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# The Role of Information Technology in Small and Medium-Scale Enterprises in Ghana

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## Abstract

Information technology has become a standard tool for the enhancement of the business sector. Small and Medium-scale Enterprises (SMEs) form the engine of growth of many economies; information technology is therefore needed to promote the growth of SMEs. The study involved employees of SMEs in Accra Central. A sample size of 100 respondents was used. Frequencies, percentages and the chi-square test were used in data analysis. Information technology is used in various areas of SMEs management, and the higher the extent of use of IT in managing SMEs, the higher growth is impacted.

**Key Words:** Information Technology, SMEs, Growth, Small-scale enterprises, Medium-scale enterprises

## 1.1 Introduction

Information Technology (IT) is a credible tool in the development of the business sector of society. As a renewable field of human intelligence, the IT sector has been useful in managing change and development in businesses. Information technology (IT) is largely considered to “encompass the use of computers and telecommunications equipment to store, retrieve, transmit and manipulate data” (Daintiff, 2009[5]). On the other hand Management Information System (MIS) is related to management information technology (MIT), which is an aspect of MIS (O’Brien, 1999)[9]. Management IT deals with the tools, processes and people needed to grow organisation through effective exchange and dissemination of business-related information (Hsu and Pant, 1995)[10]. Management IT deals more about the ability of people to use computer, telephones and other devices and their related programs to communicate within the organisational system. Business managements and administrations are characterised of the application of IT such as electronic communication, internet usage, graphic design and usage, databases management, data mining, basic computer skills, website creation, data analysis and the like (Butler et al, 2005) [2]. It is expressed universally by business experts that ability of employees to perform these tasks is relevant to the progress of an organisation. Even so, it is important to know the extent to which SMEs apply information technology as major facilitators of economic growth.

The application of information technology is of utmost importance in developing businesses, including small and medium-scale enterprises (SMEs). In many economies, the SME sector is the major contributor to Gross Domestic Product, Nowduri (2012) [8]. The situation is not different in Ghana, as a report by the Statistical Service of Ghana indicates that the SMEs sector is the main booster of economic growth. Hence, the application of IT is relevant for the development of SMEs in Ghana. Paramount to the development of SMEs is a process that enhances communication and data mining between people (managers, customers and stakeholders) through the use of computers, telephones, internet and other IT-related devices (Laudon and Laudon, 2006)[6]; Nowduri, 2012) [8]. Ease and effectiveness in marketing, sales, administration and logistics management is increased with proper use of these devices and their programs. The core of MIS application has to do with decision making, where decision support systems are applied in making decisions in the management of SMEs. Similarly, information technology-based communications in the management of small businesses cannot be underestimated (Street, 2004), as this businesses contribute the most to economic growth and constitute nursery of large-scale business management (Laudon and Laudon, 2006)[6].

Though a number of researches have delved into the application of IT in the development of SMEs, none of these studies can be suitably applied in Ghana. This is because none of them paired the right variables as needed to enhance the use of IT in the Ghanaian SMEs sector. I was therefore motivated by this circumstance to undertake this study.

## 1.2 STATEMENT OF THE PROBLEM

With improving information technology, many businesses are being enhanced in the area of growth by savouring computers, their programs and any IT-based device. Nonetheless, there are many businesses and organisations which are collapsing as a result of the fact that managements are unable to integrate with employees, customers and stakeholders through appropriate communications systems (O’Brien, 1999)[9]. This is due to a lack of knowledge by SMEs about the best ways of using IT. SMEs also do not know the rightful application of IT in sales, marketing, logistics management and others. Meanwhile knowledge about this by SMEs is imperative for designing schemes of improving the SME sector. SME sector of Ghana lacking such knowledge is based on the

absence of empirically proven evidences, further based on lack of research works in this vein. Despite the empirical evidences established by Nowduri (2012)[8], they cannot help to know the exact situation of the use of information technology in Ghana, especially in terms of sales, marketing, logistics management and administration. Also, the study was undertaken outside Ghana and situations of geographical and demographical differences cannot allow for the application of its findings in Ghana.

### 1.3 Objective of the Study

The objective of this research was to assess the use of Information Technology in enhancing growth of Small and Medium-scale Enterprises (SMES). Moreover, the purpose of the study was to identify IT-based strategies that are used to market services and products of SMEs. The study involved a comparative analysis of the scope of application of IT in “small-scale” and “medium-scale” enterprises.

