USE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN STRATEGIC MANAGEMENT OF SMALL AND MEDIUM ENTERPRISES IN TRANS-NZOIA WEST SUB –COUNTY.

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DECLARATION

This project is my original work and has not been presented for the award of any degree in any university

Signature.....Date.....

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I confirm that the work in this project was done by the candidate under my supervision.

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DEDICATION

To my husband Joseph Mukhongo and my dear children Abel, Victor and Jewel for the overwhelming support and inspiration throughout my studies.

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OPERATIONAL DEFINITION OF TERMS

Communication Technology: Electronic systems meant for communication between people or groups. Communication technology enhances communication between individuals or groups who are not physically present at the same place. Systems such as telephones, telex, fax, radio, television, and video are part, as well as more recent computer-based technologies, including electronic data interchange and e-mail

Communication: Passing of messages from sender to receiver with aim of receiving feedback.

Control System: Managing, dictating, directing or limiting the behavior of other machineries or systems using control loops.

Capacity Building: Process of developing and strengthening the skills, instincts and resources that organizations and communities need to survive, adapt and thrive in the fast-changing world."

ICT infrastructure: Refers to the composite hardware, software, network resources and services required for the existence, operation and management of an enterprise IT environment.

Information: what is passed or represented by a given arrangement or sequence of things

Risk management methods: Looking ahead and evaluation of financial risks together with the sighting of procedures to avoid or minimize their impact.

Strategic management: The process of looking at both present and future environments, formulating the firm's objectives, putting in action and controlling decisions focused on achieving these objectives in the present and future environments.

Small and Medium Enterprises: Business practiced at a relatively small scale. This category is made up of enterprises which employ fewer than 250 persons and which have relatively lower annual turnover.

Business Environment: All the internal and external factors that affect how a business functions

Resource Allocation: plan of using available resources especially in strategic management

ABBREVIATIONS AND ACRONYMS

GDP : Gross Domestic Product

ICT : Information and Communication Technology

MoST : Ministry of Science and Technology

UNDP : United Nations Development Program

SMEs : Small and Medium Enterprises

TRA : Theory of Reasoned Action

ABSTRACT

Kenya's economy is heavily dependent on the performance of SMEs which gives the foundation for the upcoming of other sectors. However, the strategic management in many SMEs in Kenya is still being challenged.This study looked into how Information and Communication Technology influences strategic management in SMEs in Trans Nzoia County. The aim of this study was to investigate the use of Information and communication technology on strategic management in SMEs of Trans Nzoia County, Kenya. The specific objectives of the study were to; examine the extent to which Information and communication technology infrastructure influences strategic management in SMEs in Trans Nzoia County, examine ICT resource allocation strategies and its effects on strategic management in SMEs of Trans Nzoia county, find out how staff utilization ability of Information and communication technology facilities influences strategic management in SMEs of Trans Nzoia County and establish the moderating effect of business environment on strategic Management in SMEs of Trans Nzoia County. The study used the theory of Reasoned Action, Configurational Theory and Activity constraints, the study used descriptive design and explanatory research design. It targeted 120 SMES registered in Trans Nzoia County, Kenya and dealt with 120 strategic managers. The study used questionnaires to collect data. Descriptive and inferential statistical techniques were applied to analyze the data. Descriptive statistics included mean and standard deviation while inferential statistics involved both correlation and multiple regression analysis. The study showed results that Information ana communication technology infrastructure influence strategic management of SMEs in Trans Nzoia County, staff allocation ability of Information and communication technology has an influence on strategic management. Business environment has a great effect on operation of SMEs in Trans Nzoia County and if business environment offers negative issues to SMEs then strategic management will get a lot of difficulties to operate. The study recommends that, strategic management of SMEs should employ usage of Information and communication technology. The Information and communication technology infrastructure should be beefed up in strategic management of SMEs. Strategic management has to keenly observe the business environment because it has a lot of effect on SMEs. Future research should investigate on use of Information and communication technology not only in Trans Nzoia County but in other counties. Study findings form a basis of reference by academicians and interested parties in future.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Strategic management involves the formulation and implementation of major goals and initiatives taken by an organization based on consideration of resources and an assessment of internal and external business environments in which the business operates.Strategic management provides overall direction to an enterprise and involves specifying the objectives, developing policies and plans designed to achieve these bjectives and then allocating resources to implement the plans

Small and Medium Enterprises (SMEs) are not new in the history of economic development. The SMEs had been there much earlier since their recognition as economic agents, governments and non-government agencies developed strong interest in the development and growth of SMEs by starting various schemes to support the sector activities (Akaplu, 2008). Berislav (1985) further pointed out that large scale industries had their origin in small business units though recognition of small businesses activity as a determining factor of economic development came much later in the 1950s. The SMEs were recognized for their role and importance in economic development and growth of economies. Since then, there has been a growing interest in the development of small businesses worldwide. This has enabled small businesses to continue having a critical part in the development of economies, particular, in the developing economies like Kenya. SMEs provide immense opportunities, for employment money sources, income to the government and poverty reduction. Greater percentage of all businesses in Trans nzoia West Sub County fall in the SME sector. To some extent, 30% of the populations (4.6 million) comprise of this sector and subsequently accounting for 18.4% GDP of the country In addition, the sector provides 28 billion in total capital (Oparanya, 2009).

In the United Kingdom (UK), small enterprises are recognized as the backbone of the British economy accounting for more than 50 percent of the turnover (Lukacs, 2005). From the household point of view, the SMEs, aim to raise income of the poor households and thereby reduce poverty (Thapa, 2007). In many situations these entities are family owned businesses. In Uganda, the performance of the SMEs in the manufacturing sector was considered poor as a result of lack of access to business services and finance despite the significant role they played (Ishengoma and Kappel, 2008).

The performance of SMEs in some regions is good while in others the performance is not as good. In South Africa for example, the future of SMEs is not very bright as the small enterprises are likely to cease operations before the fifth year (Chiliya& Roberts-Lombard, 2012). This makes South Africa to be one of the poorest performers in the informal sector. Luck of financial acumen, weakness in innovation, lack of ICT application, practical knowledge and human resource management have been cited as some of the challenges of this sector.

Hepeng (2014) found that the small and medium-sized enterprises provided close to 75 percent of the town employment opportunity by the end of 2012. The SMEs, World over are important as agents for wealth and employment creation and poverty reduction. During their early stages of development, they form the seedbeds to both the medium and large scale enterprises. Since they exist in all the geographical areas including rural and town areas SMEs, link the rural and town markets. Besides, SMEs supplement the markets by supplying goods and services that the medium and large enterprises are not willing to be engaged with.

In Kenya, the important role played by SMEs in the economy had been recognized from the time the sector was brought into existence in 1972, in a document by International Labour Organization (ILO) / United Nations Development Programme (UNDP) on employment, income and equity in Kenya (Sutheraman, 1976; Mullei and Bokea, 1999). The importance

of SMEs in Kenya's economy had even been noted earlier by the many papers and discussions on Kenya informal sector (Abuodha and King 1991). Kenya's first step in the progress such a sector was by the development of Sessional Paper No. 1 of 1986. Secondly, the role played by SMEs was recognized in the 6th NDP (1989 – 1993), as an initial way of strengthening the country's economy. In the 6th Plan, the target for new employment creation over the five-year period was 1.9 million jobs. Of those jobs, approximately 31 per cent or 587,000 jobs were expected to be created in the Small sectors and *Jua kali* sectors (Republic of Kenya, 1992). From the African economic point of view this sector accounted a major percent of the urban labor force in low income Africa and contributed 20 percent of their GDP (UNDP, 1996).This further explained the importance of SMEs in world economies. But the survival of SMEs is surrounded by a number of challenges including lack of access to and acquisition of financial services, high cost of production, marketing, poor quality of tools and pricing. Lack of access or acquisition of financial services is often quoted as a contributor to business failure among other factors.

SMEs provide good opportunities, for employment money sources, revenue to the country and poverty minimization. A greater percentage of all businesses in Trans Nzoia County, Kenya are in the SME sector. A reasonable percentage of the populations (4.6 million) comprise of this sector and generaly accounting for 18.4% GDP of the country. Subsequently, this provides 28 billion in total capital (Oparanya, 2009). SMEs in Tranzoia _county contribute widely to gross domestic product (GDP) and job provision. More so these SMEs face problems from a number of challenges such as inadequate financial service, inadequate technical and managerial expertise, low infrastructure, and high volatile markets (Bowen, Morara, &Mureithi, 2009).

1.1.2 Strategic Management in SMEs

Strategic management is the process of looking at both present and future environments,

coming up with the organizations objectives, putting in place and controlling decisions geared towards achieving these objectives in the present and coming environments. In other words, strategic management is concerned with deploying a firm's internal strong and weak points to take advantage of its outer opportunities and reduce its external shortcomings (Adeleke, Ogundele and Oyenuga, 2008).

Thompson and Strickland (2003) reveals that strategic management helps managers to establish an business long-term issues, obtain specific performance objectives, device strategies to get these objectives in the view of all the important internal and external issues, and get to execute the relevant action plans. Globalization has enabled businesses to have a number of changes in nearby years. These changes are met by increase both in size and operations. To cope with these changes, modern management techniques are used in contemporary business environment. One of such techniques is strategic management (Stahl & Grigsby, 1997). The principal responsibility of the practicing manager is to ensure that the organization keeps in touch with the external environment. The manager must also see the essence of management in terms of services to customers. Strategic management is based on the belief that an organization should continually monitor internal and external events and trends so that timely changes can be made as needed. An organization must be able to identify and adapt to change.

Business is a high level game. Repetitive ways or action to counter immediate and future shortcomings and to move forward with changing condition is a relevant prerequisite for organizational competitiveness and progress. Wrong or badly planned and implemented Strategic move could result to the loss of millions of money, thousands of jobs wasted, spoilt or even business to be collapse. Strategy to be progress, managers should see the organization as a whole and not as any fraction made of distinct and independent business units, and must put together everyone in the organizational. Strategy is a long plan for a

business in getting success (Kazmi, 2008).

Management can perform this functions better by involving ICT which enables small and medium enterprises to problems related to tackle poverty, unemployment and lack of education (information communication technology for poverty reduction 2010). However the strategic management of small and medium enterprise incorporated has been faced with challenges observed in such a scenario as globalization, the globalization of domestic markets , the global issues the problem of financial markets , slowing investments fast changing consumer demand thus making them look for ways of succeeding and development in the present business world. (Ongori and Migiro (2011),.

The use of ICT in strategic management in SME's elevates the efficiency of business within the wider economy in general being an issue within the value chain of the product. The usage of ICT on the strategic management of businesses is detrained by various management approaches and ways of its implementation and usage.

