short-term financial viability of a business, which is considered to be its ability to generate cash. Net Cash Flow is the profits of the business plus non-cash expenses. Net cash flow, also referred to as cash flow earnings or Net Income Plus Depreciation (NIPD), is not the same as Net Profit. Non-cash expenses lower the amount of net profit but do not reduce cash flow. If a company is consistently generating positive net cash flow

over a long period of time, this is the best indicator of its viability. Conversely, continuing negative net cash flow is the prime indicator of any number of operational or financing problems (though it could also mean that a business is growing rapidly and so requires more working capital than usual).

Net cash flow is a profitability measurement that represents the amount of money produced or lost during a period by calculating the difference between cash inflows from outflows. This metric is typically an indicator of a firm's financial strength, providing it with the ability to operate, develop new products, expand into new markets, invest in research, reduce debt, and increase shareholder value. Firms with long-term positive cash flows are financially healthy and meet their short-term obligations without the need to liquidate their assets. Conversely, companies with long-term low or negative cash flows are financially weak or even on the verge of bankruptcy. Short-term negative cash flows may also indicate that the company has invested in the construction of a second factory or in expensive new equipment. As soon as the investment begins to generate revenue, it will outweigh the failing of short-term weak cash flow.

Net cash flow growth is the increase in positive net cash flow levels usually from year to year. Positive net cash flow from a section means a business generated more cash than it spent on that section's activities. Negative net cash flow means the business spent more than it generated on those specific activities. The cash flow from operating activities section shows a company's cash flows from its core business operations, which it uses to reinvest in and grow its business. A healthy business should generate positive net cash flow from operating activities and should grow the amount over

time. If a business fails to consistently generate positive net cash from operating activities, it may need to rely on outside financing to operate, which will not sustain a business long term.

2.2 Theoretical Review

2.2.1 Contingency Theory and the Design of Accounting Information Systems

Contingency theory suggests that designed of accounting information system should be flexible in manner so as to consider the environment and organizational structure confronting an organization. There is need for accounting information systems to adapt to the specific decisions being considered. In other words, accounting information systems need to be designed within an adaptive framework (Gordon et al 1984).

Extant literature has examined different forms of AIS combination with other variables such as technology, structure and environment. These various combinations of AIS have provided useful directions for AIS research, although such research directions have majority not been directed towards SMEs. AIS need to also be adapting to specific decisions being considered. In other words, AIS need to be designed within an adaptive framework other early contingency research summarized by Otley (1980) found no universally appropriate management accounting system applicable to all organizations in all circumstances. Chenhall et al. (1986), Gul et al. (Fagbemi et al 2016) examined the contingent relationship between internal and external environmental factors such as organizational interdependence, decentralization and perceived environmental uncertainty and choice of AIS (information scope, timeliness, aggregation and integration). The general conclusion

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from this that greater organizational interdependence, decentralization and perceived environmental uncertainty are factors associated with either a greater perceived need for more sophisticated AIS or higher firm's performance with more sophisticated AIS. The present research adds to this body of literature.

2.2.2 Technology Accepted Model

The technology acceptance model consists of six distinct yet causally related constructs, namely external variables, perceived ease of use, perceived usefulness, attitude towards using, behavioral intention to use and actual system use (Kohet al., 2010). In the technology acceptance model, perceived ease of use and perceived usefulness determine an individual's information systems acceptance (Lee et al., 2003; Surendran, 2012) by determining their attitude towards using and subsequent behavioral intention to use, which culminates in actual system use (Wu & Wang, 2005).

Perceived usefulness is used as both a dependent and an independent variable since it is predicted by perceived ease of use and in turn predicts attitude towards using and behavioral intention to use simultaneously (Koh *et al*., 2010; Lee *et al*., 2003). The perceived ease of use, attitude towards using and behavioral intention to use components represent the core functions of the technology acceptance model, whereas external variables and actual system use serve merely as input to and output from the model respectively. The rationale of the technology acceptance model is that the influence of external variables on technology acceptance behavior is mediated through user beliefs and attitudes, in which beliefs represent a degree of instrumentality tied to action and attitudes are purely affective. Beliefs relate to an

individual's subjective assessment that performing some behavior will result in a specific consequence, whereas attitudes relate to an individual's positive or negative affective feelings about performing the behavior (Lee et al., 2003). Both perceived ease of use and perceived usefulness are belief constructs that are indirectly influenced by external variables in reinforcing a user's belief that using a particular system could improve their performance and through their belief that using a particular system (by implication, ERP) will be free of effort (Brown, 2002; Saade & Bahli, 2005; Surendran, 2012).

External variables are therefore a bridge between internal beliefs, attitudes and intentions represented in the technology acceptance model and various individual differences, situational restrictions and organizational interventions imposing on behavior (Guritno & Siringoringo, 2013). Identifying external variables and recognizing their impact enables system developers to manipulate these variables and in so doing have better control over user attitude towards using and behavioral intention to use and the subsequent enhanced actual system use (Hong *et al*., 2002). Previous researchers have identified two main categories of external variables, namely individual differences (e.g. self-efficacy, innovativeness and computer attitudes) and system characteristics (e.g. voluntariness, relative advantage and complexity), as identified by Lee, Kozar, and Larsen (2003).

Research has further explained that a relation exists between perceived usefulness and attitude towards using, and between perceived ease of use and attitude towards using new technology (Guritno & Siringoringo, 2013; Moon & Kim, 2001). Attitude towards using involves judgment on whether a behavior is good or bad and whether

the user is in favor of or against performing it (Leonard, Cronan & Kreie, 2004) and has a direct effect on the intention to use IS or ERP systems in the future (Guritno & Siringoringo, 2013). According to the technology acceptance model, attitude towards using is jointly determined by perceived ease of use and perceived usefulness (Guritno & Siringoringo, 2013).

The technology acceptance model further proposes that computer usage is ensured by behavioral intention to use, which predicts a user's intention to perform an intentional act such as deciding to accept and use an information system. Behavioral intention to use has also been found to accurately predict the actual use of a computer information system (Guritno & Siringoringo, 2013; Recker, Rosemann, Green & Indulska, 2006; Yu *et al*., 2009). Behavioral intention to use is influenced by attitude towards using and perceived usefulness (Guritno & Siringoringo, 2013).

Figure 2.2: The model below was put forward by Davis (1989) which portrays the original TAM.
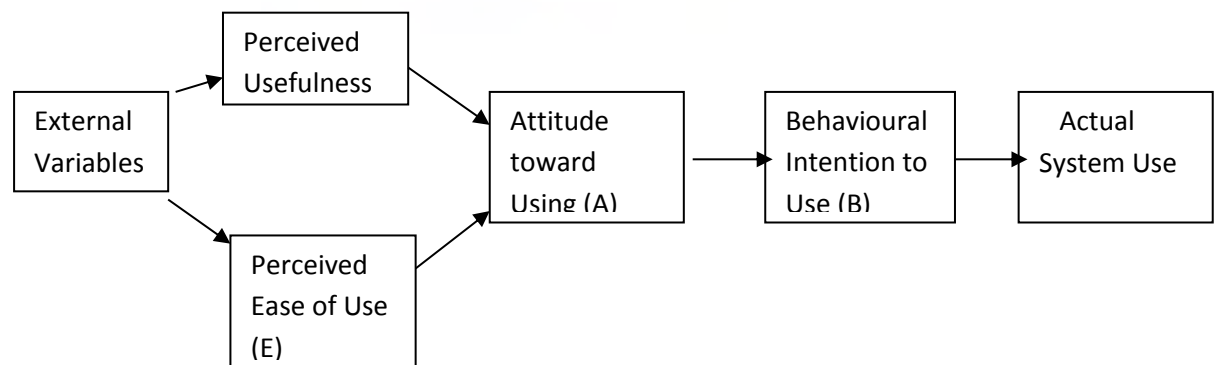
Source: Davis (1989)

2.2.3 The Expectation Confirmation Theory

Jiang & Klein (2009) in chapter 22 of Capitalizing on Descriptive power describe the expectation confirmation theory as based upon the concept that before any event takes place, everyone has an expectation. If such an expectation is met positively then there is satisfaction and the opposite results in dissatisfaction. As a result, the ECT suggests that satisfaction is derived from prior expectations and perceived delivery. This therefore allows for investigations on any of the components to study why clients are satisfied by a specific product or service. However, the ECT has insufficient analytical techniques to monitor the inherent limitations of the model which restricts information systems researches to less descriptive and analytical accuracy. It involves four primary constructs which are: (1).

Expectations refers to the attributes that a person anticipates that they will be related to the entity which may be a product (2) Perceived performance (3) Disconfirmation of beliefs (4) Satisfaction. In this model, expectation shows anticipated behavior (Churchill et al.1982)). They are predictive and are used as a basis for comparison as users evaluate present performance and then form a judgment either confirmation or disconfirmation (Halsted, 1999). Disconfirmation then leads to either positive or negative satisfaction (Spreng, et al., 1996). Oliver. R (1980) in his study established that expectations, perceived performance and disconfirmation of beliefs are independent variables and satisfaction is the dependent variable.

Figure 2.3: The model developed by Oliver. R (1980): The expectation confirmation theory