### 1.4 Hypotheses

**H<sub>01</sub>**: The use of IT does not relate to growth of SMEs.

**H<sub>02</sub>**: The importance of the use of IT in “small-scale” and “medium-scale” enterprises is the same.

**H<sub>03</sub>**: The importance of the use of IT in services-based SMEs is the same as that of product-based SMEs.

### 1.5 Literature Review

Information Technology (IT) has become an indispensable tool in the development of human society, especially in the field of business management. As a renewable field of human intelligence, the IT sector has been useful in the area of business enhancement and adaptation. Information technology (IT) is broadly considered to “encompass the use of computers and telecommunications equipment to store, retrieve, transmit and manipulate data” (Daintiff, 2009)[5]. In a business context, the Information Technology Association of America has defined information technology (IT) as “the study, design, development, application, implementation, support or management of computer-based information systems”. In an academic context, the Association for Computing Machinery defines it as “undergraduate degree programs that prepare students to meet the computer technology needs of business, government, healthcare, schools, and other kinds of organisations. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones (Chandler and Munday, 2012)[4]. The history of IT can be traced to the days of Sumerians, where humans were storing, retrieving, manipulating and communicating information in about 3000 BC (Butler, 2004)[3].

In the context of business or organisational management, information technology interplays with Management Information Systems (MIS). Management Information System (MIS) provides information that is needed to manage organisations efficiently and effectively (O’Brien, 1999)[9]. Management information systems are not only computer systems - these systems encompass three primary components: technology, people (individuals, groups, or organisations), and data/information for decision making. In academic terms, the term is commonly used to refer to the study of how individuals, groups, and organisations evaluate, design, implement, manage, and utilise systems to generate information to improve efficiency and effectiveness of decision making, including systems termed decision support systems, expert systems, and executive information systems (O’Brien, 1999)[9].

The application of information technology is unavoidable in the development of the SME sector in Ghana, as this sector needs IT application to develop as a major contributor to Gross Domestic Product, Nowduri (2012)[8]. Central to the development of SMEs through IT usage is a process that enhances communication and data mining between people (managers, customers and stakeholders) through the use of computers, telephones, internet and other IT-related devices (Laudon and Laudon, 2006; Nowduri, 2012)[6]. Ease and effectiveness in marketing, sales, administration and logistics management is increased with proper use of these devices and their programs. The core of MIS application has to do with decision making, where decision support systems are applied in making decisions in the management of SMEs.

#### 1.5.1 Information Technology and Growth of SMEs

Information technology application has a strong link to the enhancement of small and medium-scale enterprises (SMEs). More importantly, the development of SMEs through IT usage is based on how products or services are marketed and sold using IT-based systems (Meister and Street, 2004)[7]. Like all organisations, SMEs, regardless of how small they are, need to apply IT at the management level and in marketing and selling business products and services. Laudon and Laudon (2006)[6] said that the application of information technology does not influence growth directly. However, such aspects of SMEs such as marketing and sales are influenced by IT use. This is because sales and marketing are the direct sources of revenues and profits for the SME.

#### 1.5.2 Tools and Strategies of IT for SMEs

There are tools and strategies for the use of information technology at the organisational level. The set of tools

used in this respect depends on an organisation's culture, goals and scale of investment (Meister and Street, 2004)[7]. There are different IT application tools and strategies. Adeshina et al (2012)[1]), as illustrated below:

**Electronic communication tools (Adeshina et al, 2012)[1]:**

These tools include such devices as mobile phones, i-pads, computers, internet and a combination of other electronic devices. Mobile phones, computers and i-pads are often used in connection with internet to communicate across people. The internet is used hugely to market and sell through internet marketing. SMEs, based on their level of investment, can employ one or more of these tools in a process that integrates their managements and outdoor their services and products.

**Microsoft Tools (Adeshina et al, 2012)[1]:**

These tools include Microsoft office tools such as Ms Word, Ms Excel, Ms Access, Ms PowerPoint, Ms Outlook and the rest. Ms Word is employed in word processing, with which reports and diverse documents are designed. Ms Excel is multi-purpose software that can be used alongside Ms Word, Ms Access and others. Ms Access is a database tool that is used in design and management of databases. Ms Outlook is used as an email exchange system, which is often specialised for organisations. Aside the above tools, there are other software tools of IT that are applied by SMEs in communication.

**1.5.3 Empirical Review of Literature**

Nowduri (2012)[8] has made an empirical impact on the subject of IT application in the sector of small and medium-scale enterprises (SMEs). Part of the aim of the research of Nowduri (2012)[8] was finding out whether there is a difference in the rate at which information technology is applied by service-based and product-based SMEs. It was realised that there is actually no significant difference in the rate and extent of application of IT by service-based and product-based SMEs. Also, no set of tools and strategies are reversed for use by either of the two sectors. This is a way of stressing the result that there was no difference in tools and strategies applied by service-based and product-based SMEs. However, scale of investment influenced SMEs choice of tools and scope of application of IT. The higher the scales of investment, the wider the scope of use of IT and the higher the number of tools of IT used by SMEs. This was expressed in the difference shown by tools applied by "small-scale enterprises" and "medium-scale enterprises".

