

## THE ROLE OF HUMAN RESOURCE INFORMATION SYSTEMS IN ORGANIZATIONAL EFFECTIVENESS: A CASE STUDY OF KENYA COMMERCIAL BANK

**Caroline Nyambura Mbugua**

Department of Business Social Studies

School of Human Resource Development

Jomo Kenyatta University of Agriculture and Technology.

### ABSTRACT

*In the recent past the banking sector in Kenya has come under sharp but unfavorable focus both domestically and internationally. There have been increased reported cases of increased labor turnover, costs of operations wastage and scrap rates, low quality of services, poor customer relations. Low commitments and flexibility with general decreased innovation (Tofa 2009, Bashir, 2011 & Hitt 2013). Majority of banks in Kenya have continued to use traditional managerial practices, with all round and general lack of the adoption of the HRIS processes. The key concerns according to the study comprise of the poor learning and training practices, decision making systems and employee performance appraisal systems. The use of computer based system have proved useful among the organization in the banking sector elsewhere had has been clearly adopted by other organization including the Kenya Commercial Bank. It is against this background that this study seeks to assess the influences of computer based human resources information stems processes on organizational effectiveness among the banking sector organization in Kenya. The target population for the study comprised of all the two hundred and forty one (241) employees working at the Kenya commercial bank headquarters at Kencom house in Nairobi. The population of two hundred and forty one employees was put into four categories including, the executive staff, managerial staff, supervisory staff and operative employees. This study adopted a stratified random sampling method. (O' Leary, 2012) Using the stratified sampling design the study chose eighty two (82) employees from across the four categories at its sample size. The sample size of eighty two employees will comprise of five (5) executives, eleven (11) managerial staff nineteen supervisory staff and twenty seven operative staff. From the study it can be concluded that when the use of HRIS decision making process becomes the norm and practice in organizations, it results in more improvements towards organizational effectiveness including making the organization generally more effective, resulting in more strategic focus and change orientations, creating a feeling of high satisfaction with the organization services among other important improvements. Additionally, this study denotes that the application of HRIS based learning process has equally resulted in positive developments and improvements for the organization by contributing to the organization being more productive, resulting in better communication/ feedback processes, increasing employees' preference for working for the company and creating a climate of high commitment among the employees and stakeholders. HRIS based employee performance appraisal has created environments conducive for effective*

*organization through better collaborative relationships, positive perception toward the company by stakeholders, more efficiency and quality in the work and service provisions, better change management prospects through low resistance to changes among other important denominators. Arising from the summary of findings and conclusion from the study this study recommends that the banking industry and other service industries undertake a holistic application of the computer based technology in their operations, processes systems and functions. All the key areas including marketing, customer services, and operations functions should all be computerized. The study also recommends that thorough training and development programs be organized within the organization, for both the internal and external employees on the use of ICT based processes.*

## 1. INTRODUCTION

This chapter contains the background to the study, the statement of the problem which the study seeks to address, the study objectives and hypotheses and research question. The chapter also contains the scope, justification and limitation of the study.

### *1.1 Background to the Study*

The last decade has witnessed special attention and close consideration being paid to organizations in respect of their performance, productivity, quality, profitability and significantly effectiveness (Cole 2009; Mondy 2012; & Khan 2013). According to Gray 2008; Mathis, 2010; & Anwar 2013, effectiveness and related dimensions remain critical to the life and well-being of all organizations irrespective of their sizes and nature. They state that organizational effectiveness programs determines the success or failure, the competitiveness or non-competitiveness, profitability and loss status of firms and institutions. In the views of (Robbins, 2008; Gluek 2010; & Upenda 2012); organizational effectiveness programs are important and significant as yardsticks for organizational evaluation in terms respect of the prosperity or decline, growth or stagnation and effectiveness or non-effectiveness and development or staggered operation as well as productivity or non-productivity of an organization.

According to Slocum 2005; Mullins, 2007; & Woodman 2008, those organizations operating with high effectiveness efficiency and performance programs have been able to register increased growth, developments, prosperity, competitiveness, and productivity survival even in a more competitive environment. Post 2004, contends that organizations with high effectiveness status programs have, over time, been able to register superior performance in regard to improved productivity, innovation, production, profitability, quality and flexibility. On the other hand organizations with no or ill developed effectiveness programs have been characterized by decline in their operation, inability to compete effectively, stagnation, loses and low survival prospects (Galgalo 2010; Belle 2011 & Hussein 2012). Such organizations have shown high tendency of decreased productivity, low quality, and low flexibility, decreased commitments among the stakeholders and the staff and general inability to effect meaningful changes. (Odhambo, 2011; Bagonko, 2012; & Kamau, 2013).

The significance and criticalness of organizational effectiveness programs in the current organizational set up cannot be overstated. Effectiveness programs have been in application in all organizations (Chang 2009; Sabalala 2011; Holt 2012). In this regard the discipline of organizational effectiveness has been and continues to be applied in large scale, medium scale and small scale organization with amazing but mixed results. Effectiveness and related performance programs are equally

important in both the private and public aspect organization and have been useful in the services and product provision organization (Nicholas 2011; Kimani 2013; & Birien 2014). Omari, 2009; Ibrahim, 2010;& Odunga 2012; contend that all sectors of the economy among all the states in the world including security, energy, agriculture, education, tourism have all witnessed an upsurge in the application of organizational effectiveness programs in the recent past. In the banking sector with particular attention to the achievements of effectiveness programs continue to pay a greater role in the improvements in morale, motivation, commitments, innovation and change orientation among all the employees. (Stokes 2009; Planket 2011; Mwangi 2012).

Organizational effectiveness and associated concepts have received wider application recognition in the world over (Meyer 2010). Almost all the organizations operating on the international, global and domestic fronts in each of the continents have adopted effectiveness programs with greater zeal and enthusiasm (Sweetney 2010; Hassan 2011). Effectiveness programs development is now the norms in Europe, America, Africa, Asia and North American with all the countries having effectiveness programs to guide their operation. Apart from the respective governments in the region, all the industries, multinational companies, national companies and domestic firms and enterprises in all the states and countries have institutionalized effectiveness practices with varied degrees of success (Taylor 2009; Owino 2010; & Maraks 2011). Armstrong, 2005; Maraks 2011; & Kimani 2013; observe that while some organization and countries have been successful in the development of effectiveness and performance programs others have not been so successful leading to more negative and dysfunctional circumstances and consequences within their population communities and societies. In Africa for instances although all the countries have well developed safety programs only a few countries such as Kenya, South Africa, Egypt and Ghana that have placed greater and extra emphasis on effectiveness programs (Karim 2011, Hassan, 2012; Odingola, 2013). In these countries all the organization both in the public and private sector have fairly equipped effectiveness program backed up by adequate facilities, machinery cultural orientations, structural arrangements and tools, communication systems, and human resources management principles and practices (Warui 2012; Hellriegel 2012; okibue , 2013).

The banking sector is one of the most important sectors in the Kenya economy and pays a great and important role in the economic, social, technological and infrastructural developments through the generation of employment opportunities, incomes and revenues for the population and the country and technological transfers among all the other sectors (Kamau 2010; Honda 2012; Birien 2014). The sector operates in the three main scale or dimensions and consists of enterprises companies and corporations. There are large, medium and small scale organizations all operating in the banking sector in Kenya. (Harrison 2009; Khan, 2012; & Rao, 2013). The sector provides financial services and products comprising of information, investments, advisory services, training, and loans and other financial advancements, (Okumu 2011; Mwangi 2012 Ondieki 2012). Most of the firms operating in the sector are spread across the county and are found in all the counties in Kenya. Although the banking sector has been as one of the most popular and profitable sectors of the economy the sector has been dissected with more unfavorable scenes in the recent times (Okechukwu 2012; Rao, 2013). Despite huge positive returns commonly associated with the sector over the years there have myriads of challenges affecting the sector that have worked to slow down its operation. The issues of low efficiency, effectiveness, poor performance and reputation have been the major bottlenecks in the realization of the sectors core objectives mission and visions (Karim, 2011; Ogola 2012, 2012; & Kihara; 2013).

### *1.2 Statement of the Problem*

In the recent past the banking sector in Kenya has come under sharp but unfavorable focus both domestically and internationally (Cole 2010 & Schermerhorn 2011). The operations among the money trading enterprises, companies and corporation around the globe have been characterized with negative circumstances (Coulter 2009; Belle 2011; & Kiprono 2013). There have been increased reported cases of increased labor turnover, costs of operations wastage and scrap rates, low quality of services, poor customer relations. Low commitments and flexibility with general decreased innovation (Tofa 2009, Bashir, 2011 & Hitt 2013). The current dysfunctional state of affairs among the banking sector organizations has led to more negative consequences associated with high stagnation, low development prospects, negative performance, general low reputation and image among the stakeholders (Tobiang 2009; Glinow 2011; & Birien 2014).

According to (Beddian 2007; Wangusu 2011 Odunga 2012;) the problems being experienced among the banking firms arise from a number of factors including their inattention to the best practices in the management of human resources, inaccurate planning and control mechanism, and organizational cultural and strategic practices. (Nchengu & Karimi 2013) through a recent study conducted at the National Bank of Kenya declared that the factor of human resources management practices has been the greatest source of ineffectiveness. Majority of the banks have continued to use the traditional managerial practices, with all round and general lack of the adoption of the HRIS processes. The key concerns according to the study findings comprise of the poor learning and training practices, decision making systems and employee performance appraisal systems. The use of computer based system have proved useful among the organization in the banking sector elsewhere had has been clearly adopted by other organization including the Kenya Commercial Bank.

It is against this background that this study seeks to assess the influences of computer based human resources information stems processes on organizational effectiveness among the banking sector organization in Kenya.

### 1.3 Objectives of the Study

#### 1.3.1 General Objective

To assess the influences of HRIS based processes on organizational effectiveness among the banking sector organizations in Kenya.

#### 1.3.2 Specific Objectives

- I. To establish how HRIS-based employee decision making process influences organizational effectiveness at KCB
- II. To examine how HRIS-based employee learning process influences organizational effectiveness at KCB
- III. To determine how HRIS-based employee performance appraisal process influences organizational effectiveness at KCB

#### 1.4 Research Question

- I. How does HRIS-based employee decision-making process influence organizational effectiveness at KCB?
- II. What is the influence of HRIS-based employee learning process on organizational effectiveness at KCB?

### III. In which way does HRIS-based employee performance appraisal process influence organizational effectiveness at KCB?

#### *1.5 Justification of the Study*

This study is being conducted at a time when majority of the firms in the banking sector in Kenya and around the globe are experiencing challenges in the management of performance, productivity, quality and overall effectiveness and related issues (Lengnick-Hall 2003; Glinow 2011; Attner 2013). Lack of effectiveness results in negative consequences associated with low competitiveness, general decline, and poor image resulting from high customer complaints, lack of innovation change and creativity and low quality and efficiency rates. (Lucy, 2010; Okemwa, 2012; Okafor, 2013). According to Meyer 2010; Anderson 2011 & Danny 2012, the net effects of insufficient attention to effectiveness in an organizational context has increased costs of operation and management, poor image among the stakeholders and the employees, losses of personnel and equipment, increased negative attention from the compliance organizations, poor attraction and retention rates and low satisfaction and morale and motivation among the employees.

Banking sector firms and other organizations need to streamline their operation, activities and processes to minimize cases of loss of revenue, poor image and reputation, poor competitive status and inability to expand and grow both in resources and sizes (Gluek 2010; Upenda 2012; & Kimani 2013). The study will contribute to increased attention to organizational effectiveness cases in the organization through efficient management of human resources processes. This would be achieved through the adoption of computer based human resources management processes and awareness creation by the process of computer based decision making training and employee performance measurement and evaluation techniques. HRIS processes enable the adoption of modern managerial practices associated with committees or quality circles, constant employee information provision through research and reporting and design and redesign of employee programs through continuous records and profile audit and inspection (Ondieki 2012; & Odhiambo 2012).

#### *1.6 Scope of the Study*

This study sought to assess the influences of HRIS based employee processes on organizational effectiveness among the firms in the banking sector in Kenya. The organization earmarked for study was the KCB. The HRIS employee processes under consideration in the study comprised of HRIS based employee decision making, learning and performance appraisal processes. The study was conducted at the KCB bank headquarter in Nairobi County. It was specifically conducted at the Kencom house where the banks operations are concentrated and was undertaken for a period of three months.

#### *1.7 Limitation*

Although the present study has yielded some preliminary findings, its design is not without flaws. A number of caveats need to be noted regarding the present study. Main limitations are expressed as follows: the first limitation concerns the factors of organizational effectiveness. Such that, there might be some relevant factors, which significantly influence on organizational effectiveness in the banking industry specifically.

However, the discussion of other relevant factors of organizational effectiveness of the banks in Kenya is beyond the scope of this paper. Factors of organizational effectiveness in the Kenyan banking industry are still tentative, subject to confirmation and modification through further investigation and examination.

The other limitation is the perceived existence of bias by the respondents. The respondents are employees of the bank chosen as a case study and as such might be biased towards their organization and there is the possibility of positive and/or negative bias in their responses pertaining to the effectiveness of the organization.

The study is also limited to one organization and as such one organization may fail to fully represent all organizations in the Kenya banking sector.

## 2. LITERATURE REVIEW

### 2.1 Introduction

This chapter is about the review of literature existing on the influences of HRIS based processes on organizational effectiveness. The chapter starts with a brief review of the HRIS based processes and the organizational effectiveness among the various spheres. The chapter then presents a discussion of the variables selected for the study in the forms of employee decision making, learning and performance appraisal and their influences on organizational effectiveness. The chapter ends with a brief review of the criticisms of the literature under reviews and the gaps experienced from the review of the literature to which the study seeks to fill.