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┌─────────────────┐
│   Expectation   │
└─────────────────┘
         │              ┌──────────────────┐        ┌──────────────────┐
         │              │   Performance    │───────▶│   Satisfaction   │
         ▼              └──────────────────┘        └──────────────────┘
┌─────────────────┐
│  Confirmation   │
└─────────────────┘
```
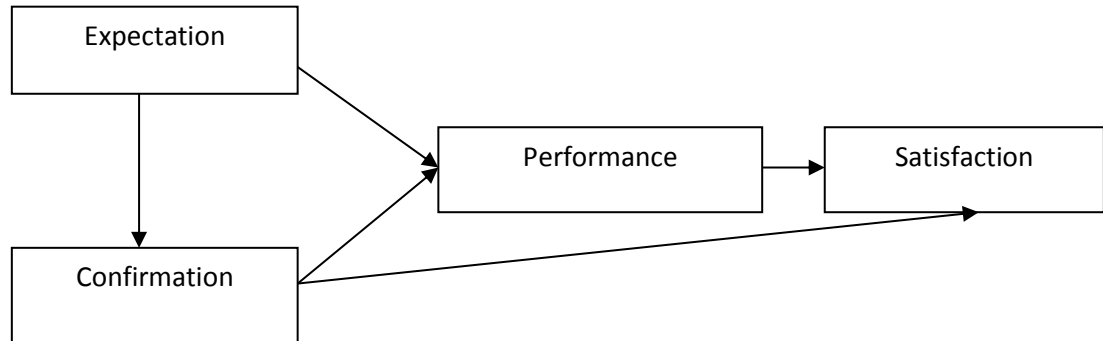
Source: Oliver. R. (1980)

2.2.4 Sales Growth Theory

According to Liu 2009, Adenike et al. (2018) affirmed that sales growth establishment is based on the theory of marketing force firstly, introduced a physical model as a body M moves following the path L. He said, if the quantity is not taken into consideration, there are only two main factors determining the body's speed. The first is the ΣF and the second is the length of L (assuming it is S). Suppose the circular frequency is Q. Then

$$Q = \Sigma F / S \tag{1}$$

The Theorist again introduced another model into the marketing static circular system. The products circular speed determines the growth of sales in the marketing static circular system. Q stands for the sales growth, which is related with the forces and the perimeter S. He then said the relationship is similar to the physical model namely:

$$Q = \Sigma F / S \tag{2}$$

Forces exert different effects in different enterprises, for different products, at

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different time, and under different market conditions. Therefore, suppose the weight of each force is Kn, then:

$$F=k_0f_0+k_1f_1+k_2f_2+k_3f_3 \tag{3}$$

S stands for the path of the circular system. It represents the middlemen between products and demands. It is the distance for starting a new cycle by the repetitive force of quality and service.

$$S=S_0+S_1 \tag{4}$$

Where,

S_0 – psychological distance,

S_1 – spatial distance and time distance

Liu (2009) sum up to conclude that:

$$Q= K \times \varepsilon \times [\Sigma F_1/S_1+\Sigma F_2/S_2+\ldots\ldots+\Sigma F_n/S_n] \tag{5}$$

Here, k is the resource coefficient; ε the channel barrio coefficient which reflects the of channel conflicts on sales.

Subjected to $0<\varepsilon\leq1$

As no channel conflicts, $\varepsilon=1$;

As channel conflicts exist, $0\leq\varepsilon<1$.

Liu (2009), Adenike et al. (2018) also quantitatively analyzed marketing force and sales growth by taking two products, A and B, in one brand in an enterprise. Before listing in market, analyze their sales growth trend and compare the possibility of their successes. Make quantitative analysis of elements in marketing static circular system.

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He discovered that future sales growth of product static pulling force is bigger than that of product without static pulling force, in which investment in accounting information system is paramount.

2.3 Empirical Evidence of Accounting Information System and the Growth of SMES

Locke (2004) reported that increased profitability is proxy for growth, is most strongly correlated with ICT usage. Urquía et al. (2011) found out that there is a positive relationship among the SMEs that use AIS for fiscal and bank management and better performance measures. The study provides value added in accounting literature given the scarcity of works dealing with the relationship between the application and use of AIS and performance and productivity indicators in SMEs in Spain. Esmeray (2016) stated that a positive relation is found between the utilization of AIS and growth (Sale, Customer and Revenue). Adenike et al. (2018) did research on investment of accounting information system (AIS) and the sales growth. The study affirmed that a relationship existed between investment in accounting information system and sales growth which is in support with the findings of Taiwo (2016) and Saeidi (2014). The descriptive approach had similar result with the result obtained from inferential approach. The respondents view on the impact of AIS investment on sale growth was positive and agreed with the result from the multiple regression analysis and the F-ratio that relationship existed between investment in accounting information system and sales growth. It was recommended that organization should invest more in accounting information system so that other derivable benefits will be achieved. Also, organization should endeavour to train their staff on AIS uses to improve their working performance and enhance sale growth.

Also, government should formulate a policy that will promote the adoption of AIS in a bid to assist SMEs sale growth which will in turn, help keep a track record of SMEs sale and at the same time better the standard of living of the firms. According to Harash (2014); Adenike (2018) the adoption of AIS has certainly played an vital role that contributes to company's value added by providing internally generated input, that is, financial statements, such information should help the company make better strategic plan. Therefore, investment in AIS must be strategically aligned with organization policy in order to have a positive effect on the organizational sales.

Adenike et al. (2018) affirmed that a relationship existed between investment in AIS and sales growth. Consequently, recommended that government should implement a policy that will stimulate the investment in AIS by SME in order to improve their sales and in return have positive impact on economy development of the nation.

Olugbode et al. (2008) affirmed that business system and ICT infrastructure have improved operational processes and efficiency of the company. Consequently, this has reduced operating and transaction costs, increased turnover and enhanced profitability. The introduction of this fully supported and integrated IT system will serve as a strategic tool for the company to sustain its continued growth and maintain its competitive advantage as one of the leading building services company in the South West region.

Kouser et al. (2011) stated that AIS has significant influence on the profitability. However firms not having ERP system can enjoy more returns for their leverage and high amounts invested by assets by boosting their decision making process efficient through an appropriate ERP system. Organizations should use ERP systems because

they have many advantages and they are becoming necessities for business organization worldwide. Government should take a leading role to encourage ERP training academies so that trained ERP user could be produced who can use the system effectively. There are some training institutes but there are giving expensive training. Awareness should be given to both public and private sectors to use these systems. Selehi et al. (2015) showed that effective adoption of AIS in SMEs listed on the Tehran Stock Exchange is positively associated with performance, productivity, and profitability.

Locke, S. (2004) stated that internet adoption is only found to have a positive influence on profit growth. Interestingly, the level of understanding possessed by owner/managers regarding ICT has a slightly lesser impact upon profit than the actual adoption of either form of ICT. Locke also reported that ICT does not appear to have been particularly useful in boosting the market share and sales levels of a business, results indicate it has the potential to provide substantial cost reducing benefits to its users. Although sales are not necessarily affected, profits tend to increase when high use is made of the internet and when moderate use is made of cellular phones. Urquía (2011) SMEs using AIS for bank and fiscal management have higher profitability than those not using it.

Yang et al. (2001) affirmed that investment in computerized accounting system grow intangible assets. Brynjolfsson et al. (1998) investigated the proposition that the widespread use of information technology has increased investment in intangible organizational assets. Using firm-level data, we find that each dollar of installed computer capital in a firm is associated with at least five dollars of market value, after controlling for other assets. They interpret this value as revealing the existence of a large stock of intangible assets that are complementary with computer investment.

Using data on organizational practices at each firm, they identify a specific cluster of practices that appear to represent at least some portion of these intangible assets. Not only are these practices correlated with computer investments, but firms that combine higher computer investments with these organizational characteristics have disproportionate increases in their market valuations. They concluded that investors believe that the contribution of computers is increased when they are combined with certain intangible assets, specifically including the cluster of organizational changes that we have identified. Domeika (2008) Accounting of enterprise fixed asset encompassing 5.1 % in the structure of accounting information is of importance when making economic management decisions. He suggested that Creating CDB of an enterprise fixed asset accounting, it is necessary to prepare classificators and permanent reference books, ready carriers of variable information in an automated way and master the computerized technology of accounting arrangement and usage of information. Again making use of the accounting information accumulated in CDB, the managers and specialists of an enterprise are able to: operatively control the operations of fixed asset turnover (acquisition and losses) and depreciation over any (requested by the user) period of time; evaluate the technical state of asset and deal with issues of its renewal; analyse the indices of fixed asset usage and make reasoned decisions of management. Finally he said it is purposeful to create a uniform computerized system of fixed asset accounting and economic analysis of this asset which would accumulate and store the secondary information for 10 years regarding fixed asset and tendencies of its usage.

Shama (2001) argued that, cash flow information is for predicting failure, and not necessarily due to its potential information content. Theoretical arguments justifying

the relevance of cash flow information for predicting failure are presented prior to discussing avenues for future research. Martinez-Sola et al. (2018) said that SMEs with greater growth opportunities adjust more quickly to their target cash holding level to preserve their financial flexibility and to be able to take advantage of profitable investment opportunities when they arise. They further said that for SMEs in financial difficulties, the adjustment speed of cash is higher to avoid financial distress costs. Finally, they observed a faster speed of adjustment for cash holding in the crisis period for all firms, as a possible response to the credit restrictions faced by SMEs.

Marriot et al. (2006) affirmed that, in the context of small and medium scale enterprises (SMEs), accounting information is vital as it can help the firms to manage their short-term problems in critical areas like costing, expenditure and cash flow, by providing information which will be used to support monitoring and control.

Musah (2017) studies results showed a positive association between bookkeeping practices and SMEs growth and performance in Ghana. Owusu et al. (2019) reported that the findings of the current research revealed that high financial literacy led to more positive effect of financial resource availability on SMEs growth. Dalgar, (2014) search to what extent AIS is used in production companies and they carry out a questionnaire in production companies which are in West Mediterranean Region. In this study, it is seen that in production companies every data which is needed in AIS is recorded; the information technology is used effectively in these companies; stock companies use AIS more efficiently than other companies. Akgun et al. (2013) discuss AIS in conceptual basis in their study. They carry out a questionnaire to

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determine the efficiency of AIS in Tuz Lake (Salt Lake) businesses. According to the result of this questionnaire AIS provides information for internal and external users. It is also seen that AIS has a positive effect on the efficiency of the business management. Yazıcı (2010) makes a research about the effects of AIS on managerial decisions in SMEs in the Erzurum Organized Industry Zone. According to his research results when businesses get larger, the number of personnel and the level of technology use increase, AIS is used more efficiently in managerial decisions. Gökdeniz (2005) stated that AIS is the most important sub-system of MIS. The input of AIS is recorded more easily by computerized system and the output is reliable and certain.

Also AIS education provides many advantages to the businesses. Mizrahi (2011) focus on the effective use of AIS in SMEs. According to her study the SMEs in İzmir only use 35% of their AIS knowledge in their managerial studies. In their study Allah, (2013) aim to show to what extent small businesses use AIS and states that small businesses are unwilling to use new technology in their businesses. Gray (1991) in his study emphasizes on subjective preferences and states that in traditional IS/AIS selection approaches; they do not consider personal preferences.

In his study Fink (1996) finds out that some businesses use accounting software packages but they face problems during the installation of these packages because they are not well managed. They lack some important features and because of this they fail to function properly. Fink suggests that better documentation is needed and it is important that user needs to be educated in order to solve the problems. Ismail, (2009) aims to show the use of accounting information computerized AIS among non-