Though the study of Nowduri (2012)[8] was able to produce the above important clues, his results are suitable for application in Ghana. This is because the study was not undertaken in Ghana, and differences in population based on geographical and demographical differences cannot allow the use of his findings in Ghana. Also, his study did not reveal processes, strategies and tools of IT used in developing and managing SMEs. These gaps encouraged me to carry out this study.

**1.6 Methodology**

**1.6.1 Research Design**

The study was carried out as a case study of Accra Metropolis, where SMEs were considered. The researcher also undertook the study as a quantitative and a non-experimental research designs. The quantitative research paradigm was employed, as descriptive statistics were used. Inferential statistics were also used to test hypotheses.

**1.6.2 Population, Sample and Sampling Techniques**

The study involved employees of SMEs in Accra Metropolis, specifically Accra Central. Convenient sampling was used with the stratified sampling technique. Stratified sampling was used to divide the sample into "small-scale" and "medium-scale". Ten (10) each of "small-scale" and "medium-scale" firms were chosen. For each category, a sample of 50 respondents was taken, making an overall sample size of 100. As a matter of convenience, only respondents who had suitable knowledge about the use of IT in their firms were chosen.

**1.6.3 Tools of Data Analysis**

Frequencies, percentages and the chi-square test were used in data analysis. The chi-square was employed in testing each of the three hypotheses stated. The researcher's choice of these tools is attributed to the fact that nominal and ordinal scale data were involved in analysis. Generally, such data are analysed using non-parametric statistical tools.

**1.7 Results of the Study**

It was discovered that information technology is applied in various areas of SMEs management. About 32% of respondents disclosed the area of IT-based marketing. About 8% of respondents disclosed IT-based banking. About 40% of respondents indicated communication at the administrative level. About 12% indicated data organisation and management. About 4% disclosed service/product design and service/product packaging. Table 1 below gives a summary of this information.

**Table 1: Areas of SMEs Management where IT is used**

IT mediums	Frequency	Percentage
IT-based marketing	32	32%
IT-based banking	8	8%
Communication at administrative level	40	40%
Data organisation and management	12	12%
Service/product design	4	4%
Service/product packaging	4	4%
Total	100	100%

**Table 2: Summary – Kendal’s Correlational Test**

Hypothesis	$\alpha$	Kendal’s correlation	Decision
The use of IT does not relate to growth of SMEs.	0.05	0.71	Rejected

Table 2 indicates a 0.71 correlation between use of information technology and growth of SMEs. This value indicates that there is a strong positive correlation between use of information technology and growth of SMEs. This means that increasing use of IT increases growth of SMEs.

**Table 3: Summary – Chi-Square Tests**

Hypothesis	Level of significance	$X^2$	$X^2$ (crit)	Decision
The importance of the use of IT in “small-scale” and “medium-scale” enterprises is the same.	0.05	0.41	5.99	Confirmed
The importance of the use of IT in services-based SMEs is the same as that of product-based SMEs.	0.05	3.04	5.99	Confirmed

Table 3 shows chi-square values for the two hypotheses. In each case,  $X^2 > X^2$  (crit); hence each hypothesis is confirmed. In the case of the first hypothesis in the table, it can be said that importance of use of IT in small-scale enterprises is the same as the importance of use of IT in medium-scale enterprises. So as far as SMEs are concerned, size does not influence importance of use of IT in developing SMEs. Similarly, importance of use of IT in service-based and product-based SMEs is the same.

### 1.8 Conclusions and Recommendations

Information technology is applied in various areas of SMEs management, which are IT-based marketing, IT-based banking, data organisation and management, service/product design and service/product packaging. There is a strong positive correlation between use of information technology and growth of SMEs. This means that increasing use of IT increases growth of SMEs. Importance of use of IT in small-scale enterprises is the same as the importance of use of IT in medium-scale enterprises. Size does therefore not influence importance of use of IT in managing SMEs. Similarly, importance of use of IT in service-based and product-based SMEs is the same. Regardless of whether an SME is service-based or product-based, it is required to apply information technology to the largest extent possible. This can be done by ensuring that the use of information technology in the business cuts across all necessary areas of business as revealed in results above. The SME’s ability to use IT at a higher extent is expressed in the ability to use IT in all possible areas, including the basic ones revealed above. This will make a positive impact on growth as depicted by the correlational test between “extent of use” and “growth”.

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