### 2.2 Theoretical Review/Conceptual Framework

#### Computer Based Information Systems and Related Programs

Over the years and decades now, the electronic computer based applications have dominated the world scene more than any other issue (Steiner, 2010; Ibrahim, 2011; & Harrison, 2012). There has been wide consideration of computers and the associated programs with almost all countries and continents having departments, institutions, firms and programs towards the addressing of electronic computer based devices.

Additionally, the private sector organizations have set elaborate and extensive strategies, plans and programs to adopt computer and the related programs. (Lengnick-Hall, 2003; Obieku, 2009; & Wangusu, 2011). Invariably, both the small and large but established firms have one or more of the electronic systems among her varied functions (Honda, 2012; Kip, 2007; & Gray, 2008). According to Hassan, 2011; & Ehrhard 2013; the peculiar interests and high attention given to computer and related electronic systems from the assumption that lack of better more accurate and reliable information input contributes to the dysfunctional status for organizations and most often result in low productivity, performance, growth, and development as well as lack of competitiveness. Gluek, 2010; Obrien 2011; & Mwangi, 2012; add that the net impact of lack of better information and associated program among various organizations comprised of increased occupational deaths, injuries, suicides and constant cases of stress, strain and frustrations in the workplaces and even in social spheres .

Currently, majority of the organizations have tended to develop progressive programs to adopt and institutionalize the electronic computer based programs. This is arising from the belief that the presence of the programs will work to engineer the organizational performance and effectiveness programs and systems and increase the image and reputation of firms and the perception and attitude of the stakeholders towards fire safety issues (Upenda, 2012; & Ondieki, 2012).

The main programs in progress among majority of organizations comprise of the application of computer and related information in marketing production, finance, administration sales, engineering and more

importantly the human resources functions. (Jackson & Mathis 2010). The notion among many firms all over the world is that the adoption and application of such programs among the work places contributes to improvements in employee commitments, loyalty, innovation, creativity, quality, profitability, attendance and production and fundamental reductions in scrap, wastages, time and resources expended.(Woodman, 2008; Sing, 2009; & Gulled, 2011).

Slocum, 2005; & Schermerhorn, 2011; through a study conducted at the New Castle University in United Kingdom to determine the popularity of the computer based information technology programs among manufacturing organizations in Europe and Africa observe that of all the programs currently in use the most popular ones comprise of HRIS and communication, marketing information systems, FMS, CAD, among other areas. . The proper and non-bias application of the programs works towards high growth, expansion, investments, developments and competitiveness among firms, while at the same time ensuring high level of effectiveness and efficiency in the application of the resources. (Post, 2004; Cole, 2010; & Odhiambo, 2012).

#### Organizational effectiveness and Associated Concepts

Organizational effectiveness has assumed a more comprehensive recognition as a measure of growth, development, survival, performance, prosperity prospects, and competitive strategies for all sizes of organizations including large, medium and, small organizations (Flipoo, 2004; Brigant, 2005; & Belle, 2011). Effectiveness has also been highly recognized in the public and private sector organizations as the most significant contribution to an organization life and well-being (Hussein, 2012; Attner, 2013; & Lucy 2013). Effectiveness determines the profitability, image, relationships and flexibility as well as the costs, abundant quality levels arising to the satisfaction standards among the stakeholders of a firm (De Wit 2005; Hellriegel, 2012; & kiprono, 2013). When considered high and positive, organizational effectiveness contributes to favorable outcomes associated with increased sales volume, production, profitability, revenue and reduced time frames (Larson, 2005; Maraks, 2011; Hussein, 2012). On the contrary when negative and low in characters productivity results in wastages of time resources and revenue, increased conflicts, resistances, complaints and disputes (Stokes, 2009; & Okumu, 2011).

In the views of, Taylor, 2009; Galgalo, 2010; & Van Hoek, 2013, in practical aspects whereas high level and positive effectiveness contributes to reduced costs, scrap, wastages and the possible duration of operation, low productivity levels remain unwelcome among organization owing to the negative and unfavorable yet dysfunctional effects and outcomes associated with decreased motivation, commitments, quality, productivity and possible stress, frustration and negative human behaviors. The normal practice among majority of organizations is to attain positive, favorable and functional high effectiveness levels owing to the possible benefits associated with it (Chang, 2009; &Planket, 2011)

According to James & Hall 2009; the determination of effectiveness within an organization contents can assume three fundamental approaches. The first and very widely used approach to the determination measurement of effectiveness is the application of behavioral, non-quantifiable, subjective and non-practical indicators. (Robbins, 2007; Coulter, 2009; & Anderson, 2011). The dimension commonly applied in this approach comprise of such behavioral aspects as commitments, loyalty, quality, innovation, creativity, image, efficiency and effectiveness (Armstrong, 2005; Holt 2012; Hitt, 2013)

The second and very minimally and moderately applied approach is the application of practical, quantifiable and objective approaches to the measurement of effectiveness. (Schwalble, 2009; Meyer, 2010; Kimani, 2013). The indicators commonly used among organizations comprise of the profitability, cost of operation, waste and scrap levels, sales volume, revenue levels and the time taken to complete a

specified work format, levels of production and quality dimensions. (Weetman, 2005; Tobiang, 2009; Sabalala, 2011).

The third and least applied approach although the most popular with majority of firms in the Western world is the application of behavioral non quantifiable and subjective systems that cannot be seen and the non-behavioral practical objective and quantifiable systems. (Nicholas, 2011; Upenda, 2012; & Kenneth, 2002). Birien, 2014; observe that whereas effectiveness should be considered in both objective and non-objective indicators the most sensible approach is to develop a dual system to the determination of effectiveness in an organization. This ensures complete comprehensiveness and wide but thoroughness an in the application of productivity. Glinow, 2011; state that the effectiveness levels may be high low and moderate depending on an organization systems of measurements. The level of effectiveness can also be negative or positive. Whereas positive productivity is associated with increased sales, revenue, profitability, low costs of operation , low scrap and material wastages for the objective assessments, it may comprise of the high commitments, innovation , creativity, quality, loyalty trusts and reduced cases of stress and accidents as well as deaths (Beddian, 2007; Owinon, 2010).

Organizational effectiveness is a philosophy used in the measurements of the possible outcomes or outputs from the possible inputs from organizational or employee's point of view. (Anderson, 2011; Koontz, 2012; & Tobiko, 2013). In the consideration of effectiveness on an organizational dimension, the employee inputs in regards to efforts, skills, experiences, trainings, knowledge capabilities and ability are compared to the outcome from employee actions in respect of behaviors, characters, identification, reaction, attitudes and perceptive tendencies as well as the personal attributes. (De Wit, 2005; Dahir 2008; & Ehrhard, 2013). High levels of skills abilities, positive efforts and adequate experiences contributes to positive behavior, sound characters, reactions and perception and attitude towards the organization. However low inputs levels in terms of efforts and experience and training contributes to negative and unsound behavioral attributes, negative reaction and poor perception, attitude and personality that hinge on organizational performance, growth, profitability mad quality dimension (Ireland James Hall 2009, Nicholas, 2011; & Odunga, 2012).

### 2.2.1 Conceptual Framework

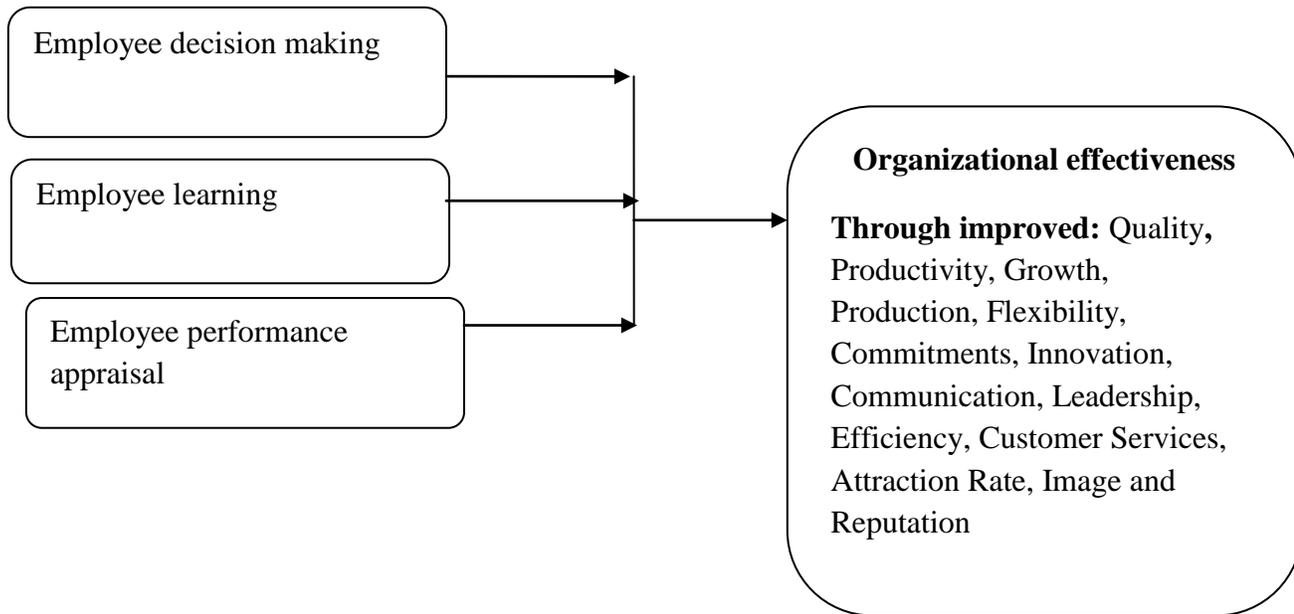
According to Kothari, 2008; Mugenda, 2009; Silverman, 2011; the kind of relationships that exists between the variables in a study is normally depicted through a conceptual framework. A conceptual framework is a diagrammatical or graphical presentation of the variables in a study. (Babbie & Halley, 1995; Murphy & Bhojjanna 2010; O' Leary, 2012). It shows the relationships that exists the independent variables and the dependent variable selected for the study. (Babbie & Halley, 1995; McLeod, 2008; Mugenda, 2009). For this study to establish the influences of HRIS based employee processes on organizational effectiveensss, the conceptual framework shows the relationship that exists between the independent variables of HRIS based processes of decision making, learning and performance appraisal processes and the depend variable of organizational effectiveness among the organization in the banking sector in Kenya (Harris, & Jude 2011; Silverman, 2011; O Leary, 2012).

### Conceptual framework of the influences of HRIS based employee processes on organizational effectiveness at the Kenya commercial bank

#### Independent variables

The HRIS processes of;

#### Dependent variable



#### 2.2.2 HRIS Based Decision Making Processes

The nature and type of decision an organization makes has great hallmarks on its performance profitability, competitiveness, growth, survival and developments. (Post, 2004; & Obrien, 2011). The decision making process and the tools commonly applied in the decision making has a significant pedigree on the flexibility, innovativeness, customer service orientation and the overall effectiveness in an organization (Obieku, 2009; Cole, 2010; & Odhiambo, 2012). Additionally decision making system adopted by an organization determines the reputation and image among the employees, customers and other stakeholders. The decision making process in today's organization may be the traditional systematic formal and management directed and individual based or the modern, informal, flexible, non-systematic and organizational wide directed through the team or group approach. (Gluek, 2010; & Mwangi, 2012)

In the views of Hassan, 2011; Harrison, 2012; & Gerhard, 2013; Whereas the modern approach to decision making makes use of the electronic devices in the form of software programs, the traditional type of decision making in an organizational set up has no room for the application of the electronic devices and depends more on the manual and paper based systems and tools in the making of decision. However in modern enterprising organization the use of electronic systems in the making has been rampant and involves all functions including human resource, marketing, production and operation and finance. (Steiner, 2010. Upenda, 2012 & Harrison, 2012). In the human resources function the application of the electronic devices and software programs in making decision affects all functional areas including recruitment, selection, rewards and remuneration g, training learning and development and performance

appraisal systems. Lucy 2009, & Loudon, 2010. More critically the use of electronic system in making decision has been extended to such human resources functions as promotion, demotions, transfers, training and rewards. (Desler, 2011; Knicky, 2011; Boella, 2013).

The application of the electronic devices commonly make use of the key decision al processes in the forms of ESS DSS, MIS, KWS and TPS among other designated software programs which have the pedigree to result in more accurate, reliable, correct, flexible and simple information input required for effective decision making. (Lucy 2009). Loudon, 2010, observes that Whereas the use of ESS, DSS and KWS highly resonates with the flexibility innovation and creativity required in the current organization set up, MIS and TPS have proved of tremendous value to organizations through improved motivation, satisfaction, Quality, cost and time reduction thus resulting in general organizational effectiveness

Woodman, 2008 & Schermerhorn, 2011, concur that the application of HRIS based employee decision making process has more benefits for an organization. HRIS decision making process results in increased innovation, morale, motivation and innovation and the willingness among the employees to get involved in the operations and plans of the organization. The use of HRIS based decision system is not without challenges. (Sing, 2009 & Gulled, 2011). Slocum, 2005; & Gulled, 2011 contended that Majority of the small and medium based firms do experience high levels of difficulty in the development and implementation of the electronic based decisions. Even those organization with abundant resources still experience logistical and training and development challenges (Mwangi, 2011; Harrison, 2012 & Bitok, 2013)

Kiprono & Okumu 2013, through a Study conducted at Moi University to determine the influences of computer based resources on the academic performance among the public universities in Kenya noted that the use of such programs as DSS, ESS, MIS KWS and TPS do result in high values to the universities and associated colleges. The study added that those universities with well-developed electronic based decision making programs do register high levels of quality, attraction, reputation, stakeholder commitment and are more competitive in the process becoming more effective.

