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ROLE OF INFORMATION TECHNOLOGY IN THE MANAGEMENT OF SMALL AND MEDIUM SCALE ENTERPRISES IN ILORIN METROPOLIS

BY

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Abstract

The current trend in the business world calls for a more pragmatic approach at improving the efficiency of Small and Medium Scale Enterprises (SMEs). This is attributable to the continuous and vibrant competition that operates in the current dynamic business environment that we find ourselves. Towards this end, this study examines the role of information technology in the management of SMEs in Ilorin metropolis. Different sampling techniques were used to distribute detailed questionnaire to the respondents. A total of seventy three respondents correctly filled and returned their questionnaires. Binomial logistic regression analysis method was employed to analyse the data obtained for the study. The study posits that the use of technology should as a matter of urgency be vigorously pursued by SME operators in order to produce at an optimum output and maximise their profit.

Key words : Data base, Information technology, Management process, Optimum benefit

1.0 Introduction

Most economic sectors today are affected by information generation and processing and the communication of its outcome with the use of technology. Information has affected all aspects of human life whether in offices, factories, homes, banks, supermarkets, filling stations and many other places. Managers make use of information in various ways. Specifically, Management Information System (MIS) includes: the provision of information on the staff strength of an organization including its turnover rate, its income and expenditure pattern, employment decision, what is to be produced and at what cost and so on. Such information is used in the decision making process and the taking of appropriate steps which will result into an acceptable level of prediction and accuracy at an economical and reasonable cost.

Feedback mechanism is also an essential requirement of information system (Mejabi, 2008). Almost all aspects of management function such as planning; directing, controlling and staffing have been computerized to make the job of managers easier. The use of Technology to generate appropriate information as well as create the optimum output cannot be under estimated in the current dynamic business environment where we find ourselves. These changes are as a result of the creativity and ingenuity of the modern entrepreneurs, innovation, and access to reliable information increased awareness and demands from customers. According to Kadiri (2011); Organizations that cannot respond to these changes cannot compete adequately with other firms in the same or similar sectors of the economy. In his view Afolabi (2009), was of the opinion that, Technology has reached a level of artificial intelligence where machines such as computers have the ability to behave and display close to human intelligence.

Some of the areas where artificial intelligence is developed are expert systems, vision systems, as hardware, natural language, robotics and learning. Computers to Ajogbade (1992) are the latest craze in Nigeria today and it will continue to be relevant as the country develops. Computers have gained acceptance in all sectors of the economy ranging from oil and gas, small and medium enterprises, large industries, education, banking, health, entertainment industry etc. Today's Customers are not only concerned about the high quality products at low cost: they also demand efficient, fast and convenient services. Customers will prefer services that will meet their personalized needs. Are there benefits in the adoption of information and technology by the Small and Medium Enterprises (SMEs). This study therefore, seeks to examine the role of Information Technology in the establishment of SMEs in Ilorin metropolis

2.0 REVIEW OF LITERATURE

Information has continued to play prominent roles in human life but the emergence of social progress and the vigorous development in science and technology has immeasurably increased the role of information in every facet of human life. The rapid expansion of a mass of diversified information has born the term 'information explosion'. The pace of change brought by new technologies has had a significant effect on the way people live, work, and play globally.

According to Mejabi (2008), Information technology is a general term that describes any technology that helps to produce, manipulate, store, communicate and disseminate information. Encarta (2009) was of the view that information technology is an act of processing data via computer, the use of technologies from computing, electronics and telecommunications to process and distribute information in digital and other forms. Information technology combines the technology of computers and communications to provide information processing services throughout the office or around the world. Information technology is a term which generally covers the harnessing of electronic technology for the information needs of businesses at all levels (Anderson 1990).

In addition, Longley and Shain (1992), defines information technology as the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronic based combination for computing and telecommunication. Grainger-Smith and Oppenheim (1994) were of the view that information system (IS) is a group of formal process that together collects, retrieve, process, store and disseminate information for the purpose of facilitating planning, control, coordination and decision making in organizations. Information technology on the other hand provides the technical solutions identified in the (IS) information system; including the networks, hardware and software. Porter and Miler (1985) conceive of information technology to broadly encompass the information that business creates and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information.