1.1.3 Information Communication and Technology in SMEs

SMEs all over the world are presently developing their businesses by adopting ICT that comes with positive issues including market changes, curbing business cost, customer increase, and wealth production just to mention a few (Olatokun&Bankole, 2011). In Trans Nzoia County, SMEs are growth mechanisms because of their important position in economic development (Kiveu&Ofafa, 2013). SME sector is vital for creating job opportunities; it gives goods and services, propels competition and innovation as well. ICT can boost SME sectors in the developing regions like Trans nzoia county from their cons through facilitating domestic and international market attainment, interworking, competitive advantage, information collecting, production of proper products, less logistic costs and boosts business transactions. However, various challenges come to SMEs that curtail their full potential to deliver value. In a study about information and communication technology

adoption by small enterprises Mokaya (2012), sought to determine the factors affecting ICT adoption and its usage in small enterprises. Mokaya's study emphasized on explaining how enabling in finance, the ICT cost, ICT infrastructure, and SMEs propellers level of knowledge influence them to accept and use ICT in their small enterprises.

Previous studies laid strength on the benefits of ICT and didn't address the drivers as well as related tools that influenced its adoption in SMEs. The present state of e-business technology in Trans Nzoia _county assumes three components namely ICT adoption drivers, ICT usage, tools and the benefits derived from adopting ICT (Ongori&Migiro, 2011). To add on, the term ICT adoption assumes different definitions depending on the research objectives. This study will seek to provide understanding of the use of ICT adoption by strategic management particularly in the context of Trans Nzoia _county SMEs. Therefore, the researcher might unearth use of ICT by strategic management by SMEs.

Some SMEs in the developing world don't want to cope with innovation. They still use traditional kind of communication to conduct business (Chibelushi& Costello, 2009). This is reverse to efforts that their governments direct as a way of supporting and giving strength to SMEs to adopt ICT in order to optimize effective retail business growth. Other SMEs experience constraints that relate to the high cost of production, little profits, and inappropriate linkages, poor networks, and continuous mismatch of market demand and supply. SMEs suffer from detrimental consequences and occasionally from unfavorable conditions that subject entrepreneurs and their customers to limited market attraction, and technological innovation. Their activities experience adverse challenges that eventually lead to customer loss and in many occasions culminate in their collapse (Apulu& Latham, 2011).

Several studies show a number of factors that influence business people to adopt ICT in their business as strategic managers. According to Apulu and Latham (2011), the main push for adopting ICT include the competitive advantage that ICT provides, it enhances customer satisfaction, and that ICT avails time and cuts on cost. Other researchers argue that the age

composition of business owners of SMEs and their level of education has great influence on ICT adoption (Chuang, Nakatani, & Zhou, 2009).

Despite the technological shortcomings that owners/managers of SMEs have, adopting ICT is vital for successful business (Sin Tan, Choy Chong, Lin, & Cyril Eze, 2010). Using the Internet elevates business's competitive advantage and provides wide understanding and information (Isabella, 2008). In upcoming counties like Trans nzoia _county, adoption of ICT needs large financial base or capacity (Mokaya, 2012) that is a vital factor hindering ICT adoption by the majority of SMEs. Additionally, ICT gives a wide perspective of benefit to SMEs including good performance in business, bringing new organization strategies and management models, reaching new markets, coming up with business models, and sees into better and effective use of human resources (Barba-Sánchez et al., 2007).

The ICT adoption strategy cuts across various forms of SMEs giving enterprise innovativeness that gives unique and model of art products and services, for balancing market issues, and internal operations reinforcement. Owners/managers of SMEs require an understanding of the expected benefits of allowing ICT for empolyees to have a positive attitude for embracing and using it (ErdenerKaynak, EkremTatoglu, &Veysel Kula, 2005). ICT related research findings offer SME owners and manager's ways that they may use to promote adoption and utilization of ICT. SMEs, therefore, urge to map competitive and cooperative strategies that match with ICT in their businesses (Sin Tan et al., 2010). SMEs strategic management has a chance to gain in several ways when they adopt ICT. The owners/managers of SMEs may have economic benefits in their businesses, while adding to the sub county GDP at the same time. Research on ICT use in strategic management provides a foundation of myriad benefits and barriers. Further, SME owners/managers discover several new constructs that they use to advance their businesses. These constructs include unique and personal distinctiveness, guiding principle, and training in ICT, commitment in ICT, promptness and firm ingenuity.

Investigating different ICT applications through surveys across the border and longitudinal studies, explains extensively the implementation ICT in SMEs (Sin Tan, 2010).

1.1.4 Small and Medium Enterprises in Trans Nzoia West

Trans Nzoia County is one of the 47counties in Kenya. According to the Kenya national bureau of statistics Trans Nzoia County has population of 450000 people. Trans Nzoia is basically an agricultural region. The region has experienced some major growth as infrastructure improves and devolution spurs development. The influx of financial institutions and academic institutions has enhanced the growth of the sub county and its economy.

1.2 Statement of the problem

Review of literature has been done on ICT and management of SMEs. Recent major studies by Akinlabi (2018); Nmadu, (2017) and Akingbade (2017) have found that SMEs financial trend tends to rise with an equal increase in the level of usage ICT in strategic management. Despite efforts from managers of small and medium enterprises to incorporate ICT the sector is still being faced with challenges observed in such a phenomenon as internationalization of local markets, the wider crisis in financial markets, swaying investments rapidly changing consumer likes thus making the managers of SMEs look for means of survival and moving forward in the current business environment (Ongori and Migiro 2011).

To address this growing challenges, Information Communication Technology (ICT) has been identified as one of the strongholds in the economic growth space, thus a reason for its adoption by SMEs to elevate business strategies. (Uwalomwa&Ranti, 2009). Early studies by Ongori and Migiro (2011), Mokaya (2012), Ladokun et al. (2013) and Adebayo, Balogun, and Kareem (2013) focused on issues of ICT adoption in SMEs but their studies were not specific on the involvement of strategic management use of ICT and its importance in SMEs.

This raised conceptual and contextual gaps which were filled by the present study. This study hence sought to investigate the use of ICT in strategic management of SMEs in Trans Nzoia West Sub County.

1.3 Objectives of the Study

1.3.1 General Objectives of the Study

The aim of this study was to look into the use of ICT on strategic management of SMEs in Trans Nzoia County, Kenya.

1.3.2 Specific objectives

i To examine the extent to which ICT infrastructure influences strategic management in SMEs in Trans Nzoia County.

ii To examine ICT resource allocation strategies and its effects on strategic management in SMEs of Trans Nzoia county.

iii To find out how staff utilization ability of ICT facilities influences strategic management in SMEs of Trans Nzoia County.

iv To establish the moderating effect of business environment on strategic Management in SMEs of Trans Nzoia County

1.4 Research questions

i) To what extent does ICT infrastructure influence strategic management in SMEs of Trans Nzoia County?

ii). To what extent does ICT resource allocation strategies affect strategic management in SMEs of Trans Nzoia County?

iii). How do staff utilization ability of ICT facilities influence strategic management in SMEs.

iv). What is the moderating effect of business environment on the relationship between ICT and strategic Management in SMEs of Tran Nzoia County.

1.5 Significance of the Study

The study is significant to the following groups; First for management of SMEs the study

showed the importance of ICT use on strategic management which when implemented may provide extra data which enabled access to national and even global information about marketing and prices of products, methods of production of SMEs which will generally promote the business from Trans-Nzoia County .Secondly, the government might use the study results to understand the establishment of ICT infrastructure and use. This will help in planning and budgeting of the government revenue through the Ministry of Information. Finally, the study helps to impart competitive performance especially when the workers realize the fact that addition of ICT knowledge improves strategic management and performance in SMEs.

1.6 Scope of the Study

The study involved 90 respondents in SMEs operating in Trans Nzoia County since the county is endowed with high number of business oriented activities. The study was also limited to only the three ICT practices in SMEs strategic management since they appear outstanding in both backgrounds and literature review. Other variables were external to the business organizations like competition and government policies were considered in the study in business environment as a moderating variable.

1.7 Limitations of the study

As with most research of this nature, the findings of this study were interpreted with consideration of a number of limitations. First, there was low response rate among the informants due to their busy schedule or lack of trust and interest. To address this problem the questionnaire was designed in such a way that there is no respondent's identification and the use of introduction letter of the researcher was important to assure the respondent that research is purely academic. Secondly, the nature of the businesses was not uniform all over, the responses given were diverse depending on the nature of the business. In this case the questionnaire was designed to address different responses as per the business.

1.8 Organization of the Study

Chapter one dealt with introduction, statement of study, objectives, hypothesis, and significance of study, scope of the study, limitations and study organization. Chapter two presents the literature review in which the information related to ICT use in strategic management is highlighted in theoretical and empirical literature review, the chapter also presents conceptual framework of the study. Chapter three gives the methodology of the study in which research design, target population, sampling procedures, research instruments, and data analysis techniques are addressed. Chapter four deals with data analysis and discussion of findings. Chapter five deals with conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter seeks to bring out theoretical issues on ICT and its use in strategic management of SMEs in Trans Nzoia County, Kenya. It seeks to show that lack of use of ICT has caused poor performance of strategic management of SMEs. It has identified variables like ICT infrastructure, ICT utilization ability, financing and business environmental and how they influence Strategic management in SMEs. The chapter is organized starting with the theoretical review, and then empirical review is based on the above variables. The empirical review is organized as per objectives and gives a critical approach on researches done including their methodologies. Conceptual framework is finally drawn at the end of the chapter with clear indicators to show how each variable would be measured.

2.2 Theoretical literature review

Theoretical framework guides research to determine what things to measure, and what statistical relationships to look for (Defee, Randal, Thomasd & Williams, 2010).The study was guided by theory of reasoned action, Configurational perspective theory and Activity theory.

2.2.1 Theory of Reasoned Action

Theory of Reasoned Action (TRA) developed by Martin Fishbein and Icek Ajzen in 1967, puts forth that the behavior intentions of persons rely on their attitudes and subjective norms that they express. The theory lays its development from previous researchers that gave time to study human attitude and behavior. TRA has strength on three components that the current study has tried to explore ICT adoption in SMEs. These issues included behavioral intentions, attitudes, and subjective norms. The three issues of TRA assume the following

definitions. Attitude refers to sum of behavioral beliefs weighted through evaluation of these beliefs. Subjective norms focus on people's influence in their social environment in relation to behavioral intentions. Behavioral intention is a function of attitude and subjective norms toward behavior or anticipated action. The current study considered some factors to be subjective norms and treated them as measurable variables. These factors included; increase in sales, company size expansion reduction in operational procedures, competitive advantage and ease of accessing product information. The proposed study used TRA as a lens for scheming how SMEs accept ICT and the use of ICT to improve and grow retail business growth (Alam et al., 2012).

The TRA theory provides a way for showing possible positives of ICT that underpin individual's intentions associated to behavior attitudes and normative beliefs (Southey, 2011; Ajzen & Fishbein, 1969, 1980, in press). TRA is a continuation of theory of planned behavior (TPB) (Ajzen, 1991). This study used TRA as a basis to provide understanding of the factors that influence ICT acceptance. More so, the researcher used TRA to link ICT acceptance factors as measurable variables in the present study. Small businesses tend to assume one person decisions and therefore the forecasted capacity inherent in TRA and TPB is necessary for assessing decisions made within the small business field. The current study used TRA to explore variables that it held as responsible for individual decision behavior (Southey, 2011).

The intention for using ICT depended notably on attitudes and social norms inherent in ICT executives especially those that own/manage SMEs (Alam et al., 2012). TRA provided the researcher with a predictive approach to behavioral intention that subsequently influences the decisions or possible actions pursued to understand attitudes and behaviors of SMEs owners/manager.