Sabalala, 2011; Harrison, 2012; & Tobiko, 2013, observed that Electronic devices contribute to fast flexible and more accurate decisions with the denominators of being strategic, tactical and operational in nature. The use of DSS and ESS in the making of strategic decision has greatly improved the standings of the banking sector organizations in Kenya. (Anderson, 2011, Odunga, 2012 & Ehrhard, 2013). The customer can now access their services, loan request and account statements. The management has the full information and data ant glance to determine the effectiveness and reliability of the customer requirements. (Kenneth, 2002)

### 2.2.3 HRIS Based Employee Learning

The function of training learning or development remains a very significant ingredient towards achieving organizational effectiveness. Taylor, 2009; Hellriegel, 2012; Hitt 2013. Training contributes to improved skills abilities capacities capabilities and competencies and the development of proper attitudes behaviors and ethical perception towards the organizations and its programs. (Gray, 2008; Sweetney, 2010; & Planket, 2011). The net results of an organization through an effective training systems consists of low wastages and scrap, better customer and peer relationships, sound decision making and planning processes and incased innovation commitments, and flexibility (Beddian ,2007 Nicolas, 2011& Hellriegel, 2012). Training and learning contributes to the organization gaining better quality, production, productivity efficiency and effectiveness through better resources utilization and expenditure.

This is highly associated with the strategic, employee centered and flexible but continuous training system which is today largely connected with the electronic systems. (Planket, 2011; & Hussein, 2012). Through such systems as e learning, computer assisted training CAT, Web based training and distance learning through electronic telecommunication and associated technologies, the time for training has highly been reduced, additionally learning has become more flexible and continuous yet learner controlled. This is despite the notion that the e learning and training systems may be expensive and dysfunctional to many medium and small scale firms. (Stokes, 2009; Meyer, 2010; Wangusu, 2011.)

According to Chang, 2009; Glinow, 2011 & Hitt 2013 among many organizations today the trend is still for the use of the traditional paper based and organizational directed, trainer centered approach but rigid learning scenarios. This system the tactical systems of training is less expensive, easily controlled, and above all may be highly specific to the organizational needs and aspirations Mullins, 2011. Brigan, 2005 Gluek, 2010& Planket, 2011 decreed that despite the key capabilities the tactical training and development systems through learning leads to low knowledge, competency and skill inputs with low attitude and perceptive tendencies and non-lasting behavioral attributes. In this respect the application of the tactical training system may not contribute much to organization effectiveness. Beddian, 2007& Meyer, 2010. Tactical manual training system with its rigid and inflexible approaches may result in low commitments, innovation, Competitiveness and high resistance to changes, with low growth, development, expansion and survival prospects among organizations thus resulting in high levels of ineffectiveness (Hall, 2009; Sweetney, 2010 & Hellriegel, 2012)

Mwangi, Odhiambo And Kotiko 2014 through a journal from the chamber of commerce and industry contended that those organizations with the computer based learning systems do register better profitability, innovation, creativity, flexibility and high quality products. According the journal the HRIS based learning process leads to increased motivation among trainees and trainers, enables better relationship through adequate and continuous feedback of results and provides for ready and adequate learning materials in amore inexpensive systems and throughout the training periods. Mwangi, 2014 observed that E based learning enable the employees to conduct continuous practices in learning, pace the learning aspects and obtain their material in both systematic and non-systematic yet flexible manners. The level of interest, motivation, morale and satisfaction among the employees and stakeholders created in organization through the application of E learning adoption have been unparalleled (Odhiambo 2014). Despite the core capabilities however majority of the companies in the manufacturing sector continue to use the tradition al manual and classroom based training systems, citing the costs, regularity, and less resources and time expended (Kotiko 2014)

Kirkland, Khan, & Rao 2013, through a study conducted at the Barclays bank in Nairobi Kenya on the importance of e learning techniques on organizational performance and effectiveness among the organizations in the banking sector in Kenya noted that by far e learning has resulted in improved performance and by extension organization effectiveness among the bank in Kenya and the around the globe. The study cited the improved in customer services, quality of services, reduced time and resources and high flexibility and continuity in the training and developments and other organizational functions in the banks. Through HRIS based learning processes the banking sect organization have developed key instruments comprising of open managerial systems, flexible working systems, team learning and development prospects with the results being increased growth, development expansion more investments and better competitiveness (Kirkland 2013). Those organization operating on the e learning prospects have outperformed those still operating on the traditional classroom learning system in all areas including

employee flexibility, commitments, productivity, innovation, retention attendance and absenteeism and ability to change and low conflict stresses and strain levels. (Khan & Rao 2013).

#### 2.2.4 HRIS Based Employee Performance Appraisal

One of the greatest determinants of effectiveness and performance on an organizational contest compose the employee appraisal and performance measurement techniques. Gluek, 2010 Anderson, 2011 & Attner, 2013. According to Hall, 2009; Meyer, 2010 Mwangi, 2012 & Boella, 2013, When considered appropriate and conducive to the employees and other stakeholders, appraisal outcomes contributes to incased satisfaction, flexibility, innovation, loyalty and creativity among the employees and stakeholders. Additionally better and acceptable appraisal systems contribute to increased quality, productivity, learning, interest and identification with the organizational goals and objectives. Coulter, 2009& Knicky, 2011. The development of strategic plans and their implementation, more so in the process of communication, cultural fit and structural dimensions also depend largely on the outcome of performance appraisal in an organization. These outcomes are highly synonymous with the application of the electronic system in the appraisal process. Desler, 2011 & Ehrhard, 2013. Through such process as Human resources information systems appraisal process that is highly flexible , interactive, employee centered but with increased openness, high involvements o the stakeholders and participation of all the parties involved. Schwalble, 2009, Gluek, 2010 & Odhiambo, 2012. HRIS based employee appraisal process as opposed to the traditional approach allow for greater information sharing, idea exchanges and cooling off during the difficult appraisal process. The ends results has been the high levels of motivation morale. Owino, 2010; Anderson, 2011; & Boella, 2013

In the views of Cole, 2010 Warui, 2012 & Ehrhard, 2013 the use of more traditional formal and systematic approaches to the conduct of employee appraisal in an organization has been found to be highly associated with more dysfunctional dimension for organizational performance and effectiveness programs. The application of the traditional system contributes to employee apathy, conflicts, complaints and disputes and creates state of stress frustration, desperation and strain Desler, 2011 & Kimani, 2013. The net effect of the use of traditional appraisal system ion an organizational set up has been the less committed, motivated and interested, disloyal and accident prone workforce Anderson, 2011; Koontz, 2012. The application of the traditional appraisal systems contributes to low effectiveness among firms. It results to low productivity, competitiveness, productivity, profitability and poor customer and stakeholder attraction Robbins,

Odhiambo, & Kamau, 2014 through a study conducted at the CAK on the impacts of the use of electronic based employee appraisal techniques on employee and organization performance stated that HRIS based appraisal technique has more positive benefits to an organization in respect of the performance, profitability, competitiveness, innovation, flexibility and motivation. According to the sty findings the use of HRIS based processes results in high commitments, better customer services provisions, increased profitability productivity and production with low wastes in terms of time and resources thus contributing to high organizational effectiveness. The use of HRIS based appraisal process however remains more expensive and requires through training of employees constant redesign and design of the organization in structures and resources (Owino, 2010; & Kimani, 2013). The need for specialized resources in the forms of hardware, software, machinery and tools and personnel to operate the computers may not be within the reach of small and non-established firms. (Coulter, 2009, Torrington, 2011; & Koontz, 2012). Tobiko, 2013 observed that most organizations nonetheless continues to use the

traditional appraisal system despite its myriads of drawbacks, citing the huge demands and logistical requirements for effective application of electronic devices.

According to Coulter, 2009; Cole, 2010; Anderson, 2011; the developments among many organizations towards the greater and critical attention to the electronic systems in appraisal has resulted in the adoption of new and improved ways of functioning within organizations. These include a more open and all round communication systems, participative and inclusive approach to decision making, more flexibility and innovation in organizational development programs, the MBO approach to planning and control, and an open collaborative and cooperative culture that allows for high information sharing and team working and group managerial approaches with greater interest in the stakeholders. (Meyer, 2010, Koontz, 2012; & Ehrhard, 2013). The outcomes of these new developments have tended to improved effectiveness through high levels of commitments, flexibility, innovation, competitiveness, positive growth and prosperity, ability to survive and gaining change through greater innovation orientations among other important developments. (Owino, 2010; Desler, 2011 & Attner, 2013).

The application of computer based information in employee appraisal has been made possible through the adoption of the software programs in the telecommunication systems networking dimensions and other social and non-social programs. Through such programs as the LAN, WAN, VAN, information about the subjects can be obtained more easily than used to be previously. Additionally the emergence of such communication programs as the e mail, voice mail, fax, electronic meetings, video conferencing and other communication and feedback programs (Lucy, 2009; Loudon, 2010). Where they have been applied effectively they have contributed to increased commitments, motivation, loyalty and less conflicts arising from appraisal programs. Such program have created room for increased flexibility, innovation and huge reduction in time and resources involved in the appraisal process in organization (Cole, 2010; Anderson, 2011; & Attner, 2013)

### *2.3 Critiques of The Existing Literature Relevant to The Study*

From the review of the relevant literature in pursuit of the study to assess the influences of HRIS based employee processes on organizational effectiveness various sensitive issues were raised. (Taylor, 2009; Nicolas, 2011; Ogola, 2012). The HRIS processes under evaluation comprising of the employee decision making, employee learning and employee performance appraisal processes have continued to play very important roles in both the public and private organization and in all sectors of the economy. (Meyer, 2010; Van Hoek, 2013). However, the preference for the e learning, e decision making and e performance measurement systems coupled with open communication systems to the traditional tactical learning coupled with systematic formal and rigid decision making and appraisal processes among majority of the organization has come under sharp focus. (Kamau, 2010; Planket, 2011; & Honda 2012). Strategic and E training and learning program and the application of e based employee appraisal and decision making processes requires enormous resources, time and redesign of other organizational processes as in culture leadership systems and managerial practices thus tend to be completely expensive. Additionally e based learning, decision making training and employee appraisal can only be applied in established firms with the abundant resources and sound structures and facilities to acquaint the same (Gray, 2008; Hussein, 2012). They are inapplicable among the small scale medium scale organization and would be highly unlikely accepted among private sector firms (Owino, 2010; Warui, 2012; &Attner, 2013)

Another key issues raised was in respect to the preference of, flexible, regular continuous and organizational wide but comprehensive HRIS based learning, decision making and employee performance measurements to the highly practiced periodic, irregular and selective traditional approaches to appraisal learning and decision making. (Brigan, 2005; Stokes, 2009; Wangusu, 2011). According to Meyer, 2010; Glinow, 2011; & Mwangi, 2012; most banking sector organizations today, especially the more successful and productive one, operate on the computer and electronic based programs with flexible, continuous and elaborate, comprehensive systems but with high costs and time constraints. Continuous learning and appraisal process requires constant organizational design and redesign, constant review of organizational procedures and may not be applicable in medium and small scale organizations that lack the amount of resources and personnel and the structural networks required in their conduct Sweetney, 2010; Hellriegel, 2012). However opting to the periodic, inflexible and non-comprehensive traditional approaches towards employee learning, decisions and appraisal in respect of effectiveness and performance may also be unproductive. Effectiveness at whatever levels in an organization context requires constant attention with a continuous review so as to be effective. Unsafe act results from poor and uncoordinated consideration of the performance domain. (Chang, 2009; Beddian, 2007; & Hitt 2013)

The management and leadership style through the use of committees or team has been the dominant feature among organization in respect of handling of performance and effectiveness and related matters. (Hall 2009; Gluek, 2010; Mullins, 2011). Despite the notion that the committee or team approach to the leading and managing of safety has been the darling among much organization, only large organization can be able to constitute legal and acceptable committees with recognizable representation from all the stakeholders of the firms (Larson, 2005;& Sweetney, 2010). The small and ill equipped firms with little resources and disjointed capabilities are unable to constitute the committees and continuously rely on individuals to undertake the matters of computer based systems and organizational effectiveness and citing of positive performance (Hall, 2009; Khunikho, 2012; & Kimani, 2013). Committees have been known to produce positive development in the forms of motivation and synergy combination, but suffer from need for adequate time, costs and possible conflicts in respect of the decisions (Ehrhard, 2013).

#### *2.4 Summary*

Organizational effectiveness has assumed a more comprehensive recognition as a measure of growth, development, survival, performance, prosperity prospects, and competitive strategies for all sizes of organizations including large, medium and, small organizations (Flipoo, 2004; Brigan, 2005; & Belle, 2011). Effectiveness has also been highly recognized in the public and private sector organizations as the most significant contribution to an organization life and well-being (Hussein, 2012; Attner, 2013; & Lucy 2013).

Effectiveness determines the profitability, image, relationships and flexibility as well as the costs, abundant quality levels arising to the satisfaction standards among the stakeholders of a firm (De Wit 2005; Hellriegel, 2012; & kiprono, 2013). When considered high and positive, organizational effectiveness contributes to favorable outcomes associated with increased sales volume, production, profitability, revenue and reduced time frames (Larson, 2005; Maraks, 2011; Hussein, 2012). On the contrary when negative and low in characters productivity results in wastages of time resources and revenue, increased conflicts, resistances, complaints and disputes (Stokes, 2009; & Okumu, 2011).