In addition to computers, the data recognition equipment, communication technologies, factory automation and other hardware services are involved. Traditionally, telephone, radio and television were referred to as media technology. Hanson and Narula (1990) define Information technology as basically an electronic device based on integrated circuits or silicon chips. Hanson and Narula (1990) further identified two major forms of information technology, namely information technology as Telematics, meaning "Big media" and Ethnotronic, meaning "Small media". Telematics are to be identified with such technologies as computers, telephone, satellites, television, radio, video and those that rely on large scale infrastructures. Ethnotronics includes technologies such as typewriters, audio cassette records, fax machines, paper copies, calculators, digital watches and other more personal types of technologies. Technology has reached a level of artificial intelligence where machines such as computers have the ability to behave and display close to human intelligence or human like behavior. This artificial intelligence was carried out by John McCarthy at a conference at Dartmouth College, USA in 1956. Some of the areas where artificial intelligence is developed are expert systems, vision systems, as hardware, natural language, robotics and learning (Afolabi, 2009).

In modern day business and banking operation, a database is necessary to take care of the changing complexity, most nature of businesses and organizations use a computer to do some modern applications such as customers accounts, stock control, payroll system among others, although there is bound to be a large degree of overlap of data between the files for the various applications. This no doubt will go a long way in improving the efficiency of operations of these SMEs thereby resulting into higher monetary returns. More so, a database collects data, process and reports it into information. Sometimes the database simplifies large complex data into small logical form. Conversely, Information Communication Technology revolution has brought about economic and social development in Nigeria and the world at large. According to Isoun (2002), technology is power, technology is super power.

Information communication technology provides unique investment opportunities and operations of SMEs. Also, information technology overcomes geographical, cultural barriers, promotes social integrity, unity and peace in Nigeria and thus improve investment climate. No meaningful government or other agencies will be interested in assisting a business unit whether large or Small without a robust financial culture.

SMEs and Nigeria's Economic Development

Small and Medium Enterprises Development has continued to be a popular phrase in the world due to its leading role as catalyst for national growth and economic development. SMEs world over can boast of being the major employers of labour if compared to the major industries including the Multinationals.

According to Peterise (2003), SMEs both in the formal and informal sectors employ over 60% of the labour force in Nigeria. Also, 70% to 80% of daily necessities in the country are not high-tech product, but basic materials produced with little or no automation. Move along major streets in Nigeria, market or stores, how many of the goods or services on sales are sophisticated? Most of these products come from the Small and Medium Enterprises. Odubango (2000), Onwumere (2000), and Nnanna (2001) all maintains that SMEs help in the achievement of improvement in rural infrastructure, improved living standard of the rural dwellers, employment generation, utilization of indigenous technology, production of intermediate technology and increase in revenue base of the government e.t.c. (Wahab and Ijaiya, 2006). China has tenaciously understudied these facts and aggressively capitalizes on it. According to Kadiri (2011), the SMEs with fewer than 300 workers account for about 99.5% of the factories in Tokyo and employs 74 percent of work force in the country. Korea and Taiwan prospered with the aid of SMEs as both countries rely on the sector. More so, in the United State of America, the SMEs account for 87 percent of the countries workforce. The German SMEs employs about 72.6 percent of its labour force. What then does it really take Nigeria to produce Lemon drinks or juice out of oranges or mango and package it for consumption ?

3.0 METHODOLOGY

Population and Sample size

A detailed questionnaire was prepared and mailed to SMEs in Ilorin metropolis. A total of one hundred and thirty three (133) SMEs using one form of technology or the other in the course of doing their business were identified in the study area. This forms the population for the study. Different sampling techniques were used to select our sample size of eighty five (85). This was as a result of the relative homogeneity characteristics of the SMEs. Some operate in the agro allied sector while other are in the non agro allied sector. Of these, seventy three correctly filled and returned their questionnaires on the use of technology in the daily activities of their business representing a response rate of about 86 per cent.

Data Collection

In this study, the Primary Method of data collection was employed. Our choice of this method is to increase the commitment of the respondents. To obtain the required data, a detailed questionnaire was prepared and mailed to the respondents. The questions drawn reveal the biological, socio-economic as well as usage of technology in the daily management of the business of the targeted SMEs.