2.2.2 Configurational perspective theory

The configurational theory was put forth by Mintzberg (1973). The theory shows a simultaneous internal and external fit between a firm's external environment, business strategy, and HRM strategy, showing that business strategies and management activities merge according to organizational context in establishing business performance (Arthur, 1994). According to Boxall and Purcell (2003) configurative theories look at strategic management issues from a systemic perspective. Sheppeck and Militello (2000) argue that a system is a set of interrelated elements, such that each individual part or element depends to a greater or lesser percentage on its capacity within an integrated bigger organization runs as complex systems comprised of interdependent external and internal smaller components that are best understood when viewed holistically. This configurationally view retains a system perspective by focusing on the pattern of relationships between different elements (Delery& Doty, 2006). A change in one section will affect the other sections, worldly or not. Thus, configurative theories show organizational change processes that come in response to external or internal pressures (Broedling, 1999).

The configuration approach is used in the study to show why it is important for businesses to have both vertical and horizontal fit through their strategic practices, so as to add to a business competitive advantage and consequently looked as strategic. It shows how a fit between public sector culture and HR capabilities can enhance SME performance.

2.2.3 Activity theory

Activity Theory was developed by Robert J, Havighurst (1900-1991), as a response to the disengagement theory of ageing in 1990. According to Lim (2002), the activity theory lays weight that human psychology is majorly on activity of concrete individuals which takes place whether in collective – that is jointly with other people or in a situation which the subject deals

directly with the environmental objects-if we removed human activity. For instance without communication from the system of social relation and social life, the system will not survive. The human individuals' activity is a system in the system of social relations, the system does not survive without this relations.

The theory brings out clear need for human nature to interact with the existing structures in the environment in order to reach their optimum goals. Communication is seen to be very vital in the organization and it is the basis of social relation which is important for development of projects. The theory spells out the need for human interaction with the existing surrounding objects. This is important for business development as far as this study is concerned because it is emphasizing the need for use of technological tools to promote communication as a social aspect for SME performance.

2.3 Empirical review

The empirical literature review is modeled on previous studies on the influence of ICT in strategic management of SMEs. The review is based on management factors, economical factors and technological factors.

2.3.1 ICT infrastructure and Strategic Management in SMEs

Picking up of electronic commerce gives a great opportunity to SMEs to have wider access and lesser transactional costs, gives substantial benefits through improved efficiencies and brings revenues, facilities access to prospective customers and suppliers, productivity, customization of items being offered for sale and information exchange and management (UNCTAD,2002).However, usage trends among SMEs in Kenya show a minor progression from the use if internet for communication to use of internet for research and information search, to

the development of websites with static information about a businesses goods and services(Macharia,2016).

Waverman, Meschi, and Fuss (2005) in study on ICTs have an evidently positive effect on income progress in developing and developed countries. In SMEs, ICTs can raise money by raising productivity and introducing new income ways other than traditional approaches.

According to Forestier & Kenny (2014), creating manageable ICT issues in SMEs is a big challenge. In these sectors, major efforts of telecommunications infrastructure is given at a very huge fee that may not be supported by the coming use and aftermath of the telecommunications network. Reasonable access to ICT in local businesses can be frustrated at the supply as well as the need end of the service-provision chain. Adoption of ICT in many SMEs in coming up countries is slowed by low availability of subsequent public services, such as electricity and education, and by the relative shortfall of locally relevant content. This has gone far in affecting the performance of rural based projects negatively.

Seeing the equity implications of access to ICT, governments have adopted regulatory policies to enable the roll of ICT infrastructure and the supply of services and tools in rural areas to promote projects. The work of regulation policy has been to keep in line with technological developments while maintaining licensing issues geared toward equity. This will reduce imbalances within countries while maintaining sound business reasoning within the telecommunications sector. (Forestier, Kenny, at el 2002),

However use of ICT in SMEs in local places has been so challenging in many developing countries, considering the multilayered way of the problem of making sure affordable local access to infrastructure, devices, and services, partnerships among organizations with different

specialties, capacities, and profit motives appear to be a key way to improve access and affordability. Partnerships serving as critical mechanisms for improving rural ICT access can take the form of partnerships within the public sector, negotiated public-private partnerships, private agreements among stakeholders in the telecommunications sector, or informal understandings between service providers and stakeholders at the community level.(Pham, 2009).

Enabling such partnerships and maintaining them remains a key government role. For example, the public sector plays a considerable role within the M-PESA collaborative partnership. This role involved financially supporting the collaboration among mobile network operators (MNOs) during software development. In Bhutan, partnerships among departments within government were instrumental to the rollout of community information centers in remote areas (Bhutan, 2010)

Even if the evolution of ICTs in developing countries has a long way to go, it has moved significantly forward in the past decade. The fast expansion of mobile phone networks and market intake of Global System for Mobile Communication (GSM) technologies following liberalization and deregulation are the most frequently cited examples of this evolution. Informed and proper regulation is necessary for having an enabling environment that will raise entrepreneurs' strength to widen market offers and reduce the negative impacts of competition on consumers. Hindrances such as a monopoly operator, much licensing regimes in some contexts) can negatively affect business potential and project development. At the other end of the issue, a supportive fiscal and financial surrounding and entrepreneurs' access to

financial services can lead to and increase the number of socially oriented services (Sunderland, E. 2007).

Significant regulatory issues in the telecommunications sector include taxes, licensing, liberalization, and competition policies. Taxes on communication services widely influence the affordability of ICT in Africa, for example, given the low average incomes. Import duties on IT equipment, value- added tax (VAT) (ranging from 5 to 23 percent) on goods and services, and excise taxes on communications services all take up prices, minimizing use. Too much licensing can also reduce the performance of many content-based ICT services. Rules on content broadcasting should be synchronized with good data transmission regulations (UNCTAD, 2010). In terms of competition, issues fostering the effective management of competitive markets, interconnection regimes, and mobile termination rates can provide incentives to invest in quality of service, differentiation, and innovation.

According to (Gasmi, & Virto. 2005.) wired telecommunications infrastructure appears to reach local areas in the light of complementary local access infrastructure such as roads and electricity and the expansion of public services such as education. The gap between the presence of complementary infrastructure and public services and the presence of wired ICT infrastructure in rural projects can be considerable, but the bringing of wireless, especially mobile, infrastructure is tied neither by the presence of roads nor by access to the electricity path.

According to Rama Rao (2016), computers have become more powerful, user friendly and less expensive. The PC revolution has brought closer to the users and till recently it has become easy to create local content and regional language interfaces to facilitate their use in villages.

2.3.2 ICT staff resource utilization and Strategic Management in SMEs

The International Development Research Centre (2004) the first survey of many households in the place revealed that very few people access, study rooms or libraries and post offices hence there is need to train local people to get information using gadgets like phones. The information received is important in getting required data when using SMEs to asses and analyse prices and commodities available. It's seen that a highly skilled workforce is major to increased competitiveness and sustainable 'growth (Gaskil, 1993). Therefore, demand for highly knowledgeable and skilled workforce places enormous pressure upon companies to improve or update their current knowledge and skills. This is usually important in SMEs since they are normally seen as lacking in appropriate skills and being in need of training to up the extent to which they integrate ICT in their day to day project activities (, Bingi, 2000, and Lange, 2000). Avlonitis and Karavanni (2000), and measured the extent of lCT adoption using internet usage across many lCTs applications and the importance was established through little measure of the usage frequency. Furthermore, Morris(2005) argue that in a country where labour is relatively young and homogeneous and is usually in the 31-40 age range across both the public and private sector, ICT is more likely to be integrated. The impact of age as a variable is important because it is expected that younger people would be more propelled to use ICT especially now that technologies like the computer have only of late been introduced in the school curriculum in Kenya.

The interventions that have a role in facilitating a rise in the poor's livelihood assets and resources and facilitate diversified livelihoods have a way in elevating business performance and hence lowering poverty. Using of tele centers set up by the United Nations Development Program (UNDP) and the China Ministry of Science and Technology (MOST) have an important

role in helping the poor's access to more livelihood resources and assets and in influencing the adoption of diverse livelihood strategies, (Soriano, 2007).

The literature figures out clear gaps that will interfere with clear merging of ICT in rural areas therefore causes a bad impact on the development and performance of SME.

2.3.3 ICT Resource allocation and Strategic Management in SMEs

Technological resources like computers, telephone lines and Internet have an important role in the integration of new technologies in any set up Thong, (2009). However many organizations often do not have enough physical resources and human resource to adopt this important sector in rural development. This is a major obstacle to the integration of new technologies in project development in developing countries.

Singh (2006) reveals that Innovation requires a series of experimentation which is likely to demand high level of resource controlled environment. The high level of resources should facilitate risk taking and innovation which is important in project performance. Lack of inputs and required expertise are taken to be a major reason that blocks the adoption of creativity by small organizations.

The weight and availability of telecommunications has the extent to which the new ICTs are used and these get costs are often higher in poor countries. The price of telecommunication services has a bad impact on the spread of Internet technologies as the transfer of data depends on the use of this infrastructure, which means that telephones and Internet are complementary (Kiiski and Pohjola, 2001).This finally lowers the performance of rural projects since many of the project managers cannot afford to purchase these services.

Most rural projects where SMEs are part of cannot integrate ICT if the benefits do not outweigh the costs of establishing and maintaining ICT since they generally suffer from budget constraints

and are less sure of the expected returns on their investment. To improve their image in order to increase their credibility among customers, consideration of customers' perception as a human resource has become essential for success. Indeed, a strong image is an effective means for differentiation in the development of projects (Succi and Walter, 1999 and Rashid and AI-Qirim, 2001).

Increased investment and prioritization of ICT as part of national curricula will reap benefits by embedding new skills and attitudes in the next generation, the global born digital generation. This can only be achieved by strengthening ICT training for teachers and trainers which necessitates knowledge exchange and depends on access to a reliable power supply, Internet access, and technical support with necessary, affordability of equipment (ICT Adoption Workshop, 2008).

Arunachalam, Subbiah (2002) adds that funding agencies and donor governments face the question of whether should they support information and communication (ICT) technologies activities in their development projects. The argument is whether money should be invested in computers and communication devices or will it be better spent on food, shelter, health, and education. ICTs can form an integral component of development projects and one does not have to use technology because it is there, but one uses it if there is a genuine advantage. In any development program, people and their contexts should decide how one goes about implementing development interventions. The needs of the people and the best means to satisfy them should determine the whole program. Often ICT-based development projects do not bring in the expected results because of undue emphasis placed on technology.