#### *2.5 Research Gaps*

This study seeks to assess the influence of computer based information processes HRIS on organizational effectiveness and was concentrated at the Kenya Commercial Bank. Incidentally most of the banks in both private and public sectors have scanty application of HRIS processes. According to Mwangi, 2012; While HRIS and associated programs have been rampant among private institutions little attention to HRIS has been paid among the public sector firms. This, in the views of Warui, 2012; & Van Hoek, 2013; leaves a large section of the economy vulnerable to possibilities of low effectiveness, growth, competitiveness and quality. Planket, 2011; & Ogola 2012 observes that there is thus a huge distinction in the application of HRIS based processes among the public and private sector organizational as well as among the large and small firms. This study will seek to determine the reasons and causes of the variation discrepancies in the application of HRIS based processes among the public and private organization and among the large and small firms. (Kamau, 2010; & Hussein, 2012).

According to Schwalble, 2009; Kogei, 2011 & Ehrhard 2013. The current state of affairs and trends in the application of HRIS based processes requires the conduct of related programs on more regular, informal, flexible and continuous basis and through the use of experts and which considers the wider organizational or business concepts. However the current practice among majority of the firms in the banking sector and other sectors has been the continued use of the periodic and irregular traditional practices in respect of training and learning, performance appraisal and decision making practices, using non experts or generalists and selective in approach. (Gluek, 2010; Glinow, 2011; & Hitt, 2013). Whereas only large and established firms have had the luxury to undertake the continuous and regular training, decision making and appraisal processes, they are minimal in number as compared to the large number of firms that still continue to use the periodic traditional systems. Okumu, 2011; & Khunikho, 2012). This scenario denotes a wider discrepancy in the conduct of employee appraisal, learning and training and decision making processes between the large and established firms and the small and non-established firms as well as among the public and private sector organization. (Sweetney, 2010 Upenda, 2012; & Oligulia, 2012). Almost all of the highly established private and public sector firms prefer to use committees and teams to conduct affairs, the practice among the small and private organizations and firms is for the use of individuals toward addressing HR issues. (Anderson, 2012; & Khan, 2014). Committees have been instrumental in bringing new insights and development in the management of appraisal, remuneration, selection and employee decision processes program despite being considered expensive and time consuming and requirement for the abundant of resources. (Weetman, 2005; Kimani, 2013). There is therefore a variation in the management of the staff matters and this is one of the gaps the study needs to fill.

The application of the strategic E based training coupled with a more flexible informal and continuous appraisal system with their characteristics of high levels of flexibility, and the notion that they are highly appealing to the common worker, continues to dominate the trends in the human resources management functions (Mathis R & Jackson 2010). This is despite the belief that majority of the firms have disregarded the use of the two systems and have opted for the application of the tactical training and formal appraisal and decision procedures. (Ireland James Hall 2009; Ehrhard, 2013). The variations in the application of the two managerial practices and the communication trends among firms have created distinction in the handling of human resources management issues that the study would seek to determine. Oligulia, 2012; Van Hoek, 2013).

### 3. RESEARCH METHODOLOGY

This chapter contains the study design, target population, sample size and sampling procedure and the sources and instruments of data collection. (Babbie & Halley, 1995; McLeod, 2008; Silverman, 2011). The chapter further contains the data collection procedure the methods of testing the interments for validity and reliability, data analysis methods and processes and the system of presentation of study outcomes. (Kothari, 2008; Murphy & Bhojjanna 2010; & O' Leary, 2012)

#### 3.1 Research Design

The study adopted a descriptive survey design. (Kothari, 2008; & Murphy & Bhojjanna 2010). The study sought to establish relationships that exists between the HRIS based process of employee decision making, learning and performance appraisal and organizational effectiveness (Hoyle, Harris & Jude 2011). The study thus sought to offer solution to the immediate problems associated with non-adherence to fire safety standards (Babbie & Halley, 1995; Kothari, 2008; & O' Leary 2012)

The tool, instruments and methodologies used in the study comprised of the descriptive statistics criterion. (Murphy & Bhojjanna, 2010; Silverman, 2011; O' Leary, 2012) These included the tools instruments and methodologies used in selection of the target population, computation of the sample size, sampling procedure, data collection analysis and presentation of research outcomes. (Babbie & Halley, 1995 & Silverman, 2011)

#### 3.2 Population

The target population for the study comprised of all the two hundred and forty one 241 employees working at the Kenya commercial bank headquarters at Kencom house in Nairobi. The population of two hundred and forty one employees was put into four categories including, the executive staff, managerial staff, supervisory staff and operative employees. (Murphy & Bhojjanna 2010). According to the employee census conduct in the bank's headquarters in March 2015, there are nine executives, fifteen managerial, forty six supervisory and one hundred and seventy one 171 operative staff as shown in table 3.1 below (Mugenda; 2013)

#### Target Population

**Table 3. 1**

Category Of Target Population	Frequency
Executive	9
Managerial	15
Supervisory	46
Operatives And Casuals	171
Total	241

#### 3.3 Sampling Frame

Using the stratified sampling design the study chose eighty two employees from across the four categories at its sample size. The sample size of eighty two employees will comprise of five (5) executives, eleven (11) managerial staff nineteen supervisory staff and twenty seven operative staff.

**Table 3. 2**

Category Of Target Population	Frequency	Sample Size
Executive	9	5
Managerial	15	11
Supervisory	46	19
Operatives And Casuals	171	47
total	241	82

### 3.4 Sampling and Sampling Technique

This study adopted a stratified random sampling method. (O' Leary, 2012) The population had both homogeneous and heterogeneous characteristics that made them suitable to be grouped into different strata as executives, managers, supervisors and operative staff with each stratum capable of being studied independently of each other.

### 3.5 Instruments

The data that was used in the study was collected through the use of such instruments as interviews, questionnaires and schedules for primary data and the review of documentation publication and records for secondary data. (Murphy & Bhojjanna, 2010. Kothari 2008& Mugenda 2009)

Interviews were used in the collection of primary data for the study. (Babbie & Halley, 1995) Specifically, the structured type of interview containing g standard question were used in the collection of data. The interview were administered to the executives and managerial staff in the bank (Kothari 2008.

Questionnaire method was used in the collection of primary data. (Babbie & Halley, 1995). The semi structured questionnaire type with both open and closed questions was used in the collection of primary data. Questionnaires were distributed to the supervisory and operative staff for self-administration (Mugenda; 2009)

### 3.6 Data Collection Procedure

The data used in the study was collected from the primary and secondary sources. (Harris, Jude 2011) The primary data comprised of the original data which is fresh data from the field. The secondary data comprised of the generic data which was data that had already been in use previously. Majority of data in the placation has been obtained from the primary data.

The secondary data was collected through the review analysis and scrutiny of existing bank records and documentation. The records and documents of interest comprised of the costs, performance levels, repeat business and revenue earned over a period of time.

The data collection instruments comprising of questionnaires interview and observation form was pretested for their suitability as data collection tools before being distributed to the selected respondents for self-administration (Silverman, 2011). The instruments were then distributed to the respondents during the first weeks of January 2015. The researcher visited the bank headquarters on the diverse dates of February 25 2015.

During the visit the questionnaires which had earlier been distributed for self-administration were collected for analysis. Within the same period the researcher conducted an observation of events as they occur in each of the bank with a view to obtaining firsthand the conduct of appraisal. Training and development through learning and decision processes. (Babbie & Halley, 1995; & McLeod, 2008). An in depth interview was conducted to the managers and the executives with a view to obtaining the clarification on matters not clear from the questionnaire and the observation methods (Murphy & Bhojjanna, 2010; & Hoyle, Harris, Jude 2011) . Further the variety of records existing in the bank were scrutinized for any clues of relevant data (Mugenda 2009). This was undertaken as part of the secondary data collection process. In each step of the process the researcher made records and took notes of the events and circumstance they unfolded.

### *3.7 Data Processing and Analysis*

Before analysis data will have to be prepared through recoding, coding, tabulation, rectification and reconciliation. (Kothari, 2008; & Silverman, 2011). This will be undertaken to remove any unnecessary data and to avoid the confusion that may arise through the application of wrong data in the study. (Mugenda 2009)

Data analysis was undertaken through the use of descriptive statistics tools. (Hoyle, Harris & Jude 2011). Specifically the researcher use was made of the descriptive statistics tools of frequency distribution (simple frequency), measures of dispersion ( standard deviation) and measures of central tendency ( mean, mode ) (Murphy & Bhojjanna, 2010).

The statistical data analysis tools was supplemented by the computer software programs in the forms of SPSS, V 21 and MS excel. The values for the data analysis outcomes has been indicated in percentages, percentage averages and averages (Mugenda, 2009; Murphy & Bhojjanna, 2010). The outcomes of the study has been presented using the descriptive statistics tools of frequency distribution bar charts pie charts and simple frequency tables, (McLeod, 2008; &Mugenda 2009).

## **4. RESEARCH FINDINGS AND DISCUSSIONS**

### *4.1 Introduction*

The study sought to investigate the influences of HRIS processes on organizational effectiveness among the banks in Kenya. The study was concentrated on the Kenya Commercial Bank. The HRIS processes under investigation included HRIS based employee decision-making, HRIS based employee learning and HRIS based employee performance appraisal. Data editing and reconciliation were done before the data analysis was undertaken. This was paramount to remove any incoherence and irrelevance in data and was essential in avoiding the reaching of wrong conclusions and drawing of wrong inferences. Data was entered into the SPSS V18.0 for windows. The data analysis was supplemented by using other computer software packages like Microsoft Excel.

### *4.2 Response Rate*

A total of Eighty Two (82) questionnaires were produced and administrated to the sampled categories of respondents. At the end of the study sixty four (64) questionnaires were returned, coded and analyzed. The overall response rate was therefore 78% with the majority of the respondents being the supervisory staff that attracted a response rate of 80.8% while the minority were operative staff who attracted a response rate of 76.2% as recorded in table 4.1 below. The response rate was impressive

among all the categories of the respondents for the study since over two-thirds of the respondents responded. This showed their approval and the success of the research.

### Response Rate

**Table 4. 1**

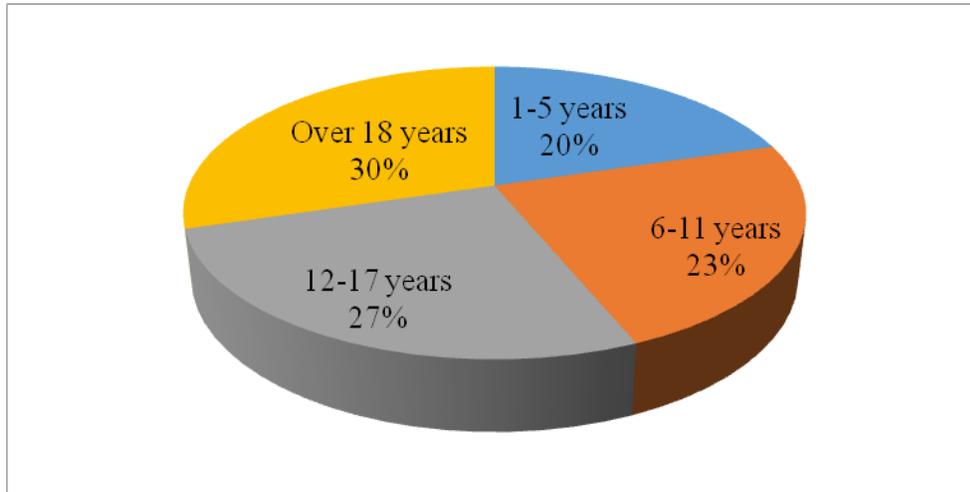
Category of the population	Sample size	those who responded	Response rate
Executives	5	4	80%
Managerial	9	7	77.8%
Supervisory	26	21	80.8%
Operatives	42	32	76.2%
Total	82	64	78%

### 4.3 Profile of the Respondents

#### 4.3.1 Respondents Level of Experience

Respondents were asked to state the years of experience with the bank. They provided the responses as indicated in figure 4.1 below

#### Respondents Years of Experience



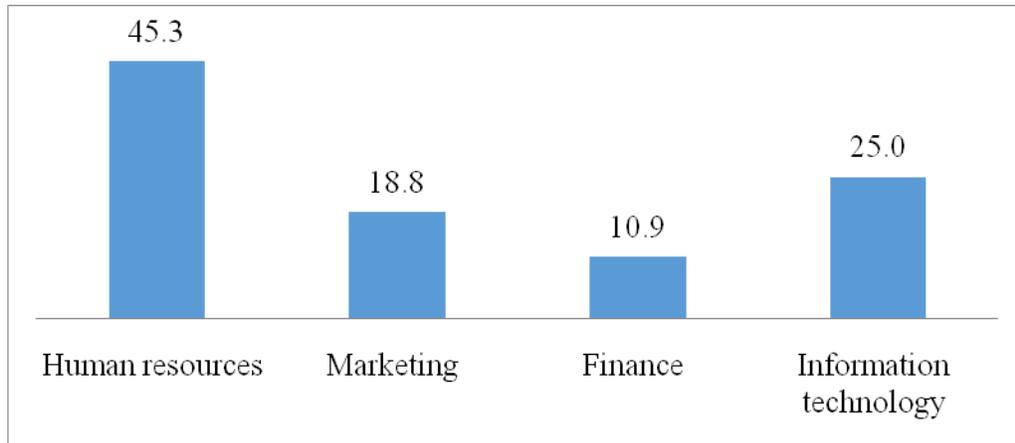
**Figure 4. 1**

The high levels of experience among the respondents meant that they could adequately address the issues affecting the organization such as the HRIS based processes and programs.