manufacturing SMEs in Malaysia. They find out that AIS usage is minimal in these businesses. Some businesses use AIS but most small businesses have difficulty in understanding the importance of accounting information. Muhindo (2014) stated that AIS has an important role in business especially in its management. He find out that, AIS is not used in small scale businesses. He states that AIS has an important role in economic and social system. Grande (2011) carry out a survey among small and medium-sized firms to find out to what extent the development and installation of AIS take place in these firms. They find out that there is a positive relationship among the SMEs which use AIS for fiscal and bank management and better performance measures.

The relationship between accounting Information systems and SMEs performance was conducted by Harash (2014), who tested the influence of characteristics enjoyed by the accounting information in determining SMEs' performance. It was found out that the characteristics enjoyed by the accounting information such as: reliability, relevance, timeliness, and accessible have significant effects on the use of AIS and SMEs' performance. Ultimately, the goal is to develop a testable model of the relationship between accounting performance in SMEs and the using of accounting information system and, in turn, the system effect on accounting performance in SMEs. Traditional difficulties that SMEs face in using of accounting information system have been complicated by advances in manufacturing technology (Harash, 2014; Harash, 2015) Therefore, business administrators and accounting professionals have developed several new accounting information systems to deal with them. New accounting information systems can improve the relevance and quality of information that management needs to keep the organization running smoothly (Beke, 2010).

Fagbemi & Olaoye (2016) carry out a study on an evaluation of accounting information system and performance of small scale enterprises in Kwara state, their findings reveals that there is a positive relationship between SMEs' performance and the adoption of computerized accounting information system. Similarly, it is revealed that there exists a positive relationship between SMEs' performance and effective inventory control system. Both coefficients are individually statistically significant at 1%. Overall, liner regression statistic of 36.27 suggests that accounting information system has significant effect on the performance of small and medium enterprise in Ilorin Metropolis, Kwara State. This implies that as the extent to which SMEs adopt accounting information system increases, the better the decision that will be taken hence the higher the likelihood that SMEs' performance will improve.

Baily and Chakrabarti (1988) showed no correlation between investment in technology and SMEs growth. They claimed that when production becomes gradually more information intensive, the relative productivity drops as a result of the declining information technology (IT) price, thus, IT is a poor replacement for information workers. In addition, Loverman (1988) examined the period from 1978 to 1984 on some business units of a manufacturing sector and concluded that the contribution of IT capital Investment to productivity as output is about zero. Furthermore, he showed that the marginal dollar would be better employed if spent on non-IT input like non-IT capital. Also, Strassmann (1990) found no association between investments in technology and profits or SMEs growth. He concluded that it is not how much is spent on IT, but how IT assets are managed which makes the difference.

Some studies have failed to find a relationship between investment in technology and firm growth. Markus and Soh (1993) tested the correlation between firm growth and a set of IT-related variables like IT expenditure, extent of computerization, and proportion of IT services outsourced. They controlled for bank size and diversity of banking activities. They found that smaller banks achieved returns on their IT spending more than larger banks. Nevertheless, when they considered a lagged IT expenditure accumulated over four years, they found that, within larger banks, the more extensive computerization was correlated with greater firm growth than in smaller banks.

However, Hitt and Brynjolfsson (1996) found that IT investments affected productivity and contributed to consumer welfare through better services and lower prices, but this did not necessarily improve growth. This was because productivity benefits passed to consumers through lower prices, and not directly to superior profitability. Hitt and Brynjolfsson (1996) explained that the reason behind the non-improvement of business growth from IT investment was that buyers decrease their costs for searching for low-cost products and services and selecting for new suppliers. Therefore, the lower price that buyers pay for products or services could reduce growth. On the other hand, some studies investigated the relationship between investments in technology and firm performance through some intermediary variables. For instance, Barua, Kriebel, and Mukhopadhyay (1995) investigated a relationship between investments technology and intermediate measures of operational performance (e.g. inventory turnover, relative quality, relative prices, and new products), and the impacts of these intermediary variables on firm performance. The researchers found that investment in technology affected most of the intermediate

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measures as inventory turnover, which affected firm performance, as the latter was measured by return on assets (ROA) and market share. Rai, Patnayakuni and Patnayakuni (1997) studied the impact of investment in technology on firm growth by using firm-level IT spending data as the input, and financial data as the output. They used three IT investment measures: aggregate IT, client/server systems, and IT infrastructure. Whereas their outputs expressed three different performance items including: firm output (sales and value added), financial (ROA and ROE) and intermediate (labor productivity and administrative productivity) performance. They found that IT investments partially associated with firm output positively, indicating a lack of a clear correlation between IT investments and business growth. That is only when IT capital and client/server expenses were positively correlated with ROA. The explanation of such findings was that financial performance might be significantly affected by variation in the links between IT, business strategy, and competitive context across firms.

They emphasized that the integration of these contingencies could better explain correlations between IT investments and financial performance. Indeed, studies at the firm level show that the value of IT investments is influenced by the structure, strategy, and business practices of the firms. For example, Weill (1992) explained that the quality of management in a firm and its commitment to spending in IT increases the contribution of IT investments to firm performance. Tallon, Kraemer and Gurbaxani, (2000) showed that aligning IT with business strategy increased the value of IT investments, and those firms with higher levels of investments gained enormous benefits from alignment. In addition, Dedrick, Gurbaxani and Kraemer (2003) suggested that IT investments affect growth of SMEs, but the modeling techniques

and datasets used in previous studies were unable to measure the impacts. Thus, if developed models are able to control for more factors that affect growth, then IT investments and firm performance could be revealed.

Hansson (1997) study examined the price of knowledge-based firms in relation to firms that does not give focus to their employees. The results of the study concluded that firms who give consideration to their staff development and welfare have more chance of increased performance. Human resource and AIS have a great link (Daft, 1983). The findings from the study clearly indicated that employees have an economical and financial impact both the long-run and short-run financial performance of a firm.

AIS adoption can improve the firm-level performance of a business. Increased competition in the market due to globalization and technological innovations created the need for companies to invest in different accounting information systems in order to meet changing needs of the business as well as improve on current operations. Grande, Estebanez, & Colomina, (2011) noted that the key benefits for SMEs in using AIS are: better adaptive capability to changing conditions, better management of transactions, and a higher degree of competitiveness. A positive effect of AIS on performance was supported by Hamilton & Asundi (2008) who found that IT adoption resulted to an increase in sales and inventory turnover after three to six years. The findings of Devaraj and Kohli (2003) also reveal that there is a positive link between IT usages and spending of firm-level performance. However, it is worthy to note that it would take several years for firms to realize the benefits from adoption of AIS (Wah, 2000). Moreover, one cannot simply rely heavily on AIS. As

indicated by Akkermans, (2003), AIS can still be insufficient and has several shortcomings that the company must be able to address. This shows that the adoption of AIS is not an end in itself but rather, only part of the means to achieve business objectives. It can be considered as a subsystem that is heavily dependent on other subsystems of the business in achieving the main goals of the company. Sajady, Dastgir, and Nejad, (2008) focused more on the enhancement of capabilities or facilitation of processes of the business. In their study, they found that AIS improved overall decision-making as well as internal control mechanisms of the business. Moreover, financial transaction processes were better facilitated through the use of AIS. IT can also improve businesses in terms maintaining and improving their competitive advantage, as well as, reduction cycle time and improve collaboration between members of the value chain (Gunasegaram & Ngai, 2004). Gunasegaram & Ngai (2004) also noted that IT facilitates the establishment and development of virtual enterprises which significantly improved information sharing between members of a virtual enterprise. Focus on enhancement of capabilities instead of performance was further supported by Banker, et al. (2006) wherein they found that information systems allowed companies to improve on their firm-level performance, in terms of quality, efficiency and time-to-market, through the mediation of firm capabilities.

2.4 Industrial Review of SMEs in Ghana

A small and medium scale enterprise (SMEs) is the biggest industry in Ghana. Small and medium sized enterprises (SMEs) have been the backbone of Ghana's economic and social development for the past decades. They are the major driving force for business development, employment creation, production of goods and services and internal income generation in Ghana.

According to the Registrar General's Department as noted by Graphic Online (2014), 90% of registered businesses in Ghana are SMEs. An SME Research Report by Ghana Web indicated that SMEs contribute an estimated 70% of Ghana's GDP and account for approximately 85% of employment in the Ghanaian manufacturing sector. It is therefore implicit that to maximize the developmental potential of Ghana, the companies classified as SMEs must be assisted to develop. These are businesses SMEs operators or owners engaged in the sector; agro-processing, artisans, soaps and detergents making; weaving fabrics; cloth designing and tailoring; textiles and leather works; brewing beverages; food processing and baking; creative and art industry, wooden /furniture processing; assembling electronic products, chemical based products among others. Industry regulators who ensure that SMEs operate within the confines of the law or give them the permit for their operations are:

2.4.1 Registrar General Department

The Registrar General's Department was established under the Ordinance 1950 during the Colonial days. They are mandated by the Government to ensure an efficient and effective administration of entities inter –alia the registration of businesses, industrial property, marriages, administration of estates, and public trustees, to provide customer friendly services and accurate data for national planning. To establish SME in Ghana you have to first register with Registrar General Department to be given Certificate to Commence Business. In actual fact a lot SMEs have not registered their business in Kumasi and Ghana in general but now government is taking steps to register all unregistered SMEs in Ghana through it TIN registration process by GRA.

2.4.2 National Board for Small Scale Industry (NBSSI)

The national board for small scale industry was established by an act of Parliament (Act 434 of 1981). NBSSI object is to contribute to the creation of enabling environment for small scale enterprise development. They are to develop enterprise culture in Ghana by facilitating access to credit and provide substantial business development service.

2.4.3 Ghana Standard Board

Ghana Standards Authority is an Agency of Government responsible for developing, publishing and promoting standards in the country. It does this through standardisation, metrology and conformity assessment activities. Some of these activities are testing, inspection and certification. These activities ensure that products or goods and services produced in Ghana, whether for local consumption or for export are safe, reliable and are of good quality. SMEs operate under this body so under no circumstance the SMEs could operate without meeting the Ghana standard Authority standards.

2.4.4 Food and Drugs Authority

The Food Drugs Authority (FDA) is the National Regulatory Body responsible for the regulation of food, drugs, food supplements, herbal and homeopathic medicines, veterinary medicines, cosmetics, medical devices, household chemical substances, tobacco and tobacco products and the conduct of clinical trials protocols. This is another regulatory authority in the industry. SMEs which are into the food, drugs, food supplements etc must ensure that they work under this agency ensure safety of their operations.