2.3.4 Business environment

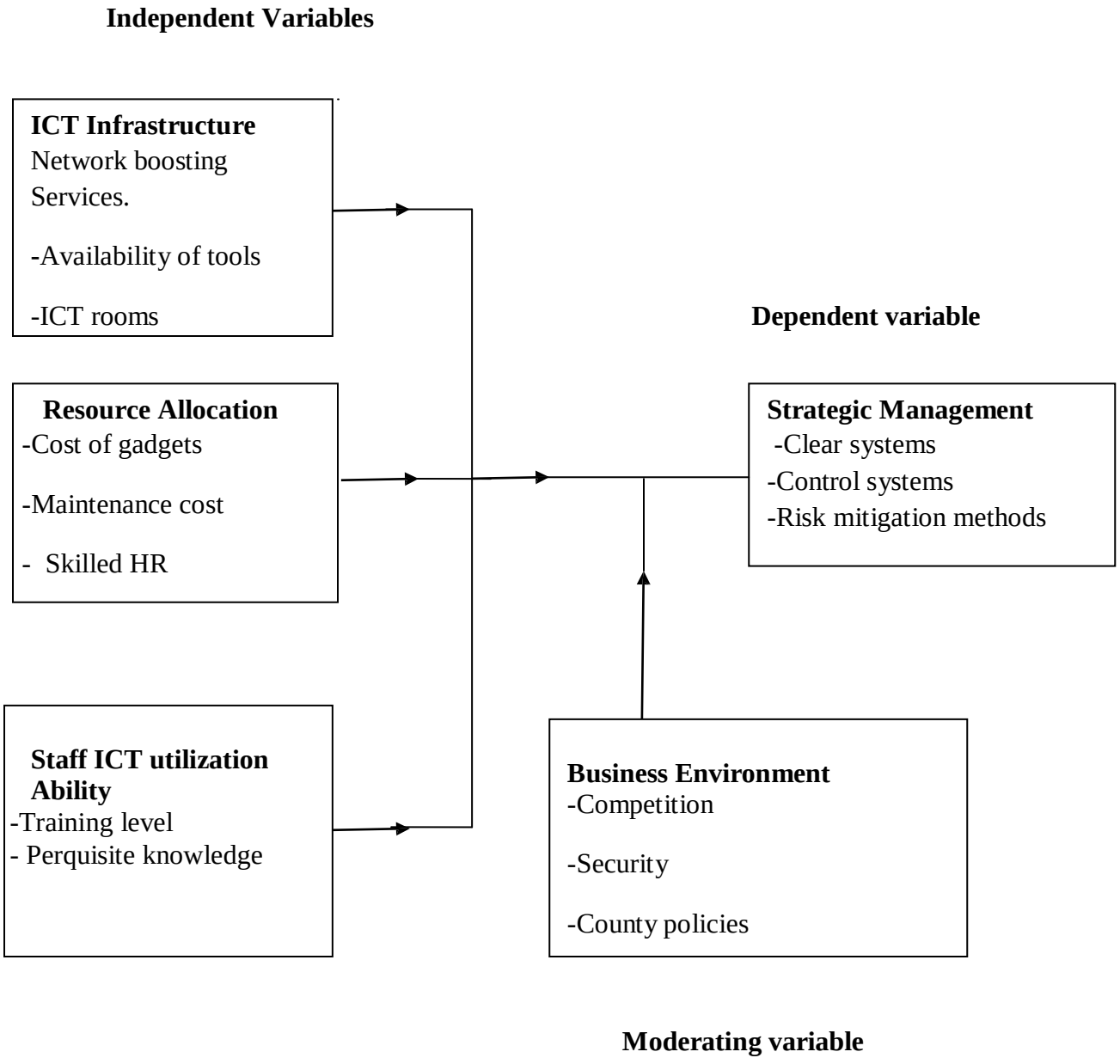
According to the Ministry of Education circular (2009), factors within and around the business can affect the business operations either positively or negatively. Internal environment could either be strengths that improve the business or weaknesses that tend to bring down the operations of a business. Such factors that carry a lot of weight as far as operations of a business are concerned include, business structure, resources, human resource, technological abilities, and competition, security and county policies.

2.4 Conceptual Framework

In the study, the conceptual framework shows the use of ICT in the strategic management in SMEs in Trans Nzoia County, Kenya.

It presents Independent variables which include: ICT infrastructure, ICT utilization ability and Resource allocation and show how they are related to a dependent variable strategic management. Business environment was used as a moderating variable to moderate the relationship between use of ICT and strategic management in SMEs

Figure.1.1.1 conceptual framework



Source: Researcher's own Conceptualization, 2018

The conceptual framework above shows the relationship between independent variables; ICT infrastructure, ICT utilization ability and resource allocation and the dependent variable strategic management.

2.5 Summary of the Literature Review

From the literature given, Table 2.1 presents summary of the research gaps

Table 2.1 Summary of research gaps

Author	Focus	Design	Findings	Gap filled and how the present study addressed them
Avlonitis and Karavanni (2000),	extent of lCT adoption using internet usage across many lCTs applications	Survey	Use of ICT boosts performance.	
International Development Research Centre (2004)	Survey of many households in the place	Survey	very few people access, study rooms or libraries and post offices hence there is need to train local people to get information using simple things like phones	The study concentrated on households while the present study concentrated on SMEs, thus presenting conceptual gap.
Waverman, Meschi, and Fuss (2005)	ICT and income of developing countries	Cross sectional	ICTs have an evidently positive effect on income progress in developing and developed countries	The study looked at ICT and income of the country. This presents conceptual and contextual gaps
WTO (2012))	usage of ICT in buying and selling practices	survey	Buying and selling practices has been overlooked by many organizations.	The study was done in general business while the present study concentrated on SMEs thus presenting conceptual and contextual gaps that were filled by the present study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents research methodology adopted for the study. It contains the research design, target population, sampling design highlighting the sample size and the method of collection of selection, measurement of variables under study, research instruments and administration procedures, data analysis methods and tools. The chapter also presents ethical considerations.

3.2 Research design

According to Saunders, Lewis and Thornhill (2007) no single design exists in isolation. They argue that combining different designs in one study enables triangulation and increases the validity of the findings. Therefore the present study used both descriptive research design and explanatory research. Descriptive research design gives the researcher a way to capture a population's characteristic and test hypothesis whenever they are used (Cooper & Schindler 2008). Moreso, the researcher has no control of the variables in the sense of being able to manipulate them hence guarding against bias. The explanatory research design looks for explanations on the nature of certain relationships and investigates the cause effect relationship between variables (Saunders, 2009). According to Zikmund (2003) surveys provide a quick and accurate means of assessing information if properly conducted.

3.3 Operationalization of Variables

The dependent variable in this study was strategic management while ICT use was s the independent variable. The study considered business environment as the moderating variable. Table 3.1 presents a description of the four study variables and how they were operationalized.

Table3.1 Operationalization of Variables

Variables	Nature	Operationalization	Indicator	Measurement criterion Questionnaire
ICT Infrastructure	Independent variable	Means of establishment In terms of physical and network services	Network boosting Services. -Availability of tools -ICT rooms	Section B Items on a 1-5 scale
ICT utilization Ability	Independent variable	Ways of manipulating and putting to ICT facilities available in the SMEs.	-Training level -Perquisite knowledge -Capacity building	Section C Items on a 1-5 scale
Resource Allocation	Independent variable	Methods and level of distributing resources within an SMEs sectors	-Cost of gadgets -Maintenance cost - Skilled HR	Section D Items on a 1-5 scale
Business Environment	Moderating variable	Checking all the environmental effects that affect the SMEs	-Competition Security status -county policies	
Strategic Management	Dependent variable	examining both present and future environments, coming up with the organizations objectives, implementing and controlling decisions focused on achieving these objectives	-Clear objectives -Control systems - Risk minimizing methods	

3.4 Target Population

Population refers to the larger group of people, events or issues of interest that the researcher wishes to investigate. The population interest of this study comprised of managers in SME's present in market Kiminini,Kiungani,Baraton,Matunda,Sikhendu and Mitoto centers in Trans Nzoia County which include supermarkets, M-pesa shops and developed hotels. Table 3.2 show target population of the study

Table 3.2 Target Population

Sector	**Target Population**
Supermarkets	20
Hotels	50
M-Pesa Shops	50
Total	**120**

Source:Field data 2017

3.5 Sampling Design and Procedure

The study first used stratified sampling in which it classified SMEs in three Categories according to their business type which are supermarkets, hotels and mpesa shops. Later purposive sampling was used on strategic managers in all the 120 SMEs in Trans Nzoia County. This made the sample size to be 120 in the study.

3.6 Data Collection instruments

Data from the study was collected using a questionnaire. The questionnaire was subjected to strategic managers of the SMEs and was made to include both closed, open-ended and matrix questions to give way to variety of responses from respondents. The questionnaire was divided into six sections to obtain information covering various aspects of the study. Section A covered

demographic characteristics of the respondents. Section B covered ICT infrastructure, Section C covered ICT utilization, section D dealt with ICT resource allocation, Section E on business environment while F covered strategic management. Measures were organized according to research questions and specific objectives. Matrix questions were also used. This type of questions gave the respondent with a range of questions against which they were required to respond based on a predetermined rating scale. The most often used is the Likert scale. These types of scales are used to measure perceptions, attitudes, values and behavior (Cooper &Schinder, 2007). These types of questions are common with the respondents and researchers as they are easy to fill in, economical and provide manageable comparability. The data was collected procedurally in a number of phases. In the first phase there was reconnaissance visit of the study area undertaken by the researcher in order to familiarise oneself with the research area and to obtain relevant institutional level data for refining the research proposal. The second phase involved seeking permission from Kenyatta University to collect data, the researcher oversaw data collection process after seeking for research permit from National Council for Science and Technology and permission from the relevant authority.

The researcher involved three research helpers to help in distribution of questionnaires to the targeted respondents. The questionnaires were issued through drop and pick later method. The research helpers were taken through training to clearly understand the research instrument, purpose of the study and ethics of research. The researcher and research helpers administered the questionnaires to the respondents face to face and were expected to bring back the filled questionnaires after one or two days. The researcher estimated the whole process to take 1month.

3.7 Validity and Reliability of research instruments

3.7.1 Pilot Sample Selection

The pilot testing was conducted using the questionnaire on 3 SMEs, one from the three categories, supermarkets, Mpesa and hotels each from the neighboring Bungoma County different from the target project groups in the study to test the reliability and consistency of the items.

3.7.2 Validity of Research Instruments

The study used both face and content validity to ascertain the validity of the questionnaires. Face validity draws an inference from test scores to a large domain of items similar to those on the test. Content validity is concerned with sample-population representativeness. (Gillham, 2008) stated that the knowledge and skills covered by the test items should be representative to the larger domain of knowledge and skills. To enhance validity in this study, there was need to consult experts in the field of study for comments on its appropriateness to the study. There was also need to use past data on the research instruments used and asses the responses given by the respondents so that similar mistakes performed early should not be repeated. Validity was judged by piloting the instruments. Test and retest method was used to ascertain the validity.

3.7.3 Reliability Test Results

Reliability of the research instrument was tested using Cronbach's Alpha (1951). Cronbach's Alpha is the reliability coefficient that indicates how the items in a set are positively correlated to one another (Sekaran, 2003). It has, been put forth that a reliability level of 0.70 is enough on predictor tests or hypothesized measures of a construct (Ehlers, 2000). Indeed, it is recommended that, a minimum of 0.70 for exploratory work and a standard 0.90 for advanced practice should be applied. Moreover, Cooper and Schindler (2003) argued that a Cronbach's alpha value of above 0.70 is seen as a trace of reliability. Similarly, Muathe (2010)

used a similar threshold. In this study, 0.70 was used to indicate reliability of the research instruments. The reliability results were as shown in Table 3.3.