#### 4.3.2 Respondents Departments

When asked to state their department, respondents responded as indicated below:

#### Respondents Departments



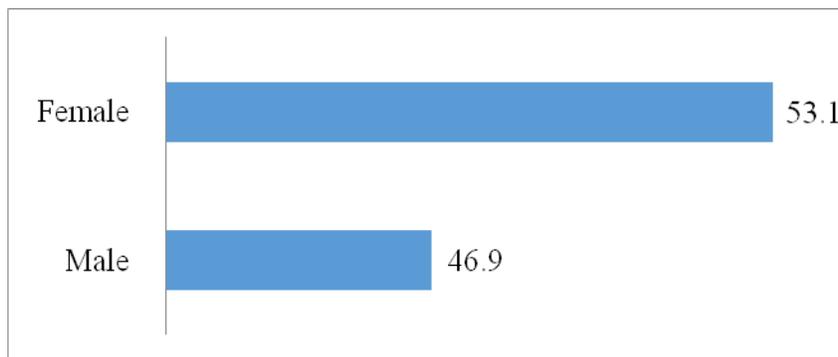
**Figure 4. 2**

From figure 4.2 above majority (45.3%) of the respondents were from the Human Resource department of the bank. The Information Technology department that attracted the attention of 25% among the respondents came second after the human resources department. The high response rate among the respondents from the Human Resources and IT department was in line with the fact that HRIS is a line activity in Human Resources departments. The employees in the department therefore had thorough knowledge about the operations of HRIS.

#### 4.3.3 Respondents Gender

Respondents were asked to state their gender. They provided the responses as illustrated in figure 4.3 below

#### Respondents Gender

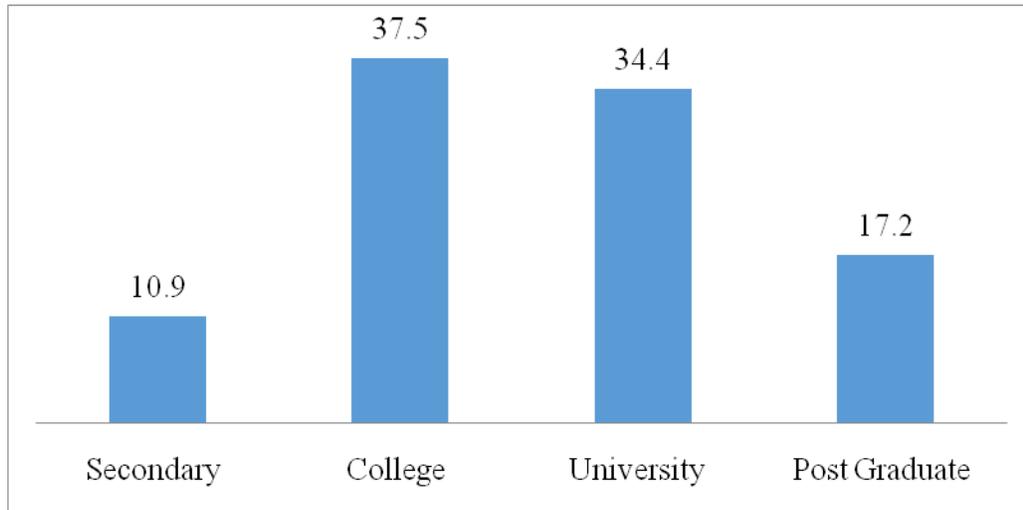


**Figure 4. 3**

From figure 4.3 above majority (53.1%) of the respondents stated to being female while only 46.9% were male. There was almost parity in the responses from the female and male counterparts. This was positive to the study in that there was no bias towards any genders.

#### 4.3.4 Respondents Level of Education

When asked to state their level of education, respondents provided varied responses as indicated in figure 4.4 below.

**Respondents' level of education****Figure 4. 4**

From figure 4.4 above majority (88.1%) of the respondents stated to having attained the post-secondary level of education. The high education levels among the respondents proved beneficial to the study in that the respondents had little difficulties interpreting the questions presented through the data collection instruments. They had ease in addressing the question and provided the correct responses for most of the demands.

**4.4.5 Respondents' level in the managerial hierarchy**

Respondents were asked to state their levels in the managerial hierarchy in the bank. They provided the responses as indicted in table 4.2 below.

**Table 4. 2**

Variable	Frequency	Percent
Executive	4	6.3
Managerial	7	10.9
Supervisory	19	29.7
Operative	34	53.1
<b>Total</b>	<b>64</b>	<b>100</b>

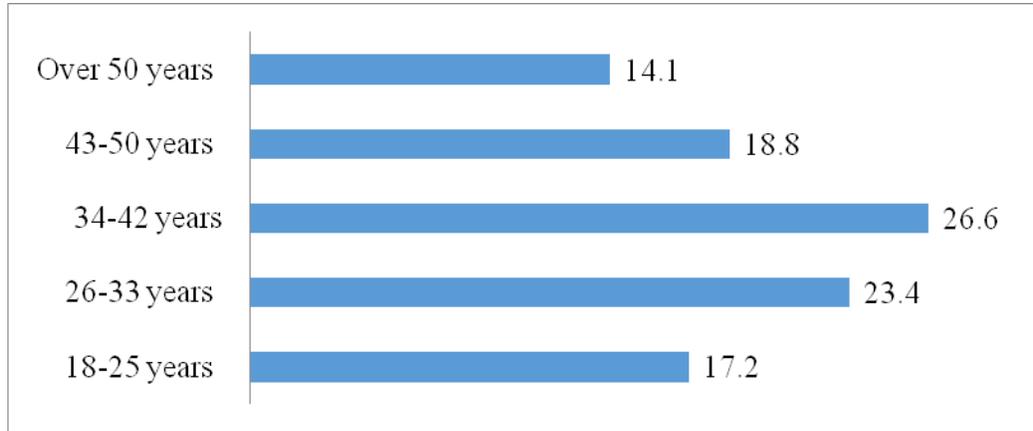
From table 4.2 above majority 53.1% of the respondents were from the operatives' level of the organizational hierarchy. Whereas only 6.3% were from the executive level of the organizational hierarchy

The high response rate among the operatives could be attributed to the notion that the lower level staffs are always most affected by the organizational effectiveness programs and new developments and innovation such as the HRIS, thus the high levels of interest from the operatives staff

#### 4.4.6 Respondents' Ages

Respondents were asked to state their ages. They responded as indicated in figure 4.5 below

#### Respondents' ages



**Figure 4. 5**

From figure 4.5 above majority (67.2%) were youthful and were below 42 years of age. Only 32.8% were aged and were above 42 years of age.

The youthful set of the respondents were actively mobile and could be ready to undertake the bank programs with speed. They were very useful to the study and provided data more readily and speedily.

#### 4.4 How HRIS Processes Influence Organizational Effectiveness at the KCB

This study sought to determine the HRIS processes influencing organizational effectiveness at KCB. Toward this end respondents were asked to state the HRIS processes influencing their effectiveness and that of the entire bank. They provided the responses as indicated in table 4.3 below.

#### The HRIS Processes Influencing Organizational Effectiveness At The KCB

**Table 4. 3**

Process	Mean	Std. Deviation	N
HRIS based decision making process	3.72	1.41	64
HRIS based learning process	3.84	1.31	64
HRIS based performance appraisal process	4.06	1.19	64

This finding denotes that to a varying degree, all the three HRIS processes selected for study comprising of HRIS based decision making process, HRIS based learning process, and HRIS based performance appraisal process have an influence on organizational effectiveness at KCB.

#### 4.4.1 HRIS Processes Mostly Influencing Organizational Effectiveness at KCB

This study endeavored to establish the HRIS processes mostly influencing organizational effectiveness at KCB. In this respect, respondents were asked to state the HRIS process mostly influencing their effectiveness and that of the entire bank.

**HRIS processes mostly influencing organizational effectiveness at KCB****Table 4. 4**

<b>HRIS process influencing effectiveness</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Pearson correlation</b>	<b>N</b>
HRIS based decision making process	3.72	1.41	0.989	64
HRIS based learning process	3.84	1.31	0.965	64
HRIS based performance appraisal process	4.06	1.19	0.889	64

There was high correlation between organizational effectiveness and HRIS based decision-making process at the KCB with a correlation coefficient of 0.989 despite the low mean.

This finding denotes that HRIS based decision making process has the most influence on organization effectiveness at the Kenya commercial bank

*4.5 HRIS Decision Making Process and Organizational Effectiveness***4.5.1 Whether There Is Designated Decision-Making System in Use at KCB**

This study sought to determine whether there was a designated decision making system in use at the KCB headquarters. In this regard respondents were asked to state whether there was a designated decision making system in use in their bank. They provided the responses as indicated in table 4.5 below

**There is designated decision-making system in use****Table 4. 5**

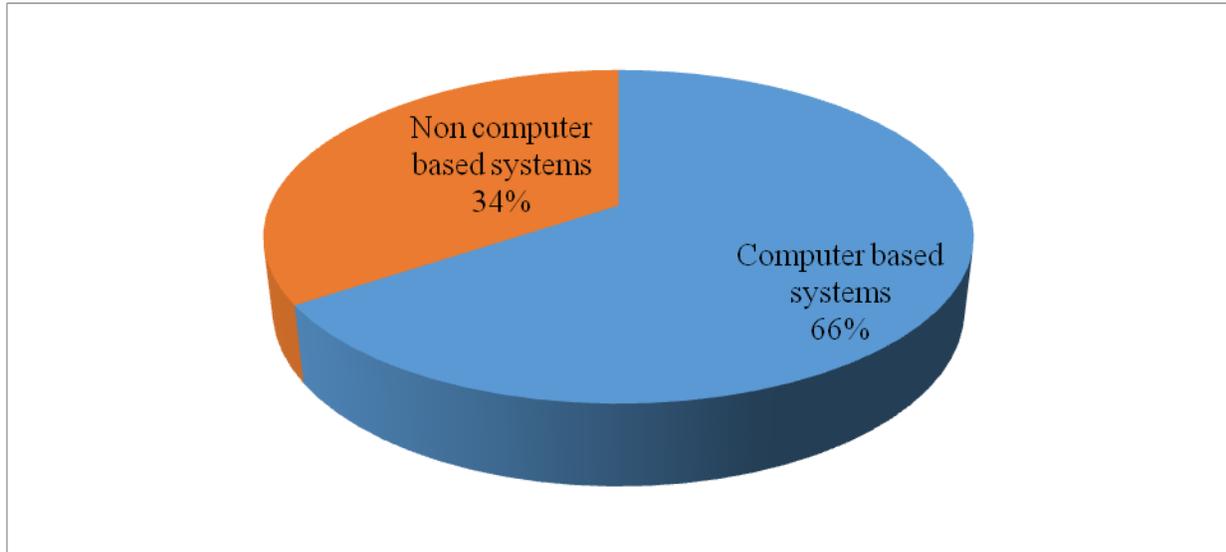
<b>Variable</b>	<b>Frequency</b>	<b>Percent</b>
Yes	54	84.4
No	10	15.6
<b>Total</b>	<b>64</b>	<b>100</b>

This finding denotes that KCB has a designated decision making system of use in its processes a system and operations

**4.5.2 Type of Decision Making Mostly In Practice at KCB**

This study sought to establish the type of decision making process commonly applied at the KCB. In this regard, respondents were asked to state the type of decision making process commonly applied in their bank. They provided the responses as indicated in figure 4.6 below

### Type of Decision Making Mostly In Practice



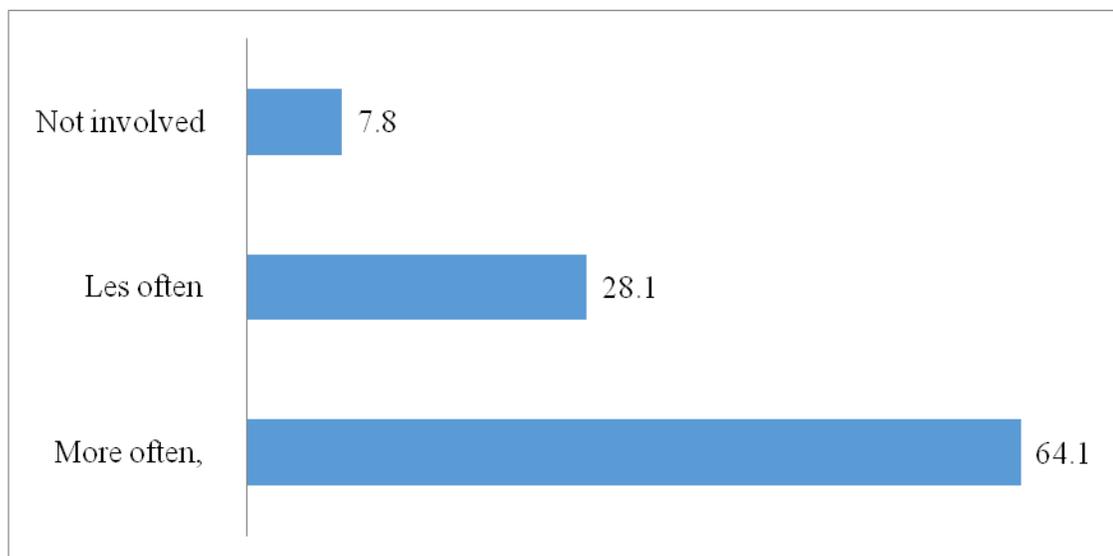
**Figure 4. 6**

This finding denotes that the type of decision making process mostly applied at the KCB comprise of the computer based approach to decision making