2.4.5 Benefit of SMEs Operations

They are essentially the drivers of the Ghanaian economy through their contribution to income, employment generation and ultimately economic growth. A survey conducted by Aryeetey (2001) reports that SMEs represent the production force of Ghana. They contribute about 85% of the manufacturing employment of Ghana. They are noted to provide 70% to Ghana GDP and represent about 92% of enterprises in Ghana.Carsamer (2009); Anokyewaa (2016) SMEs have contributed significantly to the growth and advancement of national economies. Small businesses are noted to be the driver of advancement of many developed economies such as Russia, United Kingdom and Germany.

Recent studies conducted in developed market indicate that small business account for the highest number of registered companies. Hence they significantly add to the growth and development of an economy (eServices, 2011). Even when considers the situation of both developed and developing economies, SMEs are still a significant tool to the growth and development of an economy. Researchers like Beyene (2004), Snodgrass and Biggs (1996) reports that SMEs contribute significantly create completion in the market, create employment, innovation and thus generate economic wealth. Hence it is noted to be the device for the development of many nations in the emerging and developing nations. Small businesses are the employers of majority of the labour force in most developing nations. In the same Kuratko (2001) suggests that small and medium enterprise in South Africa constitute 42% of GDP to the economy.

SMEs plays a vital role in employment creation, add to the number of establishment, make value added share and accumulation of human resources with skills and

managerial abilities in both developed and developing countries as well as the seedbed of industrial development (Liedholm and Mead, 1999; Hamilton, 2007). In Ghana, SMEs constitute about 85% of manufacturing works, offer 70% to GDP of Ghana. Hence they have a significant impact on the growth, income and employment of the country (eServices, 2011). Aryeetey (2001), reports that small enterprises in Ghana have characteristics of production landscape. Hence they offer about 85% of manufacturing employment of Ghana. The Ghana Statistical Services projections indicate that 69% of the Ghana's workforce is employed in SME sector. The sector offer work opportunity for large number of people in both rural areas as well as cities (GSS, 2007).

PWC (2013) predicted the Ghanaian economy to grow by 8% in 2013 and 8.7% in 2014. A major indicator of a thriving country is a strong small and medium enterprise with their contributions to GDP of the economy. SMEs contributed about 49% to Ghana's GDP in 2012. Hence they contributed to the employment, income and economic growth of the country.

2.4.6 Challenges SMEs Faces

According to Jamie (2015), despite SMEs importance, there are significant barriers to growth of SMEs, including a lack of affordable finance, restrictive legislation, and a lack of international exposure. Small and medium-sized enterprises in Ghana are very vital to the economy, but their lack of growth is an undeveloped potential. Going forward, their growth should be encouraged by the removal of the aforementioned barriers.

Again, some SMEs are not growing because they have not adopted AIS to keep track of events which took place in their course of doing business. Some of the SMEs have adopted AIS but don't know that certain associated factors on it can equally affect growth of SMEs in Kumasi Metropolis. AIS have many functions that when implemented it can help you to do many things. One key function of AIS is its ability to generate a set of financial statements for analysis. With that one can compare current period sales to the previous period sales performance. The same can be done for profit, assets and the cash flows. They don't know that the use of AIS can affects their sales growth; profit growth; asset growth; and net cash flow. Issued of formalized accounting system has become necessary because to get access to credit for expansion one must get set of financial statements which is audited to convince the banks to grant the loan. Financial statements also confirms SMEs existence and it ability to continue operation. All these are the reasons why the researcher has taken this topic to study the trend of growth of SMEs in Kumasi Metropolis when AIS adopted.

2.5 Conceptual framework

IVS   DVs
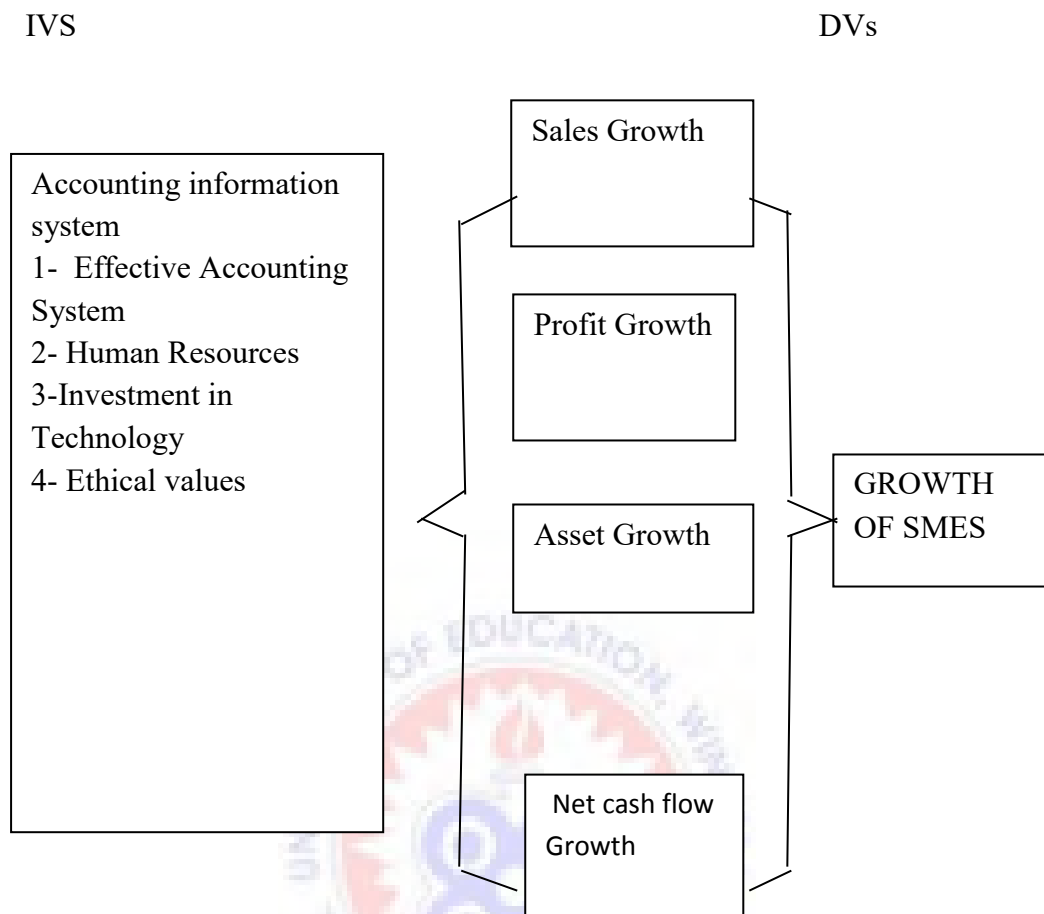
Figure 2.4: Conceptual framework

Source: author own construct 2019

2.6 Research Gap

The existing body of literature is exposed to a number of limitations in terms of scope and context of this work, which this research attempts to address. In terms of context, this study seeks to address these limitations by exploring the effect of accounting information system on SMEs growth in a developing country like Ghana. In terms of scope, the study focuses on SMEs in Kumasi metropolis as case study, but its findings are relevant to other SMEs in the country due to similarities in cultural and managerial practices.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research problem under study is the accounting information system and growth of SMEs in the Kumasi metropolis as stated in the early chapters. In this chapter, the researcher is going to highlights the materials and methods applied in the study. Here it gives a background of the study area, outlines the research design and study variables. It also gives details about the population, samples and sampling approaches and the research instruments used in collecting data for the study. The chapter also talks about the data collection approaches and tools for data processing and analysis. It also deals with the ethical considerations taken into account in the conduct of the study as well as constraints or limitations of the study.

Figure 3.1: Map of Kumasi Metropolis
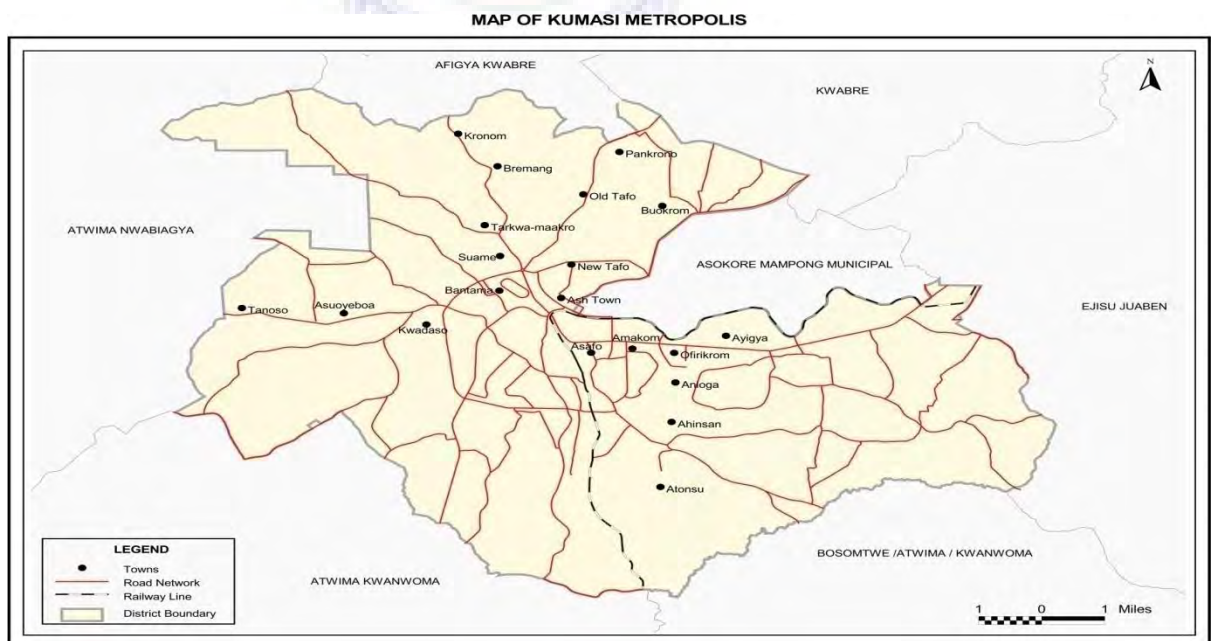
Source: Ghana Statistical Service, GIS 2010

3.2 Research Design

This study employed a descriptive survey through which views and opinions of SME operators are sampled. To Ary et al. (2002), Anokyewaa (2016) survey permits research conductors to gather data from a sample of people comparatively fast and cheaply. This is helped to identify and evaluate the factors that that have effect on the growth of Small, Medium Scale Enterprises (SMEs). Creswell, (2012) the descriptive survey was again considered the most apt design for carrying out this research because it is the approach which deals with things as they currently are. Information obtained from the descriptive survey research could be meaningful in analysing a situation since it involves describing, recording, analysing and interpreting conditions that exist.

Again, survey can be done within a short period in which investigators administer a survey to a sample or the entire population of people in order to describe the attitudes, opinions, behaviours or characteristics of the population (Dillman, 2011). The survey is also appropriate for the study as the current views, attitudes and opinions of SME owners are sampled. Because the study mainly seeks to assess the use of accounting information system and the growth of small and the medium enterprise, cross sectional study design afforded the researcher to capture the relevant information from almost all the key people within the industry across the Metropolis to be able to do a critical evaluation impact of its application to ensuring good record keeping in the firms that ensure sound business strategic decisions and their impact on the growth or otherwise of SMEs in the metropolis. This research type aims at getting information from representative selection of the population. The researcher is able to present the findings as being representative of the general population.

3.3 Population of the Study

The study of population involves various SMEs in the Kumasi Metropolis, entrepreneurs and business owners or managers engaged in the sector; agro-processing, artisans, soaps and detergents making; weaving fabrics; cloth designing and tailoring; textiles and leather works; brewing beverages; food processing and baking; creative and art industry, wooden /furniture processing; assembling electronic products, chemical based products among others will form the population for the study. According to Kelly (2000) Population refers to the total group of individuals or units involved in a particular study. Parahoo (1997) research population is defined as the total number of units from which data can be collected, such as individuals, artifacts, events or organizations. Population is the total number of items or individuals under study.

Again, Burns & Grove (2003) describe population as all the elements that meet the criteria for inclusion in a study. The number of SMEs in the Kumasi Metropolis as at the time of the study was not readily available at the registry of the NBSSI. This largely based on the fact that most SMEs in the Metropolis have not been registered coupled with ineffective record keeping.

3.4 Sampling Technique and sample size

The main characteristic of a sample is to be fair and representative of the entire population. The study adopted purposive sampling technique to select two hundred (200) staffs from ten (10) SME's. In furtherance, twenty (20) staffs were selected per each enterprise selected. The respondents were selected across management, senior and junior level. The technique was used to select ten SME's in Kumasi, whose five

SME's from the central Business District (CBD) and five SMEs from Suburbs in the Kumasi Metropolitan area were selected for the study.Sibona (2012) said Purposive sampling which also known as judgement or quota is sampling approach where members conform to certain criteria for selection. Creswell (2002);

Anokyewaa (2016) reported that, in purposive sampling, researchers select individuals intentionally and sites to learn or understand a phenomenon. According to Cohen, Manion and Morrison (2003) purposive sampling enables researchers to handpick the cases to be included in the sample on the basis of their judgment and typicality.

Again, Polit et al (2001) define a sample size as a proportion of a population. Therefore a total of 200 SME owners/managers are sampled for the study. In this way, the researcher builds up a sample that is satisfactory to specific needs. Purposively, the study limited itself to only SMEs in the metropolis which have been in operation for three (3) or more years were purposively sampled for the study. These are categorizing under manufacturing, retail services, service providers/ hospitality.

Table 3.1: Selected SME's

The table below shows the firms selected from Central Business District (CBD) and

Suburbs;

S/N	CBD Area	Activity	Location
1	Ramseyer corporative credit union	Non Banking Institution provides fast, easy and quality financial services to its members	Adum, Kumasi
2	Agenag Enterprise	Dealers in Original , Silver Watches all Accessories	Adum, Kumasi.
3	Jolly phones	Provide whole sale and Retail of phones and it accessories to public	Adum, Kumasi.
4	Franko Trading	Whole Sale and Retail Business, Dealers in Phones and it Accessories; hard wares	Adum, Kumasi.
5	Zigway Enterprise	Dealers in Whole and Retail Business. Dealers in Cosmetics products	Adum, Kumasi
	Suburbs		
6	Mealex & Mailex Delivery Services (M&M)	Delivery of all kind of services to clients eg. Ready to eat food, Drugs, Provisions etc	Bantama, Kumasi
7	VE- Smart Solutions	Stock management and Business modelling firm focus on helping Small-Medium scale Enterprises (SMEs)	Ahensan-Estate,Kumasi
8	Agricare Ltd	Provides fast, reliable Animal feeds to large firms.	Tanoso, Kumasi
9	Wallstreet Microfinance Limited	Non banking institution which deals with fixed deposit and commercial and personal loans	Asafo, Kumasi.
10	G-Maestro Consult	Provide consultancy services for Prospective International Students.	North Suntreso, Kumasi

CBD= Central Business

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District

Source: Researcher's Result from Survey (2019)

3.5 Source of Data

Data used for research work can be sourced from two main ways, namely primary data and secondary data (Saunders et al, 2007). For this research primary data was used to achieve the objectives.

3.6 Research Instrument(s)

The research instrument used for data collection was the questionnaire. A questionnaire was developed by the researcher to elicit information on the correlation among accounting information and managerial decision from the respondents. The questionnaire is divided into five parts. Part A elicited the information on the personal data of the respondents such as gender, age, academic qualification, professional qualification, years of experience and level/position at work.

Part B sought information on the effect of AIS on sales growth on SME's. This part consisted of four items structured in a likert-scale format – strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Part C contained four items directed towards the effect of AIS on profit growth on SME's. Items in part C were designed in a likert-scale format- strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Part D is made up of four items directed towards the effect of AIS on asset growth on SME's. Items in part D were designed in a likert-scale format- strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Part E contained four items directed towards the effect of AIS on Net cash flow growth on SME's. Items in part E were designed in a likert-scale format- strongly agree (4), agree (3), disagree (2) and strongly disagree (1).

3.7 Validity and Reliability of Instrument