Table 3.3 Reliability Test

Variable	Cronbach's Alpha coefficient
ICT infrastructure	0.834
ICT Utilization Ability	0.875
Resource Allocation	0.901
Business Environment	0.933
Strategic Management	0.889

Results in Table 3.3 show all variables attained a Cronbach Alpha of coefficient of over 0.7. Information Communication and Technology infrastructure had an alpha α =0.834, ICT utilization ability α = 0.875, resource allocation α = 0.901, business environment α= 0.933 and strategic management α= 0.889. This imply all the constructs had alpha values, α way above the recommended 0.7 in social sciences.

The study established if the variables under study are normally distributed or not. In order to measure sampling normalcy and adequacy of data, this study used Kaiser-Meyer-Olkin (KMO) and Bartlett's test whose value normally ranges between 0 and 1. High values ranging between 0.5 and 1 indicated that data was normally distributed. Values below 0.5 implied that data was not normally distributed (Kaiser, 1974). Good data ought to be normally distributed.

3.8 Data Analysis and Presentation

The researcher used both qualitative and quantitative methods to analyse data. For qualitative data, content analysis was used in which data was gathered, coded, analyzed and narrative report prepared showing respondents views on the use of information and communication technology on strategic management of small and medium enterprises in trans-Nzoia County.

Descriptive statistics like mean scores, standard deviations, percentages, and frequency distribution were computed for quantitative data to describe the characteristics of the variables of interest in the study. Descriptive statistics provided the basic features of the data collected on the variables under study and provided the forum for conducting further analysis on the data (Mugenda, 2008). To get the nature and magnitude of the relationships between the variables and to test the hypothesized relationships, the study applied inferential statistics which included regression model and correlation as follows:

Regression model

Direct relationship between variables

$Y=B_0+B_1X_1+B_2X_2+B_3X_3+\Sigma_0$.....1

Where

Y=Strategic management

B_0, B_1, B_2, B_3 are coefficients applied to test the significance of the independent variables on the dependent variables $x_1 x_2 X_3$ are the respective independent variables

Σ_0 as the error term to Katter for the changing variables

Moderating effect

$Y=B_0+B_4X+B_5M+B_6XM$……2

Where

Y=strategic management

X=composite index of the independent variable (all combined)

M=moderating variable

B_6 measures the interactive effect of the moderating variable

If $B_6<0.005$ Significant

$B_6>0.005$ not significant

The appropriate test applied was multiple regression analysis. The research hypothesis was tested at 95% level of confidence. To aid regression the study used summations of Likert items in every section of the structured questionnaire. Basing on the regression model used the independent variables, ICT infrastructure, ICT utilization, ICT resource allocation have a close association in relation to strategic management of SMEs.

3.9 Ethical Considerations

The researcher partook various steps to ensure that the study adheres to research ethical standards. The researcher sought consent from the management of each organization before administering the questionnaires. Participants were asked to directly consent to participate in the research, for which they were free to participate or not to. The expected respondents were not identified by name. Confidentiality of respondents was given top of priority. Further, the researcher had face-to-face meetings with those respondents who could be reached before agreeing to answer the questions of this study. The researcher explained to them that the information that they gave was be used only for the study. Borrowing from (Oliver, 2004) the

researcher ensured that through the principle of informed consent, complex as it is, the respondents were devoid of hang-ups that come with lack of clear expectations of the research. The researcher ensured that the respondents did not experience such hang-ups by explaining to them the implication of participating in the study. Respondents were free to decide whether to participate in the study or not. Those who responded that they were not to participate were left out while those willing to participate in the data gathering process were interviewed. The researcher gave the respondents their expected respect while at the same time ensuring that they answer the questions to the expectations of the study, interjecting questions, intelligibly. The researcher took some respondents without any discrimination which was achieved through self-administered questionnaires with an anonymous method of return.

CHAPTER FOUR

FINDINGS INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter presents the study findings, interpretation and discussion, which has been organized and discussed using themes and sub thematic areas formulated from the objectives. These include: Questionnaires return rate, Demographic characteristics of the respondents, ICT infrastructure and strategic management, ICT resource allocation strategies and strategic management, staff utilization ability of ICT and strategic management and moderating business environment on strategic Management in SMEs of Trans Nzoia County.

4.1. Questionnaire Return Rate

The survey questionnaire was administered directly to managers serving in Mpesa, Hotels and Supermarkets. All the filled questionnaires were then collected for review, data entry and analysis. Table 4.1 presents a summary of the response rate

Table 4.1 Distribution of Respondents per SME Category

Type of SME	Targeted Sample	Response	Response Rate (%)
Mpesa	60	48	80
Hotel	30	22	73.33
Supermarket	30	23	76.66
Total	**120**	**93**	**77.75**

Source: Field data 2017

Out of the 120 questionnaires distributed in the three SMEs Categories, 93 responded. This was a response rate of 77.5 percent. This was a satisfactory response rate as asserted by Orodho (2013) who indicated that 70% response level is adequate to validate the findings of a study. The responses rate was enhanced by using trained local enumerators who were well versed with the locality. In addition, the respondents were adequately inducted to the purpose of the study and assurance of confidentiality issued prior to the data collection. Follow up activities after issuance of the questionnaires were intensively conducted through phone calls and physical revisits by the enumerators.

4.2. Demographic Characteristics of the Respondents

The socio-demographic characteristics influence the activities of the respondents in SMEs organization they work for. The type of SME, gender, age and duration of service in the SMEs were evaluated as key towards ICT use in strategic management.

4.2.1 Distribution of Respondents by Gender

Gender of the respondents was identified to establish whether it had any influence on strategic management of SMEs. The response on distribution of respondents by gender was as shown in Table 4.2.

Table 4.2: Distribution of Respondents by Gender

Gender	Frequency	Percent	Cumulative Percent
Male	28	30.1	30.1
Female	65	69.9	100.0
Total	**93**	**100.0**	

Source: Field data 2017

The results in Table 4.2 shows that out of 93 respondents who participated in the study 28 (30.1%) were male while 65 (69.9) were female. This could be attributed by the fact that SMEs in Kenya is mostly done by female than male.

4.2.2 Distribution of Respondents by Education Background

The study established education background of respondents and summary of results was recorded in Table 4.3

Table 4.3 Distribution of Respondents by Education Background

Level of Education	Frequency	Percent	Cumulative Percent
Primary Certificate	18	19.4	19.4
Secondary Certificate	48	51.6	71.0
Tertiary Education	27	29.0	100.0
Total	**93**	**100.0**	

Source: Field data 2017

From results in Table 4.3 daily operations of the SMEs as well as the acceptability and use of ICT in management highly depends on the level of education of the operators. Results show that 19.4% had primary certificate, 51.6% had secondary certificate and only 29% had tertiary college training. Education level distribution among the respondents is sufficient for structural ICT management operations of the SMEs.

4.2.3 Distribution of Respondents by Length of Service

The study established the duration of service of the respondents in their various SMEs and the results are summarized in Table 4.4.

Table 4.4: Distribution of Respondents by Length of Service in the SMEs

Length of service	Frequency	Percent
< 2 years	11	12
2-4 years	34	36.9
4-8 years	24	25.4
8-10 years	13	14
Over 10 years	11	11.7
Total	**93**	**100**

Source: Field data 2017

The analysis on Table 4.4 shows the distribution of the response with regard to their length of service in their respective SMEs. Service duration of 2-4 years had highest number of respondents with 36.9% of the respondent's. Only 11.7% of the respondents had served in their respective SME's for more than ten years. Satisfactory service experienced distribution was observed among the respondents, key towards the establishing ICT use needs in the SMEs.

4.3 Test of Statistical Assumption Analysis of Likert –Type Data.

There were two major diagnostic tests that were carried out namely normality tests and multi-collinearity test. They are discussed in the following sub-sections.

4.3.1 Normality Test

The normality test is of importance before analysis of the linear regression model. The coefficient alpha is an appropriate measure of variance attributable to subjects and variance attributable to the interaction between subjects and items (Field, 2005). Factor analysis is an exploratory tool used to help the researcher make decisions on whether the independent variables under study explain the dependent variable (Field, 2005).The study established if the variables under study are normally distributed or not. The normality test compares the shape of the study sample distribution to the shape of a normal curve. The study used Kaiser-Meyer- Olkin (KMO) to measure sampling normalcy and adequacy. The results were as shown in Table 4.5.

Table 4.5 Normality and Adequacy Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.819
Bartlett's Test of Sphericity	Approx. Chi-Square	6172.31
	Df	29
	Sig.	0.000

Source:Field study 2017

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. High values (between 0.5 and 1.0) indicate factor analysis is appropriate and thus indicate data came from a normally distributed population. Values below 0.5 imply that factor analysis may not be appropriate and may not have come from a normally distributed data (Kaisen 1974). The KMO and Bartlett's Test normally ranges between 0 and 1. Kaisen (1974) recommends 0.5 as minimum (barely accepted), values between 0.7 - 0.8

acceptable and values above 0.9 are superb. The results of the normality test were as shown in Table 4.5. From the results, Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.819 which was acceptable and significant since p=0.000, thus indicating the results of the sample size were adequate and that data was normally distributed.

4.3.2 Multi-Co-linearity Test of Independent Variables

According to Alin (2010), multi-co-linearity exist when at least two independent variables in a statistical model are linearly related such that the correlation coefficient R is either greater or less than zero. The variance inflation values needed to range between 1- 10. However if the Variance inflation Factor (VIF) were less than 1 or greater than 10, then there was multi-co-linearity. Table

4.6 shows the results

Table 4.6 Multi-Co-linearity Test

Coefficients of Co-linearity Statistics	
	VIF
ICT Infrastructure	4.164
ICT Resource Allocation	3.341
Staff ICT Utilization Ability	3.913
Resource Allocation	4.813
Business Environment	4.771
a. Dependent Variable: Strategic Management	

VIF= Variance inflation factor

Source: Field study 2017

From the results, ICT infrastructure had a VIF of 4.164, ICT resource allocation had 3.341, staff ICT utilization had 3.913, resource allocation had 4.813 and business environment had 4.771.

From the results, variance inflation values were ranging between 1- 10, hence the data was not suffering from multi-co linearity.

4.4. Descriptive Statistics of Information Communication Technology Use in SMEs Business Operations

This section discusses descriptive statistics of Information Communication Technology use in SME business operations based on the following sub thematic areas; ICT infrastructure, staff ICT utilization, Resource allocation and business environment.

4.4.1 Descriptive Statistics of Information Communication Technology Infrastructure

This sought to establish descriptive statistics of the extent to which ICT infrastructure influence strategic management of SMEs. To achieve this, the respondents were asked to give their opinion showing the level of their agreement or disagreement with the statement provided in a Likert scale of 1- 5 where: Very great extent (VGE)=5, Great extent(GE)= 4, Moderate extent (ME)= 3, Low extent (LE)= 2 and Very low extent (VLE) = 1. The five statements on ICT infrastructure results are presented in table 4.7.