#### 4.5.3: How Often Are Stakeholders Involved in HRIS Decision Making Processes

This study sought to determine how familiar the respondents were with the application of HRIS decision-making processes and practices. Towards this end respondents were asked to state how often they have been involved in the application of HRIS processes in decision making. They provided the responses as indicated in figure 4.7 below

#### How often stakeholders are involved in HRIS decision making processes at KCB



**Figure 4. 7**

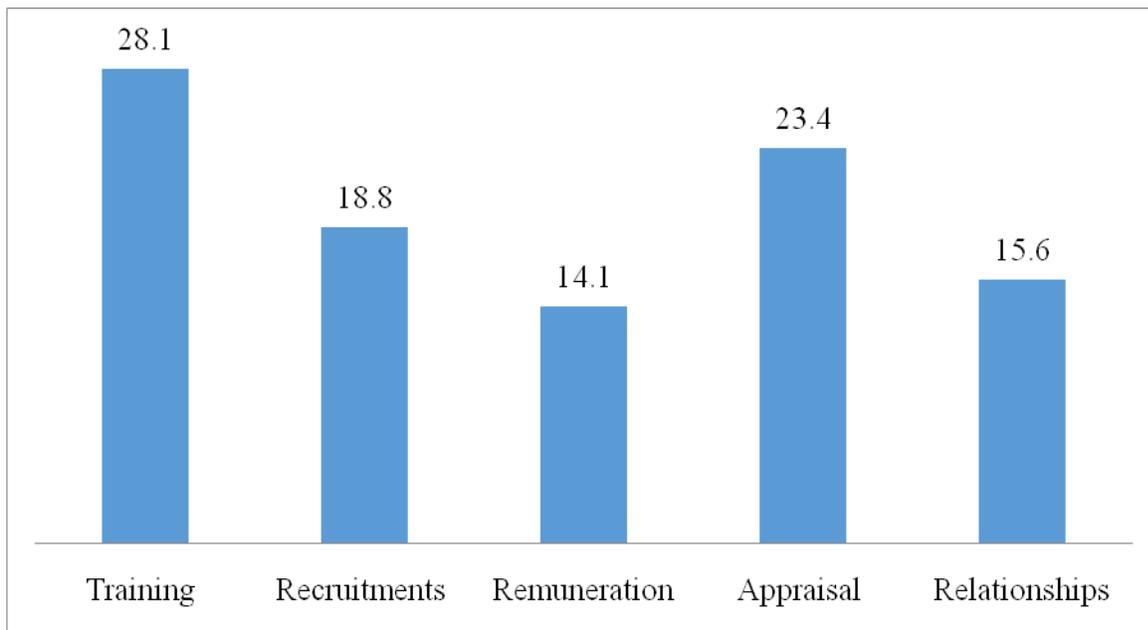
This finding denotes that the use of HRIS in making decision at the KCB headquarters is rampant and more stakeholders are familiar with its application in the decision making process.

#### 4.5.4 HR areas applied HRIS in making decisions at KCB

This study sought to determine which human resources department in the bank, commonly make use of the HRIS tools.

To achieve this perspective, respondents were asked to state the human resources function they consider making more use of the HRIS tools in their banks. They provided the responses as indicated in figure 4.8 below.

#### Which HR areas, applied HRIS in making decisions



**Figure 4. 8**

From figure 4.8 above varied decision areas were stated by the respondents to be making use of the HRIS. Majority 28.1% of the of the respondents were of the view that the decision area of training and development is the human resources function in the bank making more use of the HRIS tools in making decisions. This finding denotes that HRIS decision processes is commonly employed in the function of employee training and development process at the KCB.

This study endeavored to determine how the respondents perceived the application of HRIS based decisions in the achievements of organizational effectiveness at the KCB. In this respect, respondents were subjected to various scenarios measuring effectiveness through the application of HRIS based decision making. They provided the responses as indicated in table 4.6 below

**How the HRIS-based decision making processes influence organizational effectiveness at KCB****Table 4. 6**

	Responses										statistic			
	1		2		3		4		5		M	SD	SK	N
	F	%	F	%	F	%	F	%	F	%				
HRIS based decision process has made the organization more effective	7	10.9	9	14.1	3	4.7	21	32.8	24	37.5	3.72	1.39	0.84	64
HRIS based decisions has resulted in more strategic focus and change orientated	5	7.8	7	10.9	2	3.1	24	37.5	26	40.6	3.92	1.26	1.16	64
I feel more satisfied with the organization services derived from HRIS based decision	5	7.8	8	12.5	2	3.1	22	34.4	27	42.2	3.88	1.29	1.04	64
I am more motivated to work for the organization resulting from HRIS based decision	4	6.3	6	9.4	3	4.7	23	35.9	28	43.8	4.02	1.2	1.28	64
Employees and the organization have gained greater flexibility operations	6	9.4	5	7.8	4	6.3	24	37.5	25	39.1	3.91	1.28	1.18	64
The organization has become more proficient and fast in the customer services	8	12.5	6	9.4	2	3.1	22	34.4	26	40.6	3.84	1.34	1.02	64
Our organization has become highly innovative and creative	7	10.9	4	6.3	3	4.7	23	35.9	27	42.2	4.05	1.21	1.41	64
HRIS based decisions has resulted huge reduction in time and resources expended in the production process	7	10.9	9	14.1	3	4.7	21	32.8	24	37.5	3.72	1.39	0.84	64

From table 4.6 above various scenarios emerged as to the application of HRIS decision making process on organizational effectiveness.

With an aggregate score of 70.3%, majority of the respondents agreed that HRIS based decision process has made the bank more effective in its operations processes and systems. This finding denotes that HRIS based decision process has made the KCB more effective in its operations, processes and systems

Also with an aggregate score of 78.1%, M score of 3.92 majority of the respondents agreed that HRIS based decisions has resulted in the bank gaining more strategic focus and change orientated status. This finding denotes that HRIS based decision process has resulted in KCB gaining more strategic focus and change orientated status.

Additionally with an aggregate score of 79.7%, majority of the respondents agreed that they felt more satisfied with the banks' products and services derived from HRIS based decision. This finding denotes that HRIS based decision process has brought high level of satisfaction among the employees and other stakeholders with the banks' products and services derived from HRIS based decision.

Further with an aggregate score of 76.6%, majority of the respondents agreed that they were more motivated to work for the organization resulting from HRIS based decision. This finding denotes that HRIS based decision process makes the employees motivated to work for the organization.

With an aggregate score of 76.6%, majority of the respondents agreed that employees, stakeholders and the organization have gained greater flexibility the banks operations. This finding denotes that HRIS based decision process has contributes to employees, stakeholders and the organization have gained greater flexibility the banks operations.

With an aggregate score of 76.6, majority of the respondents agreed that KCB has become more proficient and fast in the customer services provisions using HRIS decision-making process. This finding denotes that HRIS based decision process has contributed to KCB becoming more proficient and fast in the provision of customer services.

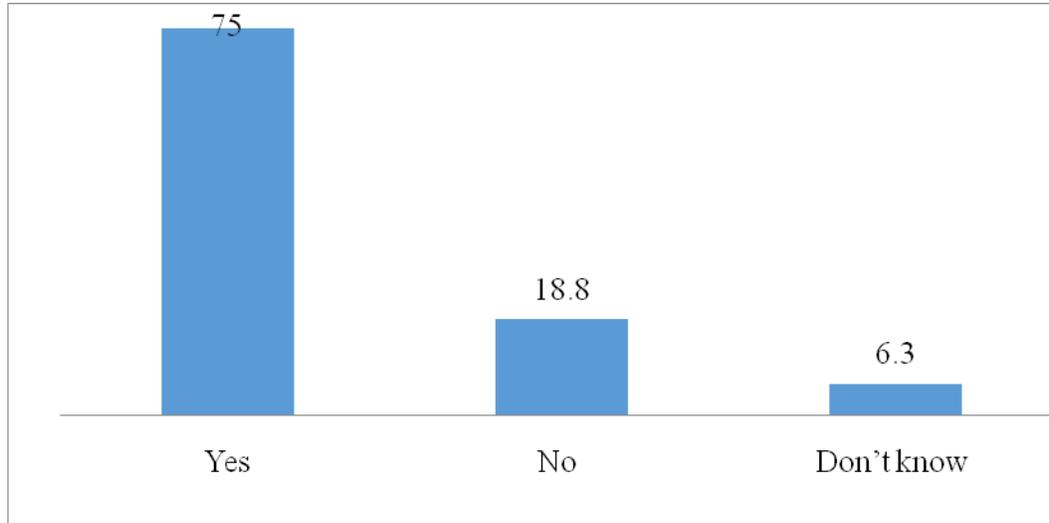
With an aggregate score of 78.1%, majority of the respondents agreed that KCB has become highly innovative and creative in the development of product and services. This finding denotes that HRIS based decision process has resulted in KCB becoming highly innovative and creative in the development of product and services.

With an aggregate score of 70.3%, majority of the respondents agreed that HRIS based decisions has resulted in huge reduction of time and resources expended in the production, supervisory and other processes in the bank. This finding denotes that HRIS based decision process has resulted in KCB realizing huge reduction in time and resources expended in the production supervisory and other processes in the bank.

#### *4.6 HRIS Learning Process and Organizational Effectiveness*

##### *4.6.1 The Company Is Involved In the Learning Process*

This study sought to establish whether KCB is involved in the training and development process among its other human resources functions. In this respect respondents were asked to state whether their company is involved in the training and development process. They provided the responses as indicated in figure 4.9 below



**Figure 4. 9**

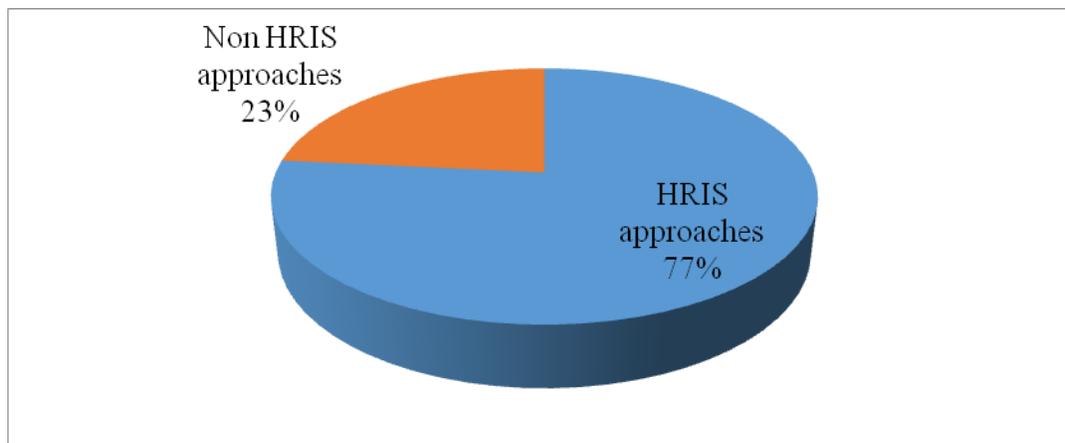
From figure 4.9 above majority 75% of the respondents stated to believing that the bank was involved in the training and developing of its staff.

This finding denotes that KCB as an organization has been involved in the training and development for its staff and stakeholders.

#### 4.6.2 The type of learning systems mostly applicable at KCB

This study endeavored to examine the type of learning programs currently being undertaken by KCB. Toward this end, respondents were asked to state the type of training and development programs currently being undertaken by their bank. They provided the responses as indicated in figure 4.10 below.

#### The type of learning systems mostly applicable at KCB



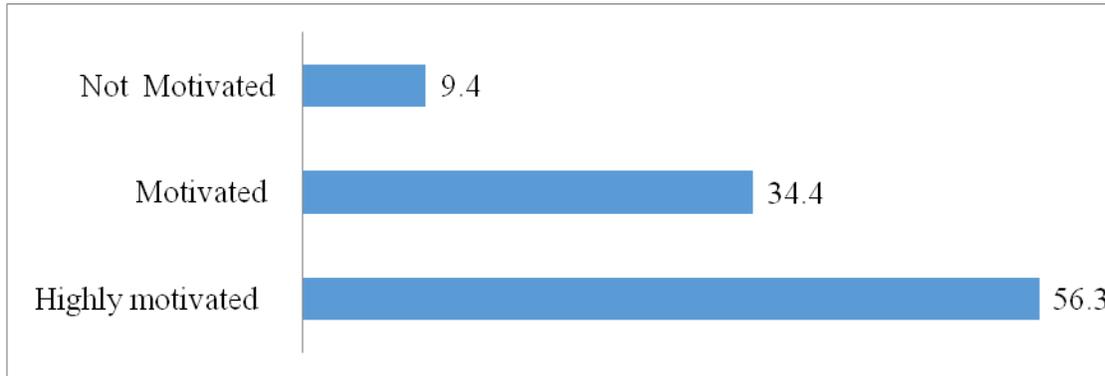
**Figure 4. 10**

From figure 4.10 above majority (77%) of the respondents stated that their banks mostly uses the HRIS based approaches toward employee training. This finding denotes that KCB currently mostly applies the HRIS based approaches toward employee training and learning.