Validity of a research instrument means the extent to which a research instrument measured what it intends to measure (Kimberlin et al. 2008). The instrument was subjected to face and content validation by the project supervisor who assessed the instrument in terms of its clarity of purpose, adequacy of items, and coverage of stated objectives and correctness of language usage (Mishler 1980). Constructive criticisms were made and some of the items were restated. Thus, the instrument was adjudged valid for data collection.

Reliability of a research instruments seeks for consistency and uniformity if the instruments were pretested in different areas or on repeated trials. To ascertain the status of the instrument's reliability, a trial test was conducted on ten staff of Ramseyer Corporative Credit Union Staff in Adum, Kumasi and another ten staff of Wallstreet Microfinance Ltd at Asafo, Kumasi. The results obtained were analyzed using the SPSS to run reliability; 0.891 or 89% Cronbatch alpha reliability was obtained meaning that the method or the instrument adopted is consistent and reliable for the study.

3.8 Method of Data Analysis

The data obtained from the administration of the questionnaires were analyzed using the descriptive statistics techniques such as tables, percentage, frequency and mean. Furthermore, the chi-square technique was employed to empirically ascertain the degree of relationship between accounting information to SME's and managerial decision to SME's

3.9 Profile of the Study Area

The study was conducted in the Metropolis of Kumasi. Kumasi Metropolis is one of the thirty (30) districts in Ashanti Region. It is located between Latitude 6.35^{o}N and 6.40^{o}S and Longitude 1.30^{o}W and 1.35^{o}E and elevated 250 to 300 meters above sea level. The Metropolis shares boundaries with Kwabre East and Afigya Kwabre Districts to the north, Atwima Kwanwoma and Atwima Nwabiagya Districts to the west, Asokore Mampong and Ejisu-Juaben Municipality to the east and Bosomtwe District to the south. It is approximately 270km north of the national capital, Accra. It has a surface area of approximately 214.3 square kilometers which is about 0.9 percent of the region's land area. However, it accommodates about 36.2 percent of the region's population.

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CHAPTER FOUR

RESULTS OF THE STUDY

4.0 Introduction

This chapter dealt with results of the study conducted on the topic 'accounting information system and the growth of SMEs, a case study of SMEs in the Kumasi Metropolis.The sample of the study comprised 10 registered SMEs operating in Kumasi. 20 staff was selected from each firm to give a total sample size of 200 respondents. The study adopted use of questionnaire to solicit information from respondents. The data collected are subjected to the quantitative analysis of descriptive statistics and chi-square technique. The findings of the study are equally discussed in this chapter.

4.1 Presentation of Results

A total of 200 questionnaires were administered to respondents. However, 190 questionnaires were returned and used for analysis. The researcher also conducted reliability trial test of ten staff of two SMEs. The results are presented as follows:

Table 4.1: The table below shows Frequency Distribution of Respondents' Personal Profile

S/N	Personal Data	Frequency (N=190)	Percentage
1	**Gender**		
	Male	120	63.2%
	Female	70	36.8%
2	**Age**		
	Below 30 years	106	55.8%
	30-50 years	77	40.5%
	Above 50 years	7	3.7%
3	**Marital Status**		
	Single	96	50.5%
	Married	83	43.7%
	Divorced	10	5.3%
	Separated	1	0.5%
4	**Educational Status**		
	Tertiary	161	84.7%
	SHS	17	8.9%
	MSLC/JHS	12	6.3%
5	**Level**	21	11.1%
	Owner	9	4.7%
	Partner/Co-Owner	160	84.2%
	Employee	21	11.1%

Source: Researcher's Result from Survey (2019)

From Table 4.1 above, it can be seen that majority (120) of respondents representing 63.2% are males whiles the remaining 70 representing 36.8% are females. This emphasizes the fact that majority of people in SMEs business are males. In terms of age distribution, it is notice that majority of respondents fall within the active working age bracket of between 18-50 years. As can be seen from Table 4.1.1 above, 106 (55.8%) of the respondents fall within the age group of below 30 years, followed by (77) 40.5% for 30-50 years, and (7)3.7% above 50 years.

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With respect marriage, as shown in the Table 4.1, majority of the respondents 96(50.5%) are single whiles 83(43.7%) are married. Ten (10) workers resenting 5.3% are divorced and 1 worker representing 0.5% is separated. With regard to educational status of SMEs workers, out of one hundred and ninety (190) respondents, majority of employees and the owners had attained tertiary education. 161(87.7%) had completed tertiary, and 17(8.96) and 12 (6.3) respondents had attended SHS and JHS respectively.

Table 4.2: Reliability statistics of 20 staff of Ramseyer Corporative Credit Union and Wall Street Micro Finance

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.891	.874	21

Source: Researcher's Result from Survey (2019)

From table 4.2 above, the cronbach's alpha level obtained was 0.89 and this is greater than 0.80 therefore questionnaire is reliable and consistent to use for the study.

4.2 Decision Rule

Table 4.3: Mean range on Respondents opinions on effect on accounting information system on sales

Scale	Mean Range	Decision/Remark
1	0.01 - 1.00	Strongly disagree
2	1.01- 2.00	Disagree
3	2.01 – 3.00	Agree
4	3.00 – 4.00	Strongly agree

Source: Researcher's Result from Survey (2019)

Table 4.4: Summary Statistics of Opinions of Respondents on the Effect of Accounting Information System on Sales Growth of SMEs

S/N	Objective	Mean	Std. D	REMARK
1	The effectiveness of your accounting system influences growth in your organization's turnover	2.86	1.05	**Agreed**
2	The quality of your Human resources has significantly affected the sales growth of your organization	2.45	1.02	**Agreed**
3	Your organization's investment in technology contributes significantly to the growth in your yearly turnover	2.61	0.93	**Agreed**
4	Ethical values have significant influence on sales growth in SME's	2.63	1.00	**Agreed**
5	The impact of Accounting information system on the sales growth of your organization has been positive	2.86	0.92	**Agreed**
	Cluster	**2.68**	**0.98**	**AGREED**

Source: Researcher's Result from Survey (2019)

Respondents were asked to indicate their level of agreement or disagreement on the effect of accounting information system on sales growth of SMEs on a four-point Likert scale ranging from 4 (strongly agree) to 1 (strongly disagree). Decision rule has been set for the respondents' response on Table 4.3. The calculated mean of the items were within the range of (2.01 to 3.00) on decision table. This shows that the respondents generally agreed that – effective accounting system have significant influence on firm turnover; quality of quality of human resource significantly affects sales growth; ethical values have significant influence on sales growth of SMEs

growth; investment in technology strongly drives sales growth and accounting information system has positive impact on sales growth. The cluster mean and standard deviation stood at 2.68 and 0.98 respectively, indicating that the respondents jointly agreed that accounting information system greatly influences the sales growth of SMEs. From table, we are shown standard deviation values; the lower standard deviation means that most numbers are closed to the averages, whiles high standard deviation means that numbers are spread out. From the calculated standard deviations on table 4.4, the cluster standard deviation was 0.98 below one percent meaning that most the numbers were very close to the averages.

Table 4.5: Mean range on Respondents opinions on effect on accounting information system on Profit Growth

Scale	Mean Range	Decision/Remark
1	0.01 - 1.00	Strongly disagree
2	1.01- 2.00	Disagree
3	2.01 – 3.00	Agree
4	3.00 – 4.00	Strongly agree

Source: Researcher's Result from Survey (2019)

Table 4.6: Summary Statistics of Opinions of Respondents on the Effect of Accounting Information System on profit Growth of SMEs

S/N	ITEM	Mean	Std. Dev.	REMARK
1	The effectiveness of your accounting system influences growth in your organization's profit	2.51	1.14	Agreed
2	The quality of your Human resources has significantly affected the profit growth of your organization	2.64	1.04	Agreed
3	Your organization's investment in technology contributes significantly to the growth in your yearly profit	2.59	1.00	Agreed
4	Ethical values have significant influence on Profit growth in SME's	2.44	0.99	Agreed
5	The impact of Accounting information system on the profit growth of your organization has been positive	2.81	1.06	Agreed
	Cluster	**2.60**	**1.05**	**Agreed**

Source: Researcher's Result from Survey (2019)

Respondents were asked to indicate their level of agreement or disagreement on the effect of accounting information system on profit growth of SMEs on a four-point Likert scale ranging from 4 (strongly agree) to 1 (strongly disagree). Decision rule has been set for the respondents' response on Table 4.5. The calculated mean of the items were within the range of (2.01 to 3.00) on decision table. This shows that the respondents generally agreed that – effective accounting system have significant influence on firm profit; quality of quality of human resource significantly affects profit growth; ethical values have significant influence on profit growth of SMEs growth; investment in technology strongly drives sales growth and accounting

information system has positive impact on profit growth. The cluster mean and standard deviation stood at 2.60 and 1.05 respectively, indicating that the respondents jointly agreed that accounting information system greatly influences the sales growth of SMEs. From table, we are shown standard deviation values; the lower standard deviation means that most numbers are closed to the averages, whiles high standard deviation means that numbers are spread out. From the calculated standard deviations on table 4.6, the cluster standard deviation was 1.05 above one percent meaning that most the numbers were spread out of the mean.

Table 4.7: Mean range on Respondents opinions on effect on accounting information system on Asset

Scale	Mean Range	Decision/Remark
1	0.01 - 1.00	Strongly disagree
2	1.01- 2.00	Disagree
3	2.01 – 3.00	Agree
4	3.00 – 4.00	Strongly agree

Source: Researcher's Result from Survey (2019)

Table 4.8: Summary Statistics of Opinions of Respondents on the Effect of Accounting Information System on Asset Growth of SMEs

S/N	Item	Mean	Std. Dev.	REMARK
1	The effectiveness of your accounting system influences growth in your organization's asset	2.79	1.05	Agreed
2	The quality of your Human resources has significantly affected the asset growth of your organization	2.69	1.03	Agreed
3	Your organization's investment in technology contributes significantly to the growth in your asset	2.96	0.99	Agreed
4	Ethical values has significantly influence on asset growth in SME's	2.67	1.08	Agreed
5	Your organization relies on accounting information system for decision making on asset investment	2.50	1.07	Agreed
6	The impact of Accounting information system on the asset growth of your organization has been positive	2.98	0.95	Agreed
	Cluster	**2.77**	**1.03**	**Agreed**

Source: Researcher's Result from Survey (2019)

Respondents were asked to indicate their level of agreement or disagreement on the effect of accounting information system on asset growth of SMEs on a four-point Likert scale ranging from 4 (strongly agree) to 1 (strongly disagree). Decision rule has been set for the respondents' response on Table 4.7. The calculated mean of the items were within the range of (2.01 to 3.00) on decision table. This shows that the respondents generally agreed that – effective accounting system have significant influence on firm asset; quality of quality of human resource significantly affects asset growth; ethical values have significant influence on asset growth of SMEs growth; investment in technology strongly drives asset growth; their organization depend on

accounting information to make decisions on asset investment and accounting information system has positive impact on asset growth. The cluster mean and standard deviation stood at 2.77 and 1.03 respectively, indicating that the respondents jointly agreed that accounting information system greatly influences the sales growth of SMEs. From table, we are shown standard deviation values; the lower standard deviation means that most numbers are closed to the averages, whiles high standard deviation means that numbers are spread out. From the calculated standard deviations on table 4.8, the cluster standard deviation was 1.03 above one percent meaning that most the numbers were spread out of the mean as you compared to cluster mean of table 4.6

Table 4.9: Mean range on Respondents opinions on effect on accounting information system on Net Cash Flow Growth

Scale	Mean Range	Decision/Remark
1	0.01 - 1.00	Strongly disagree
2	1.01- 2.00	Disagree
3	2.01 – 3.00	Agree
4	3.00 – 4.00	Strongly agree

Source: Researcher's Result from Survey (2019)

Table 4.10: Summary Statistics of Opinions of Respondents on the Effect of Accounting Information System on Net cash flow Growth of SMEs

S/N	Item	Mean	Std. Dev.	Remark
1	The effectiveness of your accounting system influences growth in your organization's Net cash Flow	2.54	1.15	Agreed
2	The quality of your Human resources has significantly affected the Net cash Flow growth of your organization	2.83	1.01	Agreed
3	Your organization's investment in technology contributes significantly to the growth in your Net cash Flow	2.90	0.88	Agreed
4	Ethical values has significantly influence on Net cash Flow growth in SME's	2.53	1.12	Agreed
5	The impact of Accounting information system on the Net cash Flow growth of your organization has been positive	2.94	1.05	Agreed
	Cluster	**2.75**	**1.04**	**Agreed**

Source: Researcher's Result from Survey (2019)