Table 4.7: ICT Infrastructure use in the SMEs Business Operations

Statements	VGE		GE		ME		LE		VLE		Mean	Standard Deviation
	f	%	f	%	F	%	f	%	f	%		
Information and communication Technology use is highly used in the organization?	60	64	23	25	8	8	2	2	0	0	4.5161	0.2382
Members of SMEs mainly use mobile phones as the only communication facility?	57	61	24	25	12	13	0	0	0	0	4.4839	0.3219
Members of the organization generally lack information on how to use the ICT tools?	58	62	25	26	10	9.3	0	0	0	0	4.5162	0.5432
The number of ICT tools can serve customers satisfactorily	30	32	58	62	6	6	0	0	0	0	4.3012	0.3213
Network boosting is sufficient in the SME	50	54	30	32	11	12	0	0	0	0	4.3333	0.4091
Grant Mean and Standard Deviation											**4.4301**	**0.36674**

From the results in Table 4.4, all the statements had overall mean of 4, which on the Likert scale was great extent. The grant mean of the statements was 4.4301 which imply respondents agree that ICT infrastructure influence strategic management of SMEs to a greater extent.

The first objective had the question;

4.4.2 Descriptive Statistics of ICT Resource Allocation

The study sought to establish descriptive statistics of ICT resource allocation in strategic management of SMEs. To achieve this, the respondents were asked to give their opinion showing the level of their agreement or disagreement with the statement provided in a Likert scale of 1- 5 where: Very great extent (VGE)=5, Great extent(GE)= 4, Moderate extent (ME)= 3, Low extent (LE)= 2 and Very low extent (VLE) = 1. The five statements on ICT infrastructure results are presented in table 4.8.

Table 4.8 Resource Allocation

Statements	VGE		GE		ME		LE		VLE	
	F	%	F	%	f	%	f	%	F	%
The SME are well equipped with ICT gadgets	8	10	23	25	60	64	2	1	0	0
The maintenance of the gadgets is poor	48	51	30	32	10	11	5	6	0	0
Most of the skilled human resource have been employed in the SMEs	8	10	25	26	50	54	10	10	0	0
The employed staff receive prompt pay and well remunerated	30	32	48	52	11	11	4	5	0	0
The ICT department is generally well supported in terms of resources by management	40	43	30	32	18	19	5	6	0	0

N= 93

A summary of the descriptive statistics informs of mean and standard deviation for analysis of the extent to which respondents were satisfied or dissatisfied with resource allocation, key towards establishing ICT use needs in the SMEs is presented in Table 4.9.

Table 4.9: Descriptive Statistics for Resource Allocation

Resource Allocation	SMEs							
	Mpesa		**Hotel**		**Supermarket**		**Total**	
	Mean	**Std.D**	**Mean**	**Std.D**	**Mean**	**Std.D**	**Mean**	**Std.D**
The SMEs are well equipped with ICT gadgets	1.9	0.25	1.1	1.01	2.4	0.2	2.0	1.01
The maintenance of the gadgets is poor	2.5	0.3	3.5	0.07	2.1	0.26	2.9	0.87
Most of the skilled human resource have been employed in the SMEs	3.3	0.12	2.5	0.24	3.0	0.26	3.54	0.22
The employed staff receive prompt pay and well remunerated	1.1	0.22	3.3	0.23	3.0	0.21	2.4	1.02
The ICT department is generally well supported in terms of resources by management	2.56	0.33	2.09	0.45	3.1	0.42	2.9	0.22

The most SME equipped with ICT gargets are the supermarkets having highest approval rating of mean 2.4±0.2, but Hotels are the least equipped SME having mean of 1.1±1.01. However, the three SME are rated low in terms of having the ICT gargets within their premises this is based on the low grand mean rating of 2.0. Supermarkets ICT departments are well supported with mean rating of 3.1± 0.42 compared to the least rated ICT department of the Hotels with mean of 2.09±0.45

Individuals employed in the hotels are well paid having mean rating of 3.3±0.23, whereas personnel working in the Mpesa sector are least paid having registered rating of mean 1.1±0.22. However, there is significant difference in terms of payment and remuneration across Supermarket, Hotel and Mpesa this is based on the three SME's having general Std.D >1. ICT gargets are poorly maintained in the Supermarkets having mean of 2.1±0.26, as compared to both Mpesa and Hotels with mean 2.5±0.3, and 3.5±0.07 respectively. However, there is no significant difference in maintenance among the three SME's having Std.D <1.

4.3.3 Descriptive Statistics of Staff Utilization of ICT

A summary of the descriptive statistics inform of mean and standard deviation for analysis of the extent to which respondents were satisfied or dissatisfied with ICT use in strategic management of their SME's, key towards establishing ICT use needs in the SME's is presented in Table 4.10.

Table 4.10: Descriptive Statistics for ICT utilization

	Organization							
Statements	**Mpesa**		**Hotel**		**Supermarket**		**Total**	
	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D
There is regular training of the staff on the use of ICT	3.1	0.35	2.1	1.01	4.0	0.2	3.9	0.81
All the ICT staff is well trained on ICT use	2.8	0.3	2.0	0.87	3.1	0.26	2.9	0.67
Many staff members like using ICT gadgets when working	4.3	0.12	2.0	0.24	3.0	0.26	3.54	1.22
The staff members always attend workshops and seminars on current ICT knowledge	3.2	0.22	1.3	1.23	2.6	0.41	2.4	0.32
Many members who work in ICT have some basic knowledge on ICT	2.56	0.33	1.49	0.45	3.1	0.42	3.1	0.22

N=93

From the results obtained its recognizable that there is regular training of staff on the use of ICT in service provision among the supermarket at Mean 4.0± 0.2 as compared the Mpesa and Hotel

where the training of staff on the use of ICT registered mean of 3.1± 0.35, and 2.1± 1.01 respectively. However, generally there is staff are well trained on the use of ICT on service delivery as evidenced by mean of 3.9±0.81and there is no significant difference among the three SME's as indicated by standard deviation of 0.81 which is (Std. D < 1.0) .

Supermarkets had the highest number of staff that are well trained on the use of ICT which registered a mean of 3.1± 0.26. Mpesa operators are the second well trained on the use of ICT with a mean of 2.8±0.3.Whereas, the least well trained on the use of ICT are from Hotel with Mean 2.0±0.87.Generally there are less staff trained on the use of ICT across all the three SME's evidenced by the grand mean of 2.9±0.67 out of possible 5.0. However, there is no significant difference among the three SME's as indicated by Std.D. <1.0.

Mpesa Operators registered the highest mean when it comes to the use of ICT garget when working with a mean of 4.3±0.12 as compared to client of both Supermarket and Hotel that registered same mean of 3.0±0.26, and 2.0±0.24 respectively. There is a general significant difference in the use of ICT gadgets when working among the three SME's as shown by Std.D. >1.0.

Supermarkets has the highest members of the staff who work in the ICT and have basic knowledge on ICT with mean of 3.1±0.42. At the same time both Mpesa members and Hotel have least members with basic knowledge of ICT and are working in the ICT section with a mean of 2.56±0.33, and 1.49±0.45 respectively.

4.3.4 Descriptive Statistics of Business Environment

The descriptive statistical analysis results for the SMEs business environment and ICT use is shown in Table 4.11.

Table 4.11: Business Environment

	Ratings									
	VGE		GE		ME		LE		VLE	
	F	%	f	%	f	%	f	%	F	%
Statement										
Many of the SMEs have enough security	28	30	40	43	15	16	10	11	0	0
The county policies have helped the smooth operation of the business	48	51	30	32	10	11	5	6	0	0
The residents generally welcome initiation of SMEs and would like to participate in their activities	55	59	20	21	13	14	5	6	0	0

N=93;

A summary of the descriptive statistics inform of mean and standard deviation for analysis of the extent to which respondents were satisfied or dissatisfied with ICT infrastructure, resource allocation and utilization in the strategic management is as shown in Table 4.12

Table 4.12: Descriptive Statistics for Business Environment

	SMEs							
	Mpesa		**Hotel**		**Supermarket**		**Total**	
	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D
Statements								
Many of the SMEs have enough security	1.9	0.25	2.5	1.01	2.4	0.2	2.0	1.01
The county policies have helped the smooth operation of the business	3.0	0.13	3.5	0.17	2.9	0.26	3.9	0.17
The residents generally welcome initiation of SMEs and would like to participate in their activities	2.3	0.22	2.5	0.24	3.7	0.26	2.54	0.22

N=93

From the results it is recognizable that supermarket business has the highest security ratings with a mean of 2.4±0.2, as compared to low rated Mpesa business whose mean rating is 1.9±0.25.However, the three SME's faces serious security challenges with grand mean of 2.0, but there is significant difference between the three SME's security rating having Std.D<1.00.

It is worth to note that county policies have help in the smooth running and business operation across the three SME's, with Hotels registering the highest rating with mean 3.5±0.17 but supermarkets has the least rating of 2.9±0.26. There is no significant difference on how the county policies affected the general running and operations of the three SME's having grand Std.D <1.0.

The residents would like participate more on the initiatives and activities that are put forward by supermarkets having mean of 3.7± 0.26 as compared to both Mpesa and Hotels with mean 2.3± 0.22, and 2.5±0.24 respectively.

4.3.5 Descriptive Statistics of Strategic management of the SMEs

The study established descriptive statistics of strategic management from respondents and summary of results was recorded in Table 4.13

Table 4.13: Descriptive Statistics of Strategic management

	Ratings									
	VGE		GE		ME		LE		VLE	
	f	%	f	%	f	%	f	%	f	%
Statements										
Set objectives	36	38	49	53	8	9	0	0	0	0
The management control on activities	27	29	58	62	5	6	3	3	0	0
Risk management systems	35	37	30	32	10	11	12	13	6	7
Foreseeing of risks and how to solve them	20	22	37	40	30	31	6	7	0	0

N=93

The data was aggregated in order to obtain descriptive statistics to enable further statistical analysis.

A summary of the descriptive statistics inform of mean and standard deviation for analysis of the extent to which respondents were satisfied or dissatisfied with strategic management policies are shown in Table 4.14.

Table 4.14: Mean and Standard Deviation of Strategic Management

Statements	Organization							
	Mpesa		**Hotel**		**Supermarket**		**Total**	
	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D
Set objectives	2.9	0.25	3.5	1.01	3.4	0.2	2.0	1.01
The management control on activities	2.0	0.13	2.5	0.17	2.9	0.26	3.9	0.17
Risk management systems	1.3	0.22	2.5	0.24	3.7	0.26	2.54	0.22
Foreseeing of risks and how to solve them	1.7	0.15	2.1	0.31	2.6	0.28	1.92	0.54

N=93

The persons operating supermarkets have the highest rating of setting business objectives at mean

3.4±0.2, whereas the Mpesa operators are the least when it comes to coming up with business objectives registering mean of 2.9±0.25. However, there is significant differences between the three SME's ratings in terms of setting up objectives as indicated by grand mean of 2.0±1.01 with Std.D < 1.0.

Supermarkets have the best risk management ratings after registering a mean of 3.7±0.26 as compared to Mpesa whose risk management systems are poorly rated at mean of 1.3±0.22.Moreover, the management of supermarkets have super control of the ongoing business activities with mean of 2.9±0.26 as compared to Mpesa whose business activities seems not to be well controlled by the management with mean rating of 2.0±0.13.