#### 4.6.3 Level of Motivation with HRIS Learning Processes

This study sought to assess the level of employee motivation with the adoption of HRIS based learning processes at the KCB. In this regard respondents were asked to state their level of their motivation with the adoption of the HRIS based learning processes at in their bank. They provided the responses as indicated in figure 4.11 below.

#### Level of Motivation with HRIS Learning Processes



**Figure 4. 11**

From figure 4.11 above majority 56.3% of the respondents stated to be highly motivated with the adoption of HRIS based learning program in the bank. This finding denotes that the adoption of the HRIS based learning program at KCB has brought improvements in employee motivation.

This study sought to evaluate the perception of the employees towards the results of HRIS based learning system at KCB towards the banks overall effectiveness. In this respect respondents were subjected to various issues regarding the banks application of HRIS learning processes. They provided the responses as indicated in figure 4.7 below.

**How HRIS Based Learning Process Influence Organizational Effectiveness****Table 4. 7**

	RESPONSES										STATISTIC			
	1		2		3		4		5		M	SD	SK	N
	F	%	F	%	F	%	F	%	F	%				
The HRIS learning system has made the company more productive	6	9.4	5	7.8	2	3.1	23	35.9	28	43.8	3.97	1.28	1.29	64
The HRIS learning system results in better communication/ feedback processes	8	12.5	9	14.1	3	4.7	20	31.3	24	37.5	3.67	1.43	0.78	64
I prefer working for the company due to the adoption of The HRIS learning process	4	6.3	6	9.4	3	4.7	23	35.9	28	43.8	3.88	1.33	1.15	64
Employee feel high committed to the companies goals due to the adoption of HRIS learning system	7	10.9	5	7.8	3	4.7	23	35.9	26	40.6	3.89	1.33	1.16	64
Our organization has become more competitive from HRIS learning adoption	5	7.8	7	10.9	2	3.1	22	34.4	28	43.8	4.03	1.21	1.29	64
I would advise someone to join the bank due to the operations of HRIS learning process	8	12.5	6	9.4	4	6.3	22	34.4	24	37.5	3.86	1.31	1.09	64
HRIS learning system has resulted in more cost and resources effectiveness in the organization	4	6.3	6	9.4	3	4.7	22	34.4	29	45.3	3.78	1.33	0.93	64

From the results as provided in table 4.7 above, with an aggregate of 79.7%, majority of the respondents agreed that the HRIS learning process has made their company more productive. This finding denotes that HRIS learning process has made their KCB more productive.

Also with an aggregate of 68.8%, majority of the respondents agreed that the adoption of HRIS based learning system has resulted in better communication/ feedback processes in their bank. This

finding denotes that HRIS learning process has resulted in better communication/ feedback processes at KCB.

Further, with an aggregate of 68.8%, majority of the respondents agreed that they would prefer working for the company due to the adoption of the HRIS learning process. This finding denotes that HRIS learning process has resulted in KCB gaining positive image as an employer

Additionally with an aggregate of 76.5%, majority of the respondents agreed that there is increments in employee commitment to the company's goals due to the adoption of HRIS learning processes. This finding denotes that HRIS learning process has resulted in increments in employee and stakeholder commitment at KCB.

With an aggregate of 78.2%, majority of the respondents agreed that their bank has become more competitive in the market from HRIS learning process adoption. This finding denotes that HRIS learning process has resulted in KCB becoming more competitive in the financial and business market.

With an aggregate of 71.9%, majority of the respondents agreed that they would advise someone to join the bank due to the operations of HRIS learning process. This finding denotes that HRIS learning process has resulted in KCB becoming more attractive in the job market.

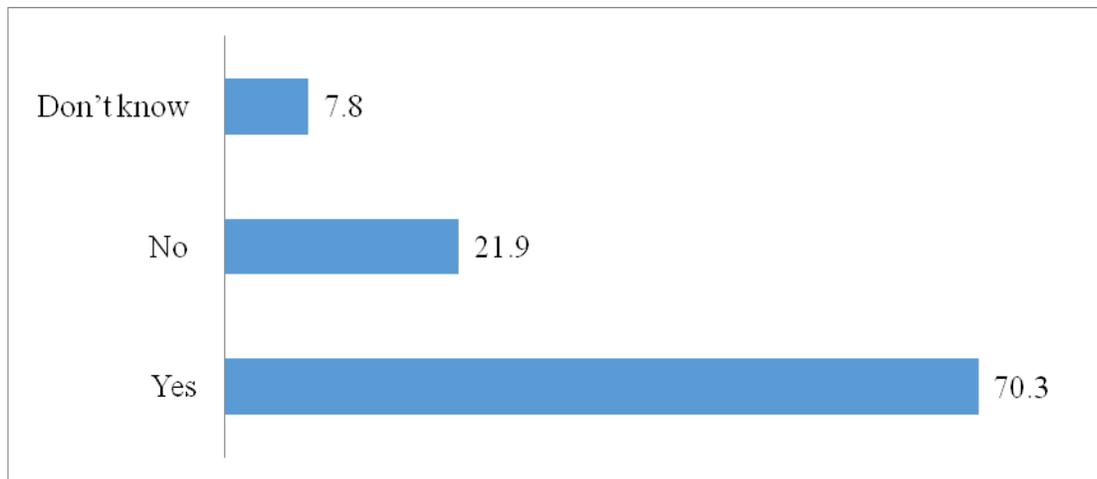
With an aggregate of 79.7%, majority of the respondents agreed that HRIS learning process in their bank has resulted in more cost and resources effectiveness in the organization. This finding denotes that HRIS learning process has resulted in more effective cost and resources application at KCB.

#### 4.7 HRIS Based Employee Performance Appraisal System and Organization Effectiveness

##### 4.7.1 Whether the Company Operates HRIS Approach to Employee Appraisal Process

This study sought to assess whether KCB operates HRIS based employee appraisal process. In this regard respondents were asked to state whether their bank operates HRIS based employee appraisal process. They provided the responses as indicated in figure 4.12 below.

##### **Whether KCB operates HRIS approach to employee appraisal process**



**Figure 4. 12**

From figure 4.12 above majority (70.3%) of the respondents were of the view that their bank operates through HRIS based employee appraisal process. This finding denotes that KCB operates through HRIS based employee appraisal process.

#### 4.7.2 The Approach Of Appraisal Mostly in Use at The Company

This study sought to assess the approach mostly used at the KCB to conduct employee performance appraisal and measurement. In this regard, respondents were asked to state approach mostly used at the KCB to conduct their performance appraisal and measurement in their bank. They provided the responses as indicated in table 4.8 below.

#### The approach of Appraisal Mostly in use at the Company

**Table 4. 8**

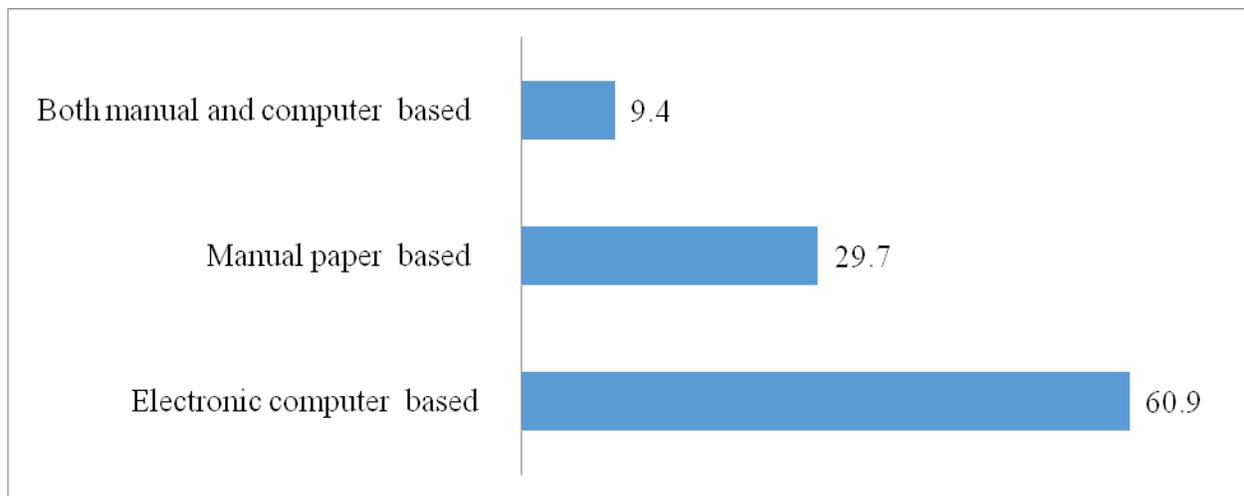
Variable	Frequency	Percent
Systematic formal period	15	23.4
Nonsystematic, informal continuous	42	65.6
Both Continuous/periodic	7	10.9
<b>Total</b>	<b>64</b>	<b>100</b>

From table 4.8 above majority (65.6%) of the respondents were of the view that the bank uses mostly the Nonsystematic, informal and continuous approach in the conduct of employee performance appraisal. This finding denotes that KCB uses mostly the Nonsystematic, informal flexible and continuous approach in the conduct of employee performance appraisal.

#### 4.7.3 The Tools Mostly Used in the Employee Performance Appraisal Process

This study endeavored to determine the tools commonly used by the KCB in the conduct of employee performance appraisal process. Towards this end, respondents were asked to state the tools they believed were commonly used in their appraisal in the bank. They provided the responses as indicated in figure 4.13 below.

#### The tools mostly used in the employee performance appraisal process



**Figure 4. 13**

From figure 4.13 above majority (60.9%) of the respondents were of the view that the electronic computer based tools technology was mostly applied in their appraisal in the bank. This finding denotes

that KCB uses mostly the electronic computer based tools technology was mostly applied in their appraisal in the bank.

### How the HRIS based appraisal process influence effectiveness

**Table 4. 9**

	Responses										Statistic			
	1		2		3		4		5		M	SD	SKW	
	F	%	F	%	F	%	F	%	F	%				
HRIS PA process has resulted in more collaborative relationships in our organization	5	7.8	6	9.4	3	4.7	20	31.3	30	46.9	4	1.27	1.24	64
I am to join teams due to my satisfaction with the recent appraisal outcomes	7	10.9	5	7.8	2	3.1	24	37.5	26	40.6	3.89	1.32	1.2	64
employees have positive perception toward our company due to current system of HRIS based PA	6	9.4	4	6.3	2	3.1	25	39.1	27	42.2	3.98	1.25	1.37	64
I would work with extra effort towards the company goals from current appraisal systems	5	7.8	9	14.1	2	3.1	23	35.9	25	39.1	3.83	1.33	1.02	64
our company has become more efficient and quality prone from current employee PA trends	7	10.9	5	7.8	3	4.7	27	42.2	22	34.4	4.02	1.23	1.25	64
I am motivated to work for the company due to feedback from the HRIS process PA	5	7.8	9	14.1	2	3.1	23	35.9	25	39.1	3.83	1.33	1.02	64
Employees feel encouraged to accept the changes	4	6.3	7	10.9	2	3.1	22	34.4	29	45.3	4	1.2	1.27	64
The company has become more flexible from HRIS PA	4	6.3	6	9.4	3	4.7	24	37.5	27	42.2	4	1.27	1.24	

With an aggregate score of 78.2% majority of the respondents agreed that HRIS Performance Appraisal process has resulted in more collaborative relationships in their bank. This finding denotes that HRIS PA process has resulted in more collaborative relationships at KCB.

With an aggregate score of 78.1% majority of the respondents agreed that they were willing and ready to join teams arising from their satisfaction with the recent appraisal outcomes. This finding denotes that HRIS PA process has created an atmosphere of team work at KCB.

With an aggregate score of 81.3%, majority of the respondents agreed that employees had positive perception toward their bank due to current system of HRIS based PA. This finding denotes that HRIS PA process has created positive perception among the employees and stakeholders towards KCB.

With an aggregate score of 75% majority of the respondents agreed that they would work with extra effort towards the company goals owing to company current HRIS based appraisal systems. This finding denotes that HRIS PA process has created positive work ethic and enthusiasm among the employees and stakeholders towards KCB.

With an aggregate score of 76.6% majority of the respondents agreed that their bank has become more efficient and quality prone from current employee PA trends. This finding denotes that bank has become more efficient and quality prone from current employee HRIS based PA trends.

With an aggregate score of 75%, majority of the respondents agreed that they were motivated to work for the company due to quick feedback from the HRIS based PA process. This finding denotes that KCB has built a culture of high motivation to work from the HRIS based PA process.

With an aggregate score of 79.7%, majority of the respondents agreed that bank employees feel encouraged to accept the changes and innovative efforts. This finding denotes that KCB employees have the natural encouragement to accept the changes and innovative efforts arising from HRIS based appraisal results.

With an aggregate score of 79.7%, majority of the respondents agreed that their bank company has become more flexible from HRIS based appraisal processes. This finding denotes that KCB has become more flexible in its operation, process and systems from HRIS based appraisal processes.

#### 4.7.8 The level of Satisfaction with the HRIS based processes of Decision Making, Learning and Performance Appraisal

This study sought to determine the level of stakeholder satisfaction with various bank programs introduced through HRIS processes of decision making, performance appraisal and learning. Towards their end respondents were asked to state their level of satisfaction with the various bank programs ranging from introduced changes to product innovation and technological transfer programs. They provided the responses as indicated in table 4.14 below.