Respondents were asked to indicate their level of agreement or disagreement on the effect of accounting information system on net cash flow growth of SMEs on a four-point Likert scale ranging from 4 (strongly agree) to 1 (strongly disagree). Decision rule has been set for the respondents' response on Table 4.9. The calculated mean of the items were within the range of (2.01 to 3.00) on decision table. This shows that the respondents generally agreed that – effective accounting system have significant influence on firm net cash flow; quality of quality of human resource significantly affects net cash flow growth; ethical values have significant influence on net cash flow growth of SMEs growth; investment in technology strongly drives net cash flow growth and accounting information system has positive impact on net cash flow

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growth. The cluster mean and standard deviation stood at 2.75 and 1.04 respectively, indicating that the respondents jointly agreed that accounting information system greatly influences the sales growth of SMEs. From table, we are shown standard deviation values; the lower standard deviation means that most numbers are closed to the averages, whiles high standard deviation means that numbers are spread out. From the calculated standard deviations on table 4.10, the cluster standard deviation was 1.04 below one percent meaning that most the numbers were spread out of the mean.

4.3 Hypothesis Testing

Four hypotheses were developed to guide the study and the chi-square technique is employed to test the hypotheses at 5% significance level. The chi-square technique is used to test the existence of significant relationship, impact or differences between two categorical variables. The decision of accepting or rejecting the hypothesis is based on the comparison of the calculated value of chi-square and the critical value of chi-square. If the calculated value of chi-square is greater than its critical value at a particular significance level and degrees of freedom, the null hypothesis is rejected (or alternative hypothesis is accepted). On the other hand, if the calculated value of chi-square is less than its critical value, the null hypothesis is accepted.

Hypothesis One

H_0: Accounting information system has no significant effect on the sales growth of SMEs in Kumasi Metropolis.

H_1: Accounting information system has significant effect on the sales growth of SMEs in Kumasi Metropolis.

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Hypothesis Two

H_0: Accounting information system has no significant effect on the profit growth of SMEs in Kumasi Metropolis.

H_1: Accounting information system has significant effect on the profit growth of SMEs in Kumasi Metropolis.

Hypothesis Three

H_0: Accounting information system has no significant effect on the asset growth of SMEs in Kumasi Metropolis.

H_1: Accounting information system has significant effect on the asset growth of SMEs in Kumasi Metropolis.

Hypothesis Four

H_0: Accounting information system has no significant effect on the net cash flow growth of SMEs in Kumasi Metropolis.

H_1: Accounting information system has significant effect on the net cash flow growth of SMEs in Kumasi Metropolis.

Table 4.11: Agreement and Disagreement Categories of Respondents' Opinion on the Effect of Accounting Information System on the Sales Growth of SMEs

S/N	Items	Agreement Category	Disagreement Category	Row Total
		(SA+A)	(D+SD)	
1	The effectiveness of your accounting system influences growth in your organization's turnover	129	61	190
2	The quality of your Human resources has significantly affected the sales growth of your organization	111	79	190
3	Your organization's investment in technology contributes significantly to the growth in your yearly turnover	122	68	190
4	Ethical values have significant influence on sales growth in SME's	115	75	190
5	The impact of Accounting information system on the sales growth of your organization has been positive	139	51	190
	Column Total	616	334	950

Source: Researcher's Result from Survey (2019)

Expected Value of Agreement category: $190 \times \frac{616}{950} = 123$

Expected Value of Disagreement category: $190 \times \frac{334}{950} = 67$

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Table 4.12 Chi-Square Table for Hypothesis One

O	E	O-E	O-E^2	O-E^2/E
129	123	6	36	0.29
61	67	-6	36	0.54
111	123	-12	144	1.17
79	67	12	144	2.15
122	123	-1	1	0.01
68	67	1	1	0.01
115	123	-8	64	0.52
75	67	8	64	0.96
139	123	16	256	2.08
51	67	-16	256	3.82
				11.55

Source: Researcher's Result from Survey (2019)

Table 4.13: Summary of Chi-Square Statistics

X^2. Cal	X^2. Tab	Level of Significance	Degrees of Freedom (C-1)(R-1)	N	Decision
11.55	9.49	0.05	4	190	Accept H_1

Source: Researcher's Result from Survey (2019)

The calculated value of chi-square is 11.55, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom. Since the calculated value exceeds the critical value, the alternative hypothesis is accepted that accounting information system has significant effect on the sales growth of SMEs in Kumasi Metropolis.

Table 4.14: **Agreement and Disagreement Categories of Respondents' Opinion on the Effect of Accounting Information System on the Profit Growth of SMEs**

S/N	Items	Agreement Category	Disagreement Category	Row Total
		(SA+A)	(D+SD)	
1	The effectiveness of your accounting system influences growth in your organization's profit	102	88	190
2	The quality of your Human resources has significantly affected the profit growth of your organization	119	71	190
3	Your organization's investment in technology contributes significantly to the growth in your yearly profit	120	70	190
4	Ethical values have significant influence on profit growth in SME's	110	80	190
5	The impact of Accounting information system on the profit growth of your organization has been positive	132	58	190
	Column Total	583	367	950

Source: Researcher's Result from Survey (2019)

Expected Value of Agreement category: $190 \times \frac{583}{950} = 117$

Expected Value of Disagreement category: $190 \times \frac{367}{950} = 73$

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Table 4.15 Chi-Square Table for Hypothesis Two

O	E	O-E	O-E^2	O-E^2/E
117	117	0	0	0
73	73	0	0	0
130	117	13	169	1.44
60	73	-13	169	2.32
120	117	3	9	0.08
70	73	-3	9	0.12
110	117	-7	49	0.42
80	73	7	49	0.67
132	117	15	225	1.92
58	73	-15	225	3.08
				10.05

Source: Researcher's Result from Survey (2019)

Table 4.16: Summary of Chi-Square Statistics

X^2. Cal	X^2. Tab	Level of Significance	Degrees of Freedom (C-1)(R-1)	N	Decision
10.05	9.49	0.05	4	190	Accept H$_1$

Source: Researcher's Result from Survey (2019)

The calculated value of chi-square is 10.05, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom. Since the calculated value exceeds the critical value, the alternative hypothesis is accepted that accounting information system has significant effect on the profit growth of SMEs in Kumasi Metropolis.

Table 4.17: Agreement and Disagreement Categories of Respondents' Opinion on the Effect of Accounting Information System on the Asset Growth of SMEs

S/N	Items	Agreement Category (SA+A)	Disagreement Category (D+SD)	Row Total
1.	The effectiveness of your accounting system influences growth in your organization's asset	133	57	190
2.	The quality of your Human resources has significantly affected the asset growth of your organization	122	68	190
3.	Your organization's investment in technology contributes significantly to the growth in your yearly asset	137	53	190
4.	Ethical values have significant influence on asset growth in SME's	111	79	190
5.	Your organization relies on accounting information system for decision making on asset investment.	110	80	190
6.	The impact of Accounting information system on the asset growth of your organization has been positive.	140	50	190
	Column Total	753	387	1140

Source: Researcher's Result from Survey (2019)

Expected Value of Agreement category: $190 \times \frac{753}{1140} = 125$

Expected Value of Disagreement category: $190 \times \frac{387}{1140} = 65$

Table 4.18: Chi-Square Table for Hypothesis Three

O	E	O-E	O-E^2	O-E^2/E
133	125	8	64	0.51
57	65	-8	64	0.98
122	125	-3	9	0.07
68	65	3	9	0.14
137	125	12	144	1.15
53	65	-12	144	2.22
111	125	-14	196	1.57
79	65	14	196	3.02
110	125	-15	225	1.8
80	65	15	225	3.46
140	125	15	225	1.8
50	65	-15	225	3.46
				14.92

Source: Researcher's Result from Survey (2019)

Table 4.19: Summary of Chi-Square Statistics

X^2. Cal	X^2. Tab	Level of Significance	Degrees of Freedom (C-1)(R-1)	N	Decision
14.92	11.07	0.05	5	190	Accept H$_1$

Source: Researcher's Result from Survey (2019)

The calculated value of chi-square is 14.92, and the critical value of chi-square is 11.07 at 5% level of significance and 5 degree of freedom. Since the calculated value exceeds the critical value, the alternative hypothesis is accepted that accounting information system has significant effect on the asset growth of SMEs in Kumasi Metropolis.

Table 4.20: Agreement and Disagreement Categories of Respondents' Opinion on the Effect of Accounting Information System on the Net Cash Flow Growth of SMEs

S/N	Items	Agreement Category	Disagreement Category	Row Total
		(SA+A)	(D+SD)	
1	The effectiveness of your accounting system influences growth in your organization's net cash flow growth	109	81	190
2	The quality of your Human resources has significantly affected the net cash flow growth of your organization	130	60	190
3	Your organization's investment in technology contributes significantly to the growth in your yearly net cash flow growth	120	70	190
4	Ethical values have significant influence on net cash flow growth in SME's	110	80	190
5	The impact of Accounting information system on the net cash flow growth of your organization has been positive	132	58	190
	Column Total	**601**	**349**	**950**

Source: Researcher's Result from Survey (2019)

Expected Value of Agreement category: $190 \times \frac{601}{950} = 120$

Expected Value of Disagreement category: $190 \times \frac{349}{950} = 70$

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Table 4.21: Chi-Square Table for Hypothesis Four

O	E	O-E	O-E^2	O-E^2/E
109	120	-11	121	1.01
81	70	11	121	1.73
130	120	10	100	0.83
60	70	-10	100	1.43
120	120	0	0	0
70	70	0	0	0
110	120	-10	100	0.83
80	70	10	100	1.43
132	120	12	144	1.2
58	70	-12	144	2.06
				10.52

Source: Researcher's Result from Survey (2019)

Table 4.22: Summary of Chi-Square Statistics

X^2. Cal	X^2. Tab	Level of Significance	Degrees of Freedom (C-1)(R-1)	N	Decision
10.52	9.49	0.05	4	190	Accept H_1

Source: Researcher's Result from Survey (2019)

The calculated value of chi-square is 10.52, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom. Since the calculated value exceeds the critical value, the alternative hypothesis is accepted that accounting information system has significant effect on the Net Cash Flow growth of SMEs in Kumasi Metropolis.

4.4 Chapter Summary

This chapter has presented results of the research from the primary data collected and was followed by findings of the study. The response rate on both demographic and objective questions has also been given in this chapter and also brief discussions were done on each finding. The chapter also showed the mathematical approach of resolving the research problem of the study.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

In this chapter the researcher will discuss the results and findings of research conducted on the topic Accounting Information System and the growth of Small and the Medium Enterprise, case study of SMEs in the Kumasi Metropolis. Significant and novel findings will be identified, interpreted and discussed. The discussion dwells on the major findings of the research the objectives and the inference made from them in view of findings from related previous studies.

5.1 Discussion of Results: Objective One

The first objective of conducting this research is to determine effect of accounting information system on sales growth of SMEs in the Kumasi Metropolis. After analysed the data generated from questionnaire answered by one hundred and ninety (190) staff and managers of SMEs in Kumasi. The results showed in Table 4.4 cluster mean of 2.68 which means that majority agreed that accounting information system have effect on sales growth in Kumasi. The test of hypothesis using chi square to determine the whether there is significant effect of accounting information system on sales growth, the result showed positive (value of chi-square is 11.55, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom). This means that accounting information system have effect on sales growth in Kumasi Metropolis. This goes to confirm a similar study done by Taiwo (2016); Adenike et al. (2018) that accounting information system has effect on sales growth.

The results also shows that for sales to grow, it depends on effective accounting system, quality of human resources employed, investment in technology and ethical values exhibit towards the system. SMEs need to show commitments toward these factors in order to grow sales in the metropolis.

5.2 Discussion of Results: Objective Two

The second objective of this research is to determine the effect of accounting information system on profit growth. After the data collected from respondents on second objective was analysed as shown in table 4.6, people response showed cluster mean of 2.60 which meant that respondents agreed that accounting information system has effect on profit growth of SMEs. When the second hypothesis was tested, the result showed positive meaning that accounting information system has significant effect on profit growth of SMEs (value of chi-square is 10.05, and the critical value of chi-square is 9.49 at 5% level of significance and 4 degree of freedom).

Based on this findings and result, accounting information system has effect on profit growth of an organization. The previous studied on the topic confirms to the findings that accounting information system positively affect profit growth. The researchers whose works confirm to study these are Olubode et al. (2008); Kouser et al. (2011); Selehi et al. (2015);Locke (2004); urquia(2011).The findings also showed that effective accounting system, quality of your human resource employed, investment in technology, ethical values play a vital row in the profit growth of SMEs.