Data Analysis

The Binomial (Binary) Logistic Regression was used for this study. It is a form of regression which is used when the dependent variable is a dichotomy in nature and the independent variable is of any type.

The method applies maximum likelihood estimation after transforming the dependent into a logit variable (the natural log of the odds of the dependent occurring or not).

$$\text{Logit}(p) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + U_i$$

4.0 RESULTS

The aim of this section was to analyze the data that were obtained by the use of the primary method of data collection.

From Table 1, a total of 19 SMEs representing about 26 per cent of the total respondents were of the opinion that finance is the greatest contributory factor to the increase number of SMEs. Also, 31 respondents representing about 42 percent of the respondents believe technology has contributed more to their successes.

However, a total of 11 respondents representing 15 percent of the total respondents believe a good location of the business will bring in more benefits to the organization. Only 12 respondents representing about 16 per cent of the total respondents were of the opinion that government policy will only determine the success of the SME business. This category of respondents represents 15 per cent of the total respondents.

Table 1: Greatest contribution to success of SMEs

Factor	Frequency	Percent
Finance	19	26.03
Technology	31	42.47
Location	11	15.07
Government	12	16.43
TOTAL	73	100.0

Source: Administered Questionnaire 2014

The outcome of the empirical result reveals that the Nagel Kerke (R^2) is 0.913. This shows that about 91.3% of these factors explain the success of SMEs in Ilorin metropolis. Technology with a sig value of 0.000 produced the most outstanding outcome. This simply puts technology as the potent contributor in the management of SMEs. This simply puts technology as the potent contributor in the successful management of SMEs. Among the four factors that contribute to the profit of SMEs, technology produced the domineering outcome. Finance, location as well as the role of government although are all significant in contributing to the successes of SMEs but technology produced the outstanding result.

Table 5: Variables in the equation

	B	S.E	Wald	Df	Sig	Exp(B)
X1	0.692	23.656	0.000	1	0.985	0.453
X2	0.001	00.000	18.478	1	0.000	1.001
X3	0.826	12.427	0.003	1	0.065	0.060
X4	2.034	9.868	0.095	1	0.958	0.441
Constant	25.869	253.030	0.010	1	0.918	1.7E+11

Source: Authors SPSS Analysis (2014)

Logit (p) = $\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + U_i$

Where; β_0 = Constant term, $\beta_1 - \beta_4$ Regression Coefficient, X_1 = Finance

X_2 = Technology, X_3 = Location, X_4 = Government

Log (p) = 25.87 + 0.692 X_1 + 0.001 X_2 + 0.826 X_3 + 2.034 X_4 + U_i

SE (253.030) (23.656) (00.000) (12.427) (9.868)

Nagelkerke R^2 = 0.913

4.0 Conclusion and Policy recommendations

The purpose of this study was to examine the role of Information Technology, to the successful management of selected SMEs in Ilorin metropolis. The paper was of the opinion that the Information Technology factor contributes the highest return to the organization. Technology and its use as well as the information derivable from it cannot be underestimated in an economy that wants to progress. The mounting contributions of SMEs as a frontier in income generation of household, employment generation as well as the improvement in the nation's economy cannot be underestimated. These growths and development are achievable as a result of the creativity and ingenuity of the modern entrepreneurs, innovation, and access to reliable information, increased awareness and demands from customers. Organizations that cannot respond to these changes cannot compete adequately. In conclusion, SMEs that wants to succeed should integrate the usage of technology in the production, processing or packaging of their products.

The SMEs also needed technology to compute information regarding their income and expenditure accounts as well as profit of the business. The study therefore recommends that:

- (i) since the study was of the opinion that technology will contribute significantly to the profit of SMEs, there is urgent need for SMEs to integrate technology into their business so as to obtain the optimum benefit.
- (ii) the use of technology in the management process of SMEs will assist them in the generation of data that will assist them to obtain loan and other financial benefits from the government
- (iii) the use of technology will assist the SMEs to keep adequate data for presentation to tax authorities thereby protecting them from over being over tax
- (iv) the use of technology will assist the owners of the SME business to monitor their business thereby guiding them against theft and fraud.

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