4.5. Inferential Statistics of Information Communication Technology and Strategic Management of SMEs

This section presents the correlation and regression analysis of variables under study. The Pearson's Product moment correlation, which is a non-parametric measure of the strength and direction of association that exists between two variables, was used. Although the 0.05 level of significance is considered better because it is neither too high nor too low) observed that reporting the significance of all levels is acceptable by scholars. Following this assertion, results of each significance level (0.05, 0.01 and 0.001) are reported.

Karl Pearson correlation analysis was used to establish the type and strength of relationship (statistically significant positive or negative) amongst the variables in the study. Simple regressions was used to test the objectives. The correlation results were as shown in Table 4.15

Table 4.15: Correlation of Variables

Correlations

		1	2	3	4
ICT Infrastructure 1	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	93			
Staff ICT utilization Ability 2	Pearson Correlation	.757**	1		
	Sig. (2-tailed)	.000			
	N	93	93		
Resource Allocation 3	Pearson Correlation	.431**	.433**	1	
	Sig. (2-tailed)	.003	.000		
	N	93	93	93	
Business Environment 4	Pearson Correlation	.694**	.635**	.414**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	93	93	93	93

**. Correlation is significant at the 0.01 level (2-tailed).

There exists statistically significant positive correlation amongst the constructs that make up Information Communication Technology. The highest correlation was between ICT infrastructure and staff utilization ($r=0.757$, $p<0.01$), followed by ICT infrastructure and business

environment (r=0.694, p<0.01), business environment and staff ICT (r=0.635, p<0.01), staff utilization and resource allocation (r=0.0.433, p<0.01), ICT infrastructure and resource allocation (r=0.433, p<0.01), business environment and resource allocation (r=0.414, p<0.01). In summary, the variables of Information Communication Technology are highly positively interlinked and their relationship is strong.

4.5.1 Information Communication Technology and Infrastructure and Strategic Management of SMEs

The first objective the study sought was to examine the extent to which ICT infrastructure influences strategic management in SMEs in Tans Nzoia County. Simple regression analysis was used to establish the influence of ICT infrastructure on strategic management. The test criteria was set such that the study establish there is an influence if the value of beta, $\beta_1 \neq 0$.

Simple regression model in the form $Y = B_0 + \beta_1 X_1 + e$ was used where Y is strategic management, B_0 is the y-intercept term, X_1 is Information Communication Technology, β_1 is the beta value and e is the standard error term. The mean of Information Communication Technology (X_1) was regressed with mean of strategic management (Y). This was carried out using significance of R square and Regression coefficient at 95.0% confidence level. Results were presented in table 4.16.

Table 4.16 Regression results of ICT Infrastructure and Strategic Management of SMEs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520[a]	.2704	.2701	1.46689

a. Predictors: (Constant), ICT Infrastructure

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.746	.737		15.943	.000
ICT Infrastructure	.607	.014	.520	42.075	.000

a. Dependent Variable: Strategic Management

From table 4.15, the correlation coefficient (R) or the beta value β_1 of $0.52 \neq 0$ at p=0.00 indicates there exist statistically significant linear positive relationship between ICT Infrastructure and strategic management. The coefficients of determination, R-square (r^2) of 0.2704 implies 27 % of the variance in strategic management of SMEs is attributed to ICT Infrastructure. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT infrastructure influence strategic management of SMEs. The regression model was thus expressed as

$Y= B_0+ B_1X_1+e.$

Inserting the values from the regression in to the equation we had

$Y= 11.746 + 0.52X_1 +e$

The study therefore established ICT infrastructure positively influence strategic management of SMEs. Waverman, Meschi, and Fuss (2005) in study on ICTs have an evidently positive effect

on income progress in developing and developed countries. In SMEs, ICT can raise money by raising productivity and introducing new income ways other than traditional approaches.

According to Rama Rao (2016), computers have become more powerful, user friendly and less expensive. The PC revolution has brought closer to the users and till recently it has become easy to create local content and regional language interfaces to facilitate their use in villages.

4.5.2 Information Communication Technology Resource Allocation and Strategic management

The second objective of the study sought was to examine ICT resource allocation effect on strategic management in SMEs in Tans Nzoia County. Simple regression analysis was used to establish the effect of ICT resource allocation on strategic management. The test criteria was set such that the study establish there is an effect if the value of beta, $\beta_2 \neq 0$.

Simple regression model in the form $Y = B_0 + \beta_2 X_2 + e$ was used where Y is strategic management, B_0 is the y-intercept term, X_2 is ICT resource allocation , β_2 is the beta value and e is the standard error term. The mean of resource allocation (X_2) was regressed with mean of strategic management (Y). This was carried out using significance of R square and Regression coefficient at 95.0% confidence level. Results were presented in table 4.16.

Table 4.16 Regression results of ICT Resource Allocation and Strategic Management of SMEs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605[a]	.366	.348	1.57693

a. Predictors: (Constant), ICT Resource Alloc

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	17.693	.978		18.098	.000
ICT Resource Alloc	.868	.34	.605	25.610	.000

a. Dependent Variable: Strategic Management

Field data 2017

From table 4.16, the correlation coefficient (R) or the beta value β_2 of 0.605≠0 at p=0.00 indicates there exist statistically significant positive linear relationship between ICT resource allocation and strategic management. The coefficients of determination, R-square (r^2) of 0.366 implies 36.6 % of the variance in strategic management of SMEs is explained by ICT resource allocation. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT resource allocation affect strategic management of SMEs. The regression model was thus expressed as

$Y= B_0+ B_2X_2+e.$

Inserting the values from the regression in to the equation we had

$Y= 17.693 + 0.605X_2 +e$

The study therefore established ICT resource allocation positively influence strategic management of SMEs. This findings are in agreement with Avlonitis and Karavanni (2000), who

measured the extent of lCT adoption using internet usage across many lCTs applications and the importance was established through little measure of the usage frequency. Furthermore, Morris(2005) argue that in a country where labour is relatively young and homogeneous and is usually in the 31-40 age range across both the public and private sector, ICT is more likely to be integrated. The impact of age as a variable is important because it is expected that younger people would be more propelled to use ICT especially now that technologies like the computer have only of late been introduced in the school curriculum in Kenya.

4.5.3 Staff Information Communication Technology Utilization Ability and Strategic management

The third objective of the study sought to examine ICT staff Information Communication Technology influence on strategic management in SMEs in Tans Nzoia County. Simple regression analysis was used to establish the influence of ICT staff utilization ability on strategic management. The test criteria was set such that the study establish there is an effect if the value of beta, $\beta_3 \neq 0$.

Simple regression model in the form $Y = B_0 + \beta_3 X_3 + e$ was used where Y is strategic management, B_0 is the y-intercept term, X_3 is ICT staff utilization ability , β_3 is the beta value and e is the standard error term. The mean of ICT staff utilization ability (X_3) was regressed with mean of strategic management (Y). This was carried out using significance of R square and Regression coefficient at 95.0% confidence level. Results were presented in table 4.18.

Table 4.18 Regression results of ICT Staff Utilization and Strategic Management of SMEs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709[a]	.502	.501	1.25839

a. Predictors: (Constant), ICT staff utilization

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.592	1.636		7.087	.000
ICT staff utilization ability	1.174	.062	.709	18.927	.000

a. Dependent Variable: Strategic Management

From table 4.18, the correlation coefficient (R) or the beta value β_3 of $0.709 \neq 0$ at $p=0.00$ indicates there exist statistically significant positive linear relationship between ICT staff utilization ability and strategic management. The coefficients of determination, R-square (r^2) of 0.502 implies 50.2 % of the variance in strategic management of SMEs is due to ICT staff utilization ability. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT staff utilization ability influence strategic management of SMEs. The regression model was thus expressed as

$Y= B_0+ B_3X_3+e.$

Inserting the values from the regression in to the equation we had

$Y= 11.592 + 0.709X_3 +e$

The study therefore established ICT staff utilization ability positively influence strategic management of SMEs. The findings agree with a study by Arunachalam, Subbiah (2002) who noted that funding agencies and donor governments face the question of whether should they

support information and communication (ICT) technologies activities in their development projects. The argument is whether money should be invested in computers and communication devices or will it be better spent on food, shelter, health, and education.

4.5.4 Business Environment and Strategic Management

The fourth objective of the study sought to establish the moderating effect of business environment on the relationship between Information Communication Technology and Strategic management. There were two steps involved in establishing the moderating effect of business environment. First the study carried out multiple regression of Information Communication Technology and strategic management. The value of R obtained was then compared to multiple regression in the second step when business environment was used as control variable.

The first step regression model coefficient R value of the was presented as shown in Table 4.19

Table 4.19 Multiple Regression results of Information Communication Technology and Strategic Management of SMEs

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721[a]	.519	.517	1.36719

a. Predictors: (Constant), Information Communication Technology

a. Dependent Variable: Strategic Management

The value of R obtained when Information Communication Technology was regressed with strategic management was 0.721. This value was then compared to the R values obtained in the regression model when business environment was used as a control variable. The results were as shown in Table 4.20

Table 4.20 Results of First Order Partial Correlation of Business Environment and Strategic Management of SMEs

Control / moderating variable(z)	First order partial correlation ($r_{xy.z}$)	Moderation effect of business environment (compared to zero order simple correlation coefficient of ICT and strategic management (r_{xy} = 0.721)	Significance (p-value = 0.01)
Competition	0.673	Positive	0.000
Security	0.625	Positive	0.000
County policies	0.592	Positive	0.000
Overall significance = 0.000			

From the results, rxy.z1=0.673, rxy.z2=0.625 and rxy.z3=0.592. This impliess business environment significantly moderates the relationship between ICT and strategic management. The results are in line with findings done by the ministry of education (2009) factors within and around the business affect the business operations either positively or negatively. Internal environment could either be strengths that improve the business or weaknesses that tend to bring down the operations of a business.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings, conclusions and recommendations for policy implications drawn in relation to the study objectives in addition to suggestions for further study.

5.2 Summary of the Study

The summary of the findings is discussed in the following sub thematic areas.

5.2.1 Information Communication Technology Infrastructure and Strategic Management

All the statements on Information Communication Technology had overall mean of 4, which on the Likert scale was great extent. The overall mean of the statements was 4.4301 which imply respondents agree that ICT infrastructure influence strategic management of SMEs to a greater extent. The correlation coefficient (R) or the beta value β_1 of $0.52 \neq 0$ at $p=0.00$ indicates there exist statistically significant linear positive relationship between ICT Infrastructure and strategic management. The coefficients of determination, R-square (r^2) of 0.2704 implies 27 % of the variance in strategic management of SMEs is attributed to ICT Infrastructure. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT infrastructure influence strategic management of SMEs

5.2.2 Information Communication Technology Resource Allocation and Strategic Management

Most SMEs equipped with ICT gadgets are the supermarkets having highest approval rating of mean 2.4 ± 0.2, but hotels are the least equipped SME having mean of 1.1 ± 1.01. However, the

three SMEs are rated low in terms of having the ICT gargets within their premises this is based on the low grand mean rating of 2.0. Supermarkets ICT departments are well supported with mean rating of 3.1± 0.42 compared to the least rated ICT department of the Hotels with mean of 2.09±0.45. Individuals employed in the hotels are well paid having mean rating of 3.3±0.23, whereas personnel working in the Mpesa sector are least paid having registered rating of mean 1.1±0.22. However, there is significant difference in terms of payment and remuneration across Supermarket, Hotel and Mpesa this is based on the three SMEs having general Std. D >1. ICT gargets are poorly maintained in the Supermarkets having mean of 2.1±0.26, as compared to both Mpesa and Hotels with mean 2.5±0.3, and 3.5±0.07 respectively. However, there is no significant difference in maintenance among the three SMEs having Std.D <1.