5.3 Discussion of Results: Objective Three

The third objective of this research is to determine the effect of accounting information system on asset growth. After the data collected from respondents on third objective, it was analysed as shown in table 4.8, people response showed cluster mean of 2.77 which meant that respondents agreed that accounting information system has effect on profit growth of SMEs. When the second hypothesis was tested, the result showed positive meaning that accounting information system has significant effect on asset growth of SMEs (value of chi-square is 15.12, and the critical value of chi-square is 11.07 at 5% level of significance and 4 degree of freedom). Based on this findings and result, accounting information system has effect on asset growth of an organization. The previous studied on the topic confirms to the findings that accounting information system positively affect asset growth. The researchers whose works confirm to study these are Olubode et al. (2008); Kouser et al. (2011); Selehi et al. (2015); Locke (2004); urquia (2011). The findings also showed that effective accounting system, quality of your human resource employed, investment in technology, ethical values play a vital row in the asset growth of SMEs.

5.4 Discussion of Results: Objective Four

The fourth objective of this research is to determine the effect of accounting information system on net cash flow growth. After the data analysis it has been established that accounting information system has effect on net cash flow positively. This means that respondents agreed that accounting information system has effect on net cash growth of SMEs. Based on this findings and result, accounting information system has effect on net cash flow growth of an organization. The previous studied on the topic confirms to the findings that accounting information system positively affect

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profit growth. Marriot et al. (2006) affirms the findings that accounting information system help firms to management their cash flows in their organizations. The findings also showed that effective accounting system, quality of your human resource employed, investment in technology, ethical values play a vital row in the cash flow growth of SMEs.

5.5 General Discussion of Results

The results of the analysis of data showed that accounting information system significantly impacts on the performance of selected SMEs in Kumasi Metropolis with reference to sales growth, profit growth, assets growth and net cash flow growth. This implies that effective adoption and implementation of accounting information system expands the sales level, profit levels, asset base and management of SMEs. The more SMEs in Kumasi Metropolis maintain proper accounting system and keep accurate accounting information, the more effective and productive their decision-making becomes in sales, profit, asset and net cash flow increase, consequently the better their performance. The results is consistent with the empirical findings of Ikem (2012); Amoako (2013); Ankrah and Mensah (2015); Nkwor and Nkwor (2015) and Nwinee and Akpos (2016) that accounting information system results in improved performance of small and medium scale businesses.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This is the final chapter for the study Accounting Information System and the growth of Small and Medium Enterprise. a Case study of SMEs in the Kumasi Metropolis. In this chapter summary of major findings of study will be given. Then conclusion of the research project will be told. The final part of the chapter will be devoted for the recommendations.

6.1 Summary of Findings

The study examined the impact of accounting information system on the performance of small and medium scale enterprises in Kumasi Metropolis. The study attempted to assess the extent to which effective accounting system, human resources and investment in technology and ethical values drive the sales, profit, asset and net cash flow growth of small and medium scale enterprises in Kumasi Metropolis. The sample of the study comprised 10 SMEs operating the Central Business District (CBD) of Kumasi and other suburbs of Kumasi and 20 employees were selected from each firm to give a total sample of 200 respondents. The study relied on primary data, obtained through administered questionnaire, to generate data from respondents. The data collected were analyzed by the use of descriptive statistics and chi-square technique. Findings of the study revealed that the respondents cohesively agreed that accounting information system influences the growth of sales, profit, assets and the net cash flow of their organization. Furthermore, from the hypothesis tested, it was found that

accounting information system has significant effect on sales, profit, assets, and net cash flow growth of selected SMEs in Kumasi Metropolis.

6.2 Conclusion

The success or failure of any organization depends on keeping accurate and financial records/information to give a clear business outlook. It has been established that firms with effective accounting information system perform better than those who do not have it. Accounting information system easily and timely communicates the operations and performance of SMEs and greatly impact on their managerial decisions pertaining to sales, profit, and asset cash management. The major revelation of this study is that accounting information system asserts great influence on the performance of SMEs in Kumasi Metropolis. The study hereby concludes that accounting information system has significant impact on the sales, profit, asset and net cash flow growth of SMEs in Kumasi Metropolis.

6.3 Recommendations

In line with the findings and conclusion, the following recommendations are advanced in order to foster SMEs performance through effective accounting information system:

1. SMEs should improve their accounting system in order to generate quality, reliable and timely accounting information. To ensure sound accounting system, operators of SMEs should make it mandatory upon themselves to recruit qualified accounting personnel.

2. Owners of SMEs should integrate accounting information system in their decision processes. Accountants in SMEs should be trained on the uses and skills relevant for the application of accounting information system.

3. SMEs should endeavor to consult accountants regularly in order to be able to maintain high and generally acceptable accounting practices. In addition, accountants are implored to encourage SMEs to assess their services. They should avoid scaring them way with very high fees.

4. Relevant accounting bodies in Ghana such as the Institute of Chartered Accountants of Ghana (ICAG) and the Chartered Institute of management Accountants (CIMA) should wear global outfit and train their members to serve the accounting needs of SMEs due to relevance in the Ghana economy.

5. Accounting training programmed for SMEs should be organized by the Ministry of Finance in conjunction with Ministry of Trade and Industry for those who do not know the importance of maintaining accounting records to come to grips with it. This will help them to advance their accounting practices and bring about the possibility of formalizing their operations.

6. Government should stipulate the minimum number of books to be kept by all SMEs that meet certain criteria which certifies them to operate in Nigeria. This dimension will be in line with international order that have designed financial reporting standard for SMEs.

7. The level of computerization of SMEs activities should be improved in line with the current level of advancement in technology for SMEs that has already adopted accounting information system.

8. SMEs should ensure that the cost of acquiring AIS does not outweigh the benefits the company would gain from using them.

6.4 Suggestions for Further Studies

1. The study is restricted to selected SMEs in Kumasi Metropolis. However, the findings might not be relevant to SMEs in other regions in Ghana. Based on this, it is recommended that further studies to extend the scope of this study to SMEs in other regions of Ghana in order to have broadened findings.

2. Further studies can examine the impact of accounting information system on the cost competitiveness and profitability of SMEs in Ghana.

The impact of accounting information system on the quality of financial reports of SMEs in Ghana should be investigated

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REFERENCE

Abor, J., & Biekpe, N. (2006). SMEs' access to debt finance: A comparison of male-owned and female-owned businesses in Ghana. *The International Journal of Entrepreneurship and Innovation*, *7*(2), 105-112.

Adenike, A. T., & Adewoye, J. O. (2018). Investment in accounting information system and sales growth: An investigation of Nigeria small and medium enterprise. *Journal of Accounting and Taxation*, *10*(6), 71-77.

Adenike, Akanbi & Adewoye, Oyerinde. (2018). Investment in accounting information system and sales growth: An investigation of Nigeria small and medium enterprise. Journal of Accounting and Taxation. 10. 71-77. 10.5897/JAT2018.0299.

Agboh, D. K. (2015). Drivers and challenges of ICT adoption by SMES in Accra metropolis, Ghana. *Journal of Technology Research*, *6*, 1.

Akkermans, H. B. (2009). The Impact of ERP on a Supply Chain Management: Exploratory Findings from a European Delphi Study. *European Journal of Operational Research, 146*, 284-301.

Akomea-Bonsu, C., & Sampong, F. (2012). The impact of information and communication technologies (ICT) on small and medium scale enterprises (SMEs) in the Kumasi Metropolis, Ghana, West Africa. *European Journal of Business and Management*, *4*(20), 152-158.

Akomea-Bonsu, C., & Sampong, F. (2012). The impact of information and communication technologies (ICT) on small and medium scale enterprises (SMEs) in the Kumasi Metropolis, Ghana, West Africa. *European Journal of Business and Management*, *4*(20), 152-158.

Amidu, M. & John, E. & Joshua, A. (2011). E-Accounting Practices among Small and Medium Enterprises in Ghana. *Journal of Management Policy and Practice*. 1

Amidu, M., Effah, J., & Abor, J. (2011). E-accounting practices among small and medium enterprises in Ghana. *Journal of Management Policy and Practice*, *12*(4), 146-155.

Amoako, G. K. (2013). Accounting practices of SMEs: A case study of Kumasi Metropolis in Ghana. *International Journal of Business and Management*, *8*(24), 73.

Amoako, G.K. (2013). Accounting Practices of SMEs: A Case Study of Kumasi Metropolis in Ghana. International Journal of Business and Management, 8(24):73-84.

Ankrah, E. & Mensah, C.Y. (2013). The Relevance of Accounting Information in the Management of Small Businesses in Yilo Krobo District in Ghana. European Journal of Business and Management, 7(8):181-191.

Anokyewaa, C. (2016). *Computerized record keeping among small and medium enterprises-a case study in Sunyani Municipality* (Doctoral dissertation).

Ayyagari M, Beck T, Demirgüç-Kunt A (2007) Small and medium enterprises across the globe. Small Bus Econ 29:415–434

Batt, R. (2002). Managing customer services: Human resource practices, quit rates, and sales growth. *Academy of management Journal*, *45*(3), 587-597.

Boulianne, E. (2007). Revisiting fit between AIS design and performance with the analyzer strategic-type. International Journal of Accounting Information Systems, 8(1), 1-16.

Brandas, C., Megan, O., & Didraga, O. (2015). Global perspectives on accounting information systems: mobile and cloud approach. *Procedia Economics and Finance*, *20*, 88-93.

Carter McBride (2017) How to Calculate Profit Growth: https://bizfluent.com/how-6542747-calculate-profit-growth.html

Date: Jun 24, 2014 , 09:00BY: Ama Amankwah Baafi /Graphic Business: Opportunities for SMEs

Davidsson, P., & Wiklund, J. (2006). Conceptual and empirical challenges in the study of firm growth. *Entrepreneurship and the Growth of Firms*, *1*(1), 39-61.

Dedrick, J. Gurbaxani, V. & Kraemer, K. (2003). Information technology and economic performance: A critical review of the empirical evidence, *ACM Computing Survey.* 35(1), 1-28.

Devaraj, S., & Kohli, R. (2003). Performance Impacts of Information Technology: Is Actual Usage the Missing Link? *Management Science, 49* (3), 273-289.

Dhillon, G., & Torkzadeh, G. (2006). Value-focused assessment of information system security in organizations. *Information Systems Journal*, *16*(3), 293-314.

Dillman, D. A. (2011). *Mail and Internet surveys: The tailored design method--2007 Update with new Internet, visual, and mixed-mode guide*. John Wiley & Sons.

Domeika, P. (2008). Creation of the Information system of enterprise fixed asset accounting. *Engineering Economics*, *60*(5).

Duc Son, D., Marriott, N., & Marriott, P. (2006). Users' perceptions and uses of financial reports of small and medium companies (SMCs) in transitional economies: Qualitative evidence from Vietnam. *Qualitative Research in Accounting & Management*, *3*(3), 218-235.

Esmeray, A. (2016). The Impact of Accounting Information Systems (AIS) on Firm Performance: Empirical Evidence in Turkish Small and Medium Sized Enterprises. *International Review of Management and Marketing*, *6*(2), 233-236.

Fagbemi, T. O., & Olaoye, J. A. (2016). An Evaluation of Accounting Information System and Performance of Small Scale Enterprises in Kwara State, Nigeria. *DBA Africa Management Review.* 6(1).

Fagbemi, T. O., & Olaoye, J. A. (2016). An evaluation of accounting information system and performance of small scale enterprises in Kwara State, Nigeria. *DBA Africa Management Review*, *6*(1).

Friedman, B., Kahn, P. H., & Borning, A. (2008). Value sensitive design and information systems. *The handbook of information and computer ethics*, 69-101.

Ghana statistical service 2010 Population Census: www2.statsghana.gov.gh/docfiles/2010_District_Report/Ashanti/KMA.pdf