### The level of satisfaction with the HRIS based processes of decision making, learning and performance appraisal

**Table 4. 10**

	RESPONSES										STATISTIC			N
	NSE		LSE		ASE		HSE		VHSE		M	SD	SKWN	
	F	%	F	%	F	%	F	%	F	%				
change and developments in leadership and management systems	4	6.3	6	9.4	11	17.2	20	31.3	23	35.9	3.81	1.21	0.86	64
stakeholder motivation morale and commitment levels	5	7.8	7	10.9	12	18.8	18	28.1	22	34.4	3.70	1.27	0.72	64
organizational performance, productivity, profitability and quality levels	3	4.7	5	7.8	14	21.9	22	34.4	20	31.3	3.80	1.12	0.79	64
Work design and working environments programs	5	7.8	8	12.5	10	15.6	17	26.6	24	37.5	3.73	1.30	0.74	64
nature of communication, feedback processes and relationship patterns	2	3.1	5	7.8	13	20.3	19	29.7	25	39.1	3.94	1.10	0.84	64
customer service, commitment and relations	4	6.3	7	10.9	11	17.2	22	34.4	20	31.3	3.73	1.20	0.78	64
cost and time involved in undertaking projects and developments	6	9.4	5	7.8	9	14.1	21	32.8	23	35.9	3.78	1.28	0.94	64
organizational focus and flexibility programs	4	6.3	6	9.4	12	18.8	18	28.1	24	37.5	3.81	1.22	.82	64
product innovation levels and technological transfer	5	7.8	9	14.1	14	21.9	16	25.0	20	31.3	3.58	1.28	.51	64

This study sought to determine the level of employee and stakeholder satisfaction with the various company programs generated from the HRIS processes including HRIS decision making process, HRIS appraisal processes, and HRIS learning process. The programs under investigation comprised of change and developments in leadership and management systems, stakeholder motivation, morale and commitment levels, organizational performance, productivity, profitability and quality levels, Work design and working environments programs, nature of communication, feedback processes and relationship patterns, customer service, commitment and relations, cost and time involved in undertaking projects and developments, organizational focus and flexibility programs and product innovation levels and technological transfer programs

From the study it was found that that the bank's change and developments in leadership and management programs derived from the HRIS based learning programs had high to very high satisfaction

to effect among the employees and stakeholders. This was supported by majority (67.2%) of the respondents who stated that the banks change and developments in leadership and management programs derived from the HRIS based learning programs had high to very high satisfaction to effect.

It was also found that the bank's stakeholder motivation, morale and commitment levels derived from the HRIS based learning programs had high to very high effect on employee satisfaction. This was supported by majority (62.5%) of the respondents who stated that the stakeholder motivation, morale and commitment levels derived from the HRIS based learning programs had high to very high effect on their satisfaction.

Additionally, it was found from the study that that the organizational performance, productivity, profitability and quality levels derived from the HRIS based appraisal programs had high to very high effect on employee satisfaction. Over 64% and of the respondents stated that the organizational performance, productivity, profitability and quality levels derived from the HRIS based appraisal programs had high to very high effect on their satisfaction.

Further it was found that the bank's work design and working environment programs derived from the HRIS based appraisal programs had high to very high effect on employee and stakeholder satisfaction. This was supported by majority (64.1%) of the respondents who stated that the organizational Work design and working environments programs derived from the HRIS based appraisal programs had high to very high effect on their satisfaction.

It emerged from the study that the nature of communication, feedback processes and relationship patterns derived from the HRIS based appraisal programs had high to very high effect on employee and stakeholder satisfaction. This was supported by majority 68.8% of the respondents who stated that the nature of communication, feedback processes and relationship patterns derived from the HRIS based appraisal programs had high to very high effect on their satisfaction.

It also emerged from the study that the nature of customer service, commitment and relations derived from the HRIS based decision process had high to very high effect on stakeholder satisfaction. This was supported by (65.7%) of the respondents who stated that the nature of customer service, commitment and relations derived from the HRIS based decision processes had high to very high effect on their satisfaction.

Further it emerged from the study that that the cost and time involved in undertaking projects and developments derived from the HRIS based decision programs had high to very high effect on stakeholder satisfaction. Majority (68.7%) of the respondents stated that the cost and time involved in undertaking projects and developments derived from the HRIS based decision programs had high to very high effect on their satisfaction.

Additionally it was found that the organizational focus and flexibility programs derived from the HRIS based decision process had high to very high effect on stakeholder satisfaction. This was supported by 65.6% of the respondents who stated that the organizational focus and flexibility programs derived from the HRIS based decision process had high to very high effect on their satisfaction.

Finally it was found from the study that the organizational product innovation levels and technological transfer programs derived from the HRIS based learning had high to very high effect on stakeholder satisfaction. This was supported by 56.3% of the respondents stated that the organizational

product innovation levels and technological transfer programs derived from the HRIS based learning had high to very high effect on their satisfaction.

## 5. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Introduction

This chapter comprises of the summary of findings, conclusions and recommendations arising from the study to investigate the influences of HRIS processes on organizational effectiveness. The summary and conclusions and the recommendations were based on the analysis of returned sixty four questionnaires from the respondents.

### 5.2 Summary

From the study, it emerged that majority of the respondents were female (53.1%), had post-secondary level of education (88.1%), were from the operative level (53.1%), had over 10 years of experience (57%), were from the human resources department (45.3%), and were youthful (67.2%). The minority were male (46.9%), had secondary level of education (11.9%), were managerial level (46.9%), had less than ten years of work experience (43%) and were from the managerial level of the organizational hierarchy(46.9%).

This study sought to establish the HRIS based processes influencing organization effectiveness at the KCB. The HRIS processes under investigation comprised of HRIS based employee decision making, HRIS based employee learning and HRIS based employee performance appraisal.

#### HRIS Based Employee Decision Making Influence on Organization Effectiveness

From the study it emerged that HRIS based employee decision making had the most influence on organizational effectiveness at the KCB. Thus with a Mean score of 3.72 SD score of 1.41 and correlation coefficient of 0.989 the HRIS process of employee decision making provided to have the greater influence on organization effectiveness at the Kenya commercial bank.

This was also supported by the results from the statistical test of the confidence levels as to the rejection and acceptance of the processes. The HRIS process of employee decision making stand accepted while the HRIS processes of employee performance appraisal and employee learning stood rejected through the application of the 95% confidence test

This study sought to establish the impacts of HRIS decision-making process on organizational effectiveness at the KCB. The aspects under investigation comprised of whether there is a designated decision-making system in use, type of decision making mostly in practice, how often respondents were involved in HRIS Decision making processes, which HR areas HRIS is commonly applied in making decisions.

Additionally respondents were put through a series of scenarios depicting the importance of HRIS on organizational effectiveness, with the specific scenarios comprising of whether HRIS based decision process has made the organization more effective, whether HRIS based decisions had resulted in more strategic focus and change orientation, whether respondents feel more satisfied with the organization services derived from HRIS based decision, whether they were motivated to work for the organization resulting from HRIS based decision among other important scenarios.

From the study, it emerged that KCB as an organization has a designated decision making system in use in its processes system and operations. This was supported by over 84% of the respondents who stated that there was a designated decision making system in use in their bank. It was found that KCB mostly employ the computer based decision-making process. Majority (66%) of the respondents stated that computer based decision making process is the approach currently in application in their bank.

It was also found from the study that employees at KCB are more involved in the use of HRIS. This was supported by over 64% of the respondents who stated to be more often involved in the application of HRIS in their decision process in the bank.

It was also found that HRIS is used for variety of human resource functions including training and development, employee performance appraisal, remuneration, recruitment and human resource relationship. Majority (28.1%) of the of the respondents were of the view that the decision area of training and development is the human resources function in the bank making more use of the HRIS tools in making decisions.

The study found that HRIS based decision process has made the bank more effective in its operations processes and systems. This was supported by majority (70.3%), of the respondents agreed that HRIS based decision process has made the bank more effective in its operations processes and systems.

It was also found that HRIS based decisions making process has resulted in the bank gaining more strategic focus and change orientated status. Majority 78.1%, of the respondents agreed that HRIS based decisions has resulted in the bank gaining more strategic focus and change orientated status.

Additionally it was found that employees feel more satisfied with the banks products and services derived from HRIS based decisions. This was supported by majority 79.7%, of the respondents who agreed that they felt more satisfied with the banks' products and services derived from HRIS based decision.

Further the study found that employees are more motivated to work for the organization resulting from HRIS based decision. Over 75%, of the respondents agreed that they were more motivated to work for the organization resulting from HRIS based decision.

The study found that employees, stakeholders and the organization have gained greater flexibility the banks operations. This was supported by majority (76.6%), of the respondents agreed that employees, stakeholders and the organization have gained greater flexibility the banks operations.

Additionally it emerged from the study that KCB has become more proficient and fast in the customer services provisions using HRIS decision-making process. This was supported by over 70%, of the respondents who agreed that KCB has become more proficient and fast in the customer services provisions using HRIS decision-making process.

The study found that that KCB has become highly innovative and creative in the development of product and services arising from the adoption of the HRIS decision processes. This was supported by majority (78.1%), of the respondents who agreed that KCB has become highly innovative and creative in the development of product and services.

Finally the study found that that HRIS based decisions has resulted in huge reduction on time and resources expended in the production supervisory and other processes in the banks. Over 70%, of the respondents agreed that HRIS based decisions has resulted in huge reduction on time and resources expended in the production supervisory and other processes in the banks.

## HRIS Based Learning Influence on Organizational Effectiveness

This study endeavored to examine the impacts of HRIS learning process on organizational effectiveness at the KCB. The aspects under investigation comprised of whether the bank is involved in the employee learning process, the type of learning process mostly applied in the bank, the level of motivation with HRIS learning processes. Respondents were subjected to various scenarios impacting on the organizational effectiveness comprising of whether the HRIS learning system has made the company more productive, the HRIS learning system results in better communication/ feedback processes, employees prefer working for the company due to the adoption of the HRIS learning process, Employee felt highly committed to the companies goals due to the adoption of HRIS learning system.

From the study it emerged that that the bank has been involved in the training and developing of its staff. This was supported by majority (75%) of the respondents who stated to having believed that the bank was involved in the training and developing of its staff.

It also emerged that KCB mostly uses the HRIS based approaches toward employee training. Majority (77%) of the respondents stated that their banks mostly uses the HRIS based approaches toward employee training.

The study found that employees and stakeholders were highly motivated with the adoption of HRIS based learning program in the bank. This was supported by majority (56.3%) of the respondents who stated to be highly motivated with the adoption of HRIS based learning program in the bank.

Further it was found from the study that the HRIS learning process has made their company more productive. This was supported by majority 79.7%, of the respondents who agreed that the HRIS learning process has made their company more productive.

It was also found from the study that the adoption of HRIS based learning system has resulted in better communication/ feedback processes at KCB. Majority of 68.8%, of the respondents agreed that the adoption of HRIS based learning system has resulted in better communication/ feedback processes in their bank.

Additionally the study found that employee would prefer working for the company due to the adoption of the HRIS learning process. This was supported by majority (68.8%), of the respondents who agreed that they would prefer working for the company due to the adoption of the HRIS learning process.

It was found that that there is increments in employee commitment to the company's goals due to the adoption of HRIS learning processes. Majority (76.5%), of the respondents agreed that there is increments in employee commitment to the company's goals due to the adoption of HRIS learning processes.

The study also found that KCB has become more competitive in the market from HRIS learning process adoption. Over 78%, of the respondents agreed that their bank has become more competitive in the market from HRIS learning process adoption.

It emerged from the study that employees and stakeholders would advise someone to join the bank due to the operations of HRIS learning process. This was supported by majority (71.9%), of the respondents agreed that they would advise someone to join the bank due to the operations of HRIS learning process.

The study found that HRIS learning process in at KCB has resulted in more cost and resources effectiveness in the organization. This was supported by majority (79.7%), of the respondents agreed that HRIS learning process in their bank has resulted in more cost and resources effectiveness in the organization.

#### HRIS Based Performance Appraisal on Organizational Effectiveness

This study sought to assess the impacts of HRIS based employee performance appraisal system and organization effectiveness at the Kenya commercial bank. The aspects under investigation included whether the Bank operates HRIS approach to employee appraisal process, the approach of appraisal mostly in use at the bank and the tools mostly used in the employee performance appraisal process at the KCB. Respondents were also put to various scenarios determining the application of HRIS performance appraisal system on organizational effectiveness. The scenarios comprised of whether HRIS performance appraisal process has resulted in more collaborative relationships in the bank, employee would join teams due to their satisfaction with the recent appraisal outcomes, employees have positive perception toward our company due to current system of HRIS based PA, employees would work with extra effort towards the company goals from current appraisal systems, the bank has become more efficient and quality prone from current employee PA trends, employees were motivated to work for the company due to feedback from the HRIS process PA and whether the bank has become more flexible from HRIS PA among other aspects.

From the study it was found that KCB that their bank operates through HRIS based employee appraisal process. Majority (70.3%) of the respondents were of the view that their bank operates through HRIS based employee appraisal process.

It was also found that that the KCB uses mostly the Nonsystematic, informal and continuous approach in the conduct of employee performance appraisal. This was supported by majority (65.6%) of the respondents were of the view that their bank uses mostly the Nonsystematic, informal and continuous approach in the conduct of employee performance appraisal. Additionally it was found from the study that the electronic computer based tools technology was mostly applied in their appraisal in the bank. This was supported by majority 60.9% of the respondents who were of the view that the electronic computer based tools technology was mostly applied in their appraisal in the bank.

From the study it emerged that HRIS PA process has resulted in more collaborative relationships in their bank. This was supported by 78.2% of the respondents agreeing that HRIS PA