Correlation coefficient (R) or the beta value β_2 of 0.605≠0 at p=0.00 indicates there exist statistically significant positive linear relationship between ICT resource allocation and strategic management. The coefficients of determination, R-square (r^2) of 0.366 implies 36.6 % of the variance in strategic management of SMEs is explained by ICT resource allocation. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT resource allocation affect strategic management of SMEs.

5.2.3 Information Communication Technology Utilization and Strategic Management

From the results obtained its recognizable that there is regular training of staff on the use of ICT in service provision among the supermarket at Mean 4.0± 0.2 as compared the Mpesa and Hotel where the training of staff on the use of ICT registered mean of 3.1± 0.35, and 2.1± 1.01 respectively. However, generally there is staff are well trained on the use of ICT on service delivery as evidenced by mean of 3.9±0.81and there is no significant difference among the three SME's as indicated by standard deviation of 0.81 which is (Std. D < 1.0) .

Supermarkets had the highest number of staff that are well trained on the use of ICT which registered a mean of 3.1± 0.26. Mpesa operators are the second well trained on the use of ICT with a mean of 2.8±0.3.Whereas, the least well trained on the use of ICT are from Hotel with Mean 2.0±0.87.Generally there are less staff trained on the use of ICT across all the three SME's evidenced by the grand mean of 2.9±0.67 out of possible 5.0. However, there is no significant difference among the three SME's as indicated by Std.D. <1.0.

Mpesa Operators registered the highest mean when it comes to the use of ICT garget when working with a mean of 4.3±0.12 as compared to client of both Supermarket and Hotel that registered same mean of 3.0±0.26, and 2.0±0.24 respectively. There is general significant difference in use of ICT gargets when working among the three SMEs as shown by Std.D. >1.0.Supermarkets has the highest members of the staff who work in the ICT and have basic knowledge on ICT with mean of 3.1±0.42. At the same time both Mpesa members and Hotel have least members with basic knowledge of ICT and are working in the ICT section with a mean of 2.56±0.33, and 1.49±0.45 respectively.

Correlation coefficient (R) or the beta value β_3 of 0.709≠0 at p=0.00 indicates there exist statistically significant positive linear relationship between ICT staff utilization ability and strategic management. The coefficients of determination, R-square (r^2) of 0.502 implies 50.2 % of the variance in strategic management of SMEs is due to ICT staff utilization ability. The significance value is 0.000 which is less than 0.05 means the model is statistically significant in predicting how ICT staff utilization ability influence strategic management of SMEs

5.2.4 Business environment on the Relationship between ICT and Strategic Management

From the results it is recognizable that supermarket business has the highest security ratings with a mean of 2.4±0.2, as compared to low rated Mpesa business whose mean rating is 1.9±0.25.However, the three SMEs faces serious security challenges with grand mean of 2.0, but there is significant difference between the three SMEs security rating having Std.D<1.00.

It is worth to note that county policies have help in the smooth running and business operation across the three SMEs, with Hotels registering the highest rating with mean 3.5±0.17 but supermarkets has the least rating of 2.9±0.26. There is no significant difference on how the county policies affected the general running and operations of the three SMEs having grand Std.D <1.0.The residents would like participate more on the initiatives and activities that are put forward by supermarkets having mean of 3.7± 0.26 as compared to both Mpesa and Hotels with mean 2.3± 0.22, and 2.5±0.24 respectively.

The value of R obtained when Information Communication Technology was regressed with strategic management was 0.721. This value was then compared to the R values obtained in the regression model when business environment was used as a control variable. From the results, when business environment was used as a moderating variable, rxy.z1=0.673, rxy.z2=0.625 and rxy.z3=0.592. This imply business environment significantly moderates the relationship between ICT and strategic management.

5.3 Conclusions

The aim of the study was to establish the use of information and communication technology on strategic management of small and medium enterprises in Trans-Nzoia west sub-county.

Overall, results indicate that respondents were moderately satisfied with ICT use in the SMEs strategic management. This implies ICT use and practices are implemented and used as

designed in the pre-requisite programs. The first specific objective was to establish the effect of resource allocation for ICT use in the SMEs. The working capital and operational capacity for the SMEs in Trans-Nzoia west Sub County are limited hence little investment in ICT use. Further the need infrastructural services are not well established by the County Government, National Government and the other private sector service providers. This implies that adequate, suitable and elaborate resource allocation are need for the implementation of ICT use among the SME's operating business management in Trans-Nzoia west sub County.

The need for ICT utilization in strategic management is growing among the SME' business environment in Trans-Nzoia and this has been attributed to the little resource allocation in ICT infrastructure as well as the nature of the business. Mpesa and Supermarket are ICT oriented and best operate on an elaborate structured ICT service.

Staff utilization ability of ICT facilities has a minor influence on strategic management of SMEs in Trans-Nzoia County yet most staff are not well vast. Business environment has a great influence on strategic management of SMEs of Trans-Nzoia west sub County. Therefore the business environment should be given a lot consideration because it can have a great impact the operation of strategic management of SMEs. If the business environment offers negative issues to an SME the strategic management will get a lot of difficulties to operate. ICT therefore has a lot of significant effect on strategic management of SMEs.

5.4 Recommendations

The following were recommendations made from the study findings;

1) Adequate resource allocation for the ICT infrastructure is needed to be invested by the County Government, and the National Government as well as the private sector service providers to facilitate the ICT use potential in the SMEs.
2) Training and awareness creation are needed to facilitate the ICT use in the management of the SMEs this can be done by the private sector service providers as well as the County development authorities.

5.5 Areas for Further Research

Given that the study focused on the ICT use among the SMEs. There is need for further research to establish the challenge influencing ICT use among the SMEs in Trans-Nzoia west. The study was only limited to ICT infrastructure, resources allocation and strategic management. There is need to establish ICT use and project implementation in the private sector in Trans-Nzoia West County.

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APPENDIX 1:

Introductory letter to the respondents

Kenyatta University.

P.O BOX, 43844-00100

Nairobi, KENYA.

Dear Respondent,

RE: DATA COLLECTION.

I am a student at the Kenyatta University pursuing master of business administration in Business Management, strategic Management Option. I am currently conducting a Research study on **USE OF ICT IN STRATEGIC MANAGEMENTIN SMEs IN TRANS NZOIA COUNTY,KENYA.**

You have been selected to participate in this study and I would highly appreciate if you assisted me by responding to all questions as completely, correctly and honestly as possible.

Your response will be treated with utmost confidentiality and will be used only for research purposes of this study only.

Thank you in advance for your co-operation.

Yours Sincerely,

Caroline Otuya

Cell phone +254725523936

E-mail:cotuya@gmail.com

APPENDIX II:

Questionnaire

This questionnaire is to collect data for purely academic purposes. The study seeks to investigate the use of ICT in strategic management in SMEs in Transnzoia County. All information will be treated with strict confidence. Do not put your name or identification on this questionnaire except for your company where requested. Answer all questions as indicated by either filling in the blank or ticking the option that applies.

SECTION A: General Information of the Respondent

1. Gender.

Kindly identify your gender.

Male [ ] Female [ ]

2. What is the kind of SME? Please tick

M pesa[ ] Hotel [ ] supermarket [ ]

3. How long have your been working in this organization?

Less than 2 yrs [ ] 2–4 yrs[ ]

5-8 yrs [ ] 8-10 yrs [ ]

More than 10 yrs [ ]

4**.** Kindly indicate your highest academic qualification?

Masters Level [ ] First Degree [ ]

Diploma [ ] Form four leaver [ ]

Primary certificate [ ]

Any other (specify)…….

SECTION B: ICT infrastructure and Strategic management

5. Do you think your SME is well facilitated with ICT?

Yes [ ] No [ ]

6. Please indicate how strongly you agree or disagree with the following statements as relates to ICT use in your project group? Use a scale of 1-5 where 5= Very great extent; 4 Great extent; 3= Moderate extent; 2= Low extent and 1=Very low extent. Tick as appropriate.

Statements	1	2	3	4	5
Information and communication Technology use is highly used in the organization.					
Members of SMEs mainly use mobile phones as the only communication facility .					
Members of the organization generally lack information on how to use the ICT tools?					
The number of ICT tools can serve customers satisfactorily.					
Network boosting is sufficient in the SME					

SECTION C: ICT Utilization Ability

7. Please indicate how strongly you agree or disagree with the following statements as relates to the acquisition of finances in your project group? Use a scale of 1-5 where 5= Very great extent; 4 Great extent; 3= Moderate extent; 2= Low extent and 1=Very low extent. Tick as appropriate.

Statements	**1**	**2**	**3**	**4**	**5**
The re is regular training of the staff on the use of ICT					
All the ICT staff is well trained on ICT use					
The staff members always attend workshops and seminars on current ICT knowledge					
Many staff members like using ICT gadgets when working					
Many members who work in ICT have some basic knowledge on ICT					

SECTION D: Resource Allocation

8. Please indicate how strongly you agree or disagree with the following statements as relates to access to market in your project group? Use a scale of 1-5 where 5= Very great extent; 4 Great extent; 3= Moderate extent; 2= Low extent and 1=Very low extent. Tick as appropriate.

Statements	1	2	3	4	5
The SME are well equipped with ICT gadgets					
The maintenance of the gadgets is poor					
Most of the skilled human resource have been employed in the SMEs					
The employed staff receive prompt pay and well remunerated					
The ICT department is generally well supported in terms of resources by management					

SECTION F:Business Environment

9. In your own opinion do you think the environment in which the SME is located is conducive enough for its performance?

Yes [ ] No [ ]

If yes do you think ICT has been improved in the business environment.

Please indicate how strongly you agree or disagree with the following statements as relates to access to market in your project group? Use a scale of 1-5 where 5= Very great extent; 4 Great extent; 3= Moderate extent; 2= Low extent and 1=Very low extent. Tick as appropriate.

Item	1	2	3	4	5
Many of the SMEs have enough security.					
The county policies have helped the smooth operation of the business					
The residents generally welcome initiation of SMEs and would like to participate in their activities					

SECTION G: Strategic management

10. How would you rate the performance of management in your SMEs as compared to other organizations?

Poor [ ] average [ ] good [ ]

11. If your answer is poor please explain why

_____

_____

12. Use a scale of 1-5 where 1-to a very low extent, 2-low extent, 3-moderate, 4- great and 5-very great extent.

a) To what extent does each of the following aspects influence strategic management in your SME ?

Item	**1**	**2**	**3**	**4**	**5**
Set objectives					
The management control on activities					
Risk management systems					
Foreseeing of risks and how to solve them					

THANKS A LOT FOR YOUR TIME

APPENDIX III:

Research Permit