Ghasemi, M., Shafeiepour, V., Aslani, M., & Barvayeh, E. (2011). The impact of Information Technology (IT) on modern accounting systems. *Procedia-Social and Behavioral Sciences*, *28*, 112-116.

Gonenc, H., & Ursu, S. (2018). The Asset Growth Effect and Investor Protection in Emerging Markets: The Role of the Global Financial Crisis. *Emerging Markets Finance and Trade*, *54*(3), 491-507.

Gordon, L. A., & Miller, D. (1976). A contingency framework for the design of accounting information systems. In *Readings in accounting for management control* (pp. 569-585). Springer, Boston, MA

Grande, E. U., Estebanez, R. P., & Colomina, C. M. (2011). The impact of Accounting Information Systems (AIS) on Performance Measures: Empirical Evidence in Spanish SMEs. *International Journal of Digital Accounting Research, 11*, 25-43.

Haitham Mohsin Kareem, Khairul Azman Aziz, Ruhanita Maelah, Yusasniza Mohd Yunus and M.A. Dauwed, 2019. Enterprises performance based accounting information system: success factors. Asian J. Sci. Res., 12: 29-40

Harash, E., Al-Timimi, S., & Alsaadi, J. (2014). Effects of Financing on Performance of small and medium enterprises (SMEs). International Journal of Management (IIJM), 2(10), 1-9.

Havnes, P. A., & Senneseth, K. (2001). A panel study of firm growth among SMEs in networks. *Small business economics*, *16*(4), 293-302.

http://www.businessenvironment.org/dyn/be/docs/60/fdwp15.pdf

https://challengesworldwideicsentrepreneur.wordpress.com/2015/11/11/1055/

Ikem, O.C. (2012). Financial Challenges of Small and Medium-Sized Enterprises in Nigeria: The Relevance of Accounting Information. Review of Public Administration and Management, 1(2):185-213.

Information Systems Australasian Edition. Pearson Higher Education AU.

Ismail, N. A. (2009). Factors influencing AIS effectiveness among manufacturing SMES: Evidence from Malaysia. *The Electronic Journal on Information Systems in Developing Countries*. 38(10), 1-19.

Ismail, N. A. (2009). Factors influencing AIS effectiveness among manufacturing SMEs: Evidence from Malaysia. *The Electronic Journal of Information Systems in Developing Countries*, *38*(1), 1-19.

James A. Hall, Peter E. Bennett (2011). Accounting Information System Seventh Edition

Jamie MacleodNovember 11, 2015 Key issues facing SMEs development in Ghana

Jiang, J. J., & Klein, G. (2009). Expectation-confirmation theory: Capitalizing on descriptive power. In *Handbook of research on contemporary theoretical models in information systems* (pp. 384-401). IGI Global.

Jutla, D., Bodorik, P., & Dhaliwal, J. (2002). Supporting the e-business readiness of small and medium-sized enterprises: approaches and metrics. *Internet Research*, *12*(2), 139-164.

Kelly, Billy, and Ann Long. "The design and execution of social surveys." *Nurse Researcher (through 2013)* 8, no. 2 (2000): 69.

Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American journal of health-system pharmacy*, *65*(23), 2276-2284.

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.

Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for information systems*, *12*(1), 50.

Lewis, V. L., & Churchill, N. C. (1983). The five stages of small business growth. *Harvard business review*, *61*(3), 30-50..

Locke, S. (2004). ICT adoption and SME growth in New Zealand. *Available at SSRN 3284905*.

Martínez-Sola, C., García-Teruel, P. J., & Martínez-Solano, P. (2018). Cash holdings in SMEs: speed of adjustment, growth and financing. *Small Business Economics*, *51*(4), 823-842.

Mitchell, F., & Reid, G. C. (2000). Problems, challenges and opportunities: the small business as a setting for management accounting research. *Management Accounting Research*, *11*(4), 385-390.

Mitchell, F., Reid, G., and Smith, J. (2000). Information system development in the small firm: The use of management accounting. *CIMA Publishing*.

Muda, I., Wardani, D. Y., Maksum, A., Lubis, A. F., Bukit, R., & Abubakar, E. (2017). The Influence of Human Resources Competency and the Use of Information Technology on the Quality Of Local Government Financial Report with Regional Accounting System As An Intervening. *Journal of Theoretical & Applied Information Technology*, *95*(20).

Musah, A. (2017). Benefits and Challenges of Bookkeeping and Accounting Practices of SMEs and Its Effect on Growth and Performance in Ghana. *JABM Journal of Accounting-Business & Management*, *24*(2), 16-36.

Musah, A. (2017). Benefits and Challenges of Bookkeeping and Accounting Practices of SMEs and Its Effect on Growth and Performance in Ghana. *JABM Journal of Accounting-Business & Management*, *24*(2), 16-36.

Musah, A. (2017). Benefits and Challenges of Bookkeeping and Accounting Practices of SMEs and Its Effect on Growth and Performance in Ghana. *JABM Journal of Accounting-Business & Management*, *24*(2), 16-36.

Nang, M. (2017). *An evaluation of accounting information systems and performance of small scale businesses in Ghana*(Doctoral dissertation, University of Cape Coast).

National Board for Small Scale Industry-Ghana (NBSSI), (2012). Performance Report, Performance of SMEs p 52.

Nwokor, A.C. & Nkwor, F.A.(2015). The Impact of Accounting Information System on the Performance of Small and Medium Scale Enterprises in Nigeria. Greener Journal of Economics and Accounting, 4(1):21-28.

Olawale, F., & Garwe, D. (2010). Obstacles to the growth of new SMEs in South Africa: A principal component analysis approach. *African journal of Business management*, *4*(5), 729-738.

Olugbode, M., Elbeltagi, I., Simmons, M., & Biss, T. (2008). The effect of information systems on firm performance and profitability using a case-study approach. *Electronic Journal of Information Systems Evaluation*, *11*(1).

Owusu, J., Ismail, M. B., Osman, M. H. B. M., & Kuan, G. (2019). Financial Literacy as A Moderator Linking Financial Resource Availability And SMEs Growth In Ghana. *Innovations*, *16*(1), 154-166.

Ravenscraft, D. J. (1983). Structure-profit relationship at the line of business and industry level. *The Review of Economics and Statistics*, 22-31.

Richardson, S.t Sloan, R. (2010). External financing and future stock returns. Working paper University of Pennsylvania

Rogerson, S., Miller, K. W., Winter, J. S., & Larson, D. (2019). Information systems ethics–challenges and opportunities. *Journal of Information, Communication and Ethics in Society*, *17*(1), 87-97.

Romney, M., Steinbart, P., Mula, J., McNamara, R., & Tonkin, T. (2012). *Accounting*

Sajady, H., Dastgir, M., & Nejad, H. H. (2008). Evaluation of the Effectiveness of Accounting Information Systems. *International Journal of Information Science and Technolog, 6* (2), 49-59.

Salehi, M., Dashtbayaz, M. L., Bahrami, M., & Teymoori, E. (2015). The effect of implementation of accounting information system on efficiency, profitability and productivity of SMEs in Iran. *Banks and Bank Systems*, *10*.

Salehi, M., Rostami, V., & Mogadam, A. (2010). Usefulness of accounting information system in emerging economy: Empirical evidence of Iran. *International Journal of Economics and Finance*, *2*(2), 186-195.

Schwab, L., Gold, S., & Reiner, G. (2019). Exploring financial sustainability of SMEs during periods of production growth: A simulation study. *International Journal of Production Economics*, *212*, 8-18.

Sharma, D. S. (2001). The role of cash flow information in predicting corporate failure: the state of the literature. *Managerial Finance*, *27*(4), 3-28.

Shea, V. J., Dow, K. E., Chong, A. Y. L., & Ngai, E. W. (2019). An examination of the long-term business value of investments in information technology. *Information Systems Frontiers*, *21*(1), 213-227.

Sibona, C., & Walczak, S. (2012, January). Purposive sampling on Twitter: A case study. In *2012 45th Hawaii International Conference on System Sciences* (pp. 3510-3519). IEEE.

Soenen, L. A. (1987). The Concept of Cash Flow and Techniques for Speeding Up the Flow of Cash. *Management Decision*, *25*(2), 7-11.

Son, D., Marriot, N. and Marriot, P. (2006).Users' perceptions and uses of financial reports of small and medium companies in transitional economies: Qualitative evidence from Vietnam, Qualitative Research in Accounting & Management, 3(30). 218 – 235.

Steel, W.F and Weslter, L (1990). Ghana's small enterprise sector survey of adjustment response and constraints. Industry series paper 41, World Bank.

Taiwo JN (2016). Effect of ICT on accounting information system and organizational performance: the application of information and communication technology on accounting information system. European Journal of Business and Social Sciences 5(2):1-15

Tallon, P. Kraemer, K. & Gurbaxani, V. (2000). Executives' perceptions of the business value of information technology: A process-oriented approach, *Journal of Management Information Systems*, 16(4), 145-173

Urquía Grande, E., Pérez Estébanez, R., & Muñoz Colomina, C. (2011). The impact of Accounting Information Systems (AIS) on performance measures: empirical evidence in Spanish SMEs.

Venkatesh, V., & Zhang, X. (2010). Unified theory of acceptance and use of technology: US vs. China. *Journal of global information technology management*, *13*(1), 5-27.

Yang, S., & Brynjolfsson, E. (2001). Intangible assets and growth accounting: evidence from computer investments. *Unpublished paper. MIT*, *85*(61), 28.

APPENDIX 1

ACCOUNTING INFORMATION SYSTEM ON THE GROWTH OF SMALL AND MEDIUM SCALE ENTERPRISES: A STUDY OF SME'S IN KUMASI METROPOLIS

Dear Valued Respondent,

My name is John Mensah, a final year student of the Department of Accounting, University of Education Winneba, Kumasi Campus. I am currently carrying out a study titled **"Accounting Information System on the Growth of Small and Medium Scale Enterprises: A Study of SME's In Kumasi Metropolis".**

Your responses are very crucial for the completion of this study, and thus I solicit your assistance and cooperation in completing this questionnaire. Be rest assured that all responses will be treated with utmost confidentiality and will be used exclusively for academic purpose.

Thank you for your understanding.

John Mensah

_____

Researcher

APPENDIX 2

QUESTIONNAIRE FOR SME OPERATORS

This questionnaire is to help complete a study on the topic ''Accounting information system and the growth of SMEs. The provision of an honest, objective and accurate answer would therefore be well appreciated. This is purely an academic exercise, so please note that your bio-data would be kept as confidential, thank you.

Please tick where appropriate

Part A: Personal Data of Respondents

1. Please indicate your sex

a. Male [   ] b. Female [   ]

2. Please indicate your age

a.   Below 30 years [   ]   b. 30-50 years [   ]   c. Above 50 years [   ]

3. Please indicate your maritalstatus.

a.   Single [   ]   b. Married [   ]   c. Divorced [   ]   d. Separated [   ]

4. Please indicate your educational status

a. Tertiary [   ]   b. SHS [   ]   c. MSLC/JHS [   ]   d. Primary [   ]

Othersspecify……………………………………………………………….

5. Please indicate your Level at Work

a.   Business Owner [   ]   b. Co-Owner [   ]   c. Employee [   ]

PART B:THE EFFECT OF ACCOUNTING INFORMATION SYSTEM ON SALES GROWTH

(Please tick one out of the four boxes provided for each item; 4= strongly agree; 3=agree, 2= disagree and 1=strongly disagree)

S/N	Items	4	3	2	1
1.	The effectiveness of your accounting system influences growth in your organization's turnover.				
2.	The quality of your Human resources has significantly affected the sales growth of your organization.				
3.	Your organization's investment in technology contributes significantly to the growth in your yearly turnover.				
4.	Ethical values have significant influence on sales growth in SME's.				
5.	The impact of Accounting information system on the sales growth of your organization has been positive.				

PART C:THE EFFECT OF ACCOUNTING INFORMATION SYSTEM ON PROFIT GROWTH

(Please tick one out of the four boxes provided for each item; 4= strongly agree; 3=agree, 2= disagree and 1=strongly disagree)

S/N	Items	4	3	2	1
1.	The effectiveness of your accounting system influences growth in your organization's profit.				
2.	The quality of your Human resources has significantly affected the profit growth of your organization.				
3.	Your organization's investment in technology contributes significantly to the growth in your yearly profit.				
4.	Ethical values have significant influence on Profit growth in SME's.				
5.	The impact of Accounting information system on the profit growth of your organization has been positive.				

PART D: THE EFFECT OF ACCOUNTING INFORMATION SYSTEM ON ASSET GROWTH

(Please tick one out of the four boxes provided for each item; 4= strongly agree; 3=agree, 2= disagree and 1=strongly disagree)

S/N	Items	4	3	2	1
1.	The effectiveness of your accounting system influences growth in your organization's asset				
2.	The quality of your Human resources has significantly affected the asset growth of your organization.				
3.	Your organization's investment in technology contributes significantly to the growth in your asset.				
4.	Ethical values has significantly influence on asset growth in SME's.				
5.	Your organization relies on accounting information system for decision making on asset investment.				
6.	The impact of Accounting information system on the asset growth of your organization has been positive.				

PART E: THE EFFECT OF ACCOUNTING INFORMATION SYSTEM ON NET CASH FLOW GROWTH

(Please tick one out of the four boxes provided for each item; 4= strongly agree; 3=agree, 2= disagree and 1=strongly disagree)

S/N	Items	4	3	2	1
1.	The effectiveness of your accounting system influences growth in your organization's Net cash Flow				
2.	The quality of your Human resources has significantly affected the Net cash Flow growth of your organization.				
3.	Your organization's investment in technology contributes significantly to the growth in your Net cash Flow.				
4.	Ethical values has significantly influence on Net cash Flow growth in SME's.				
5	The impact of Accounting information system on the Net cash Flow growth of your organization has been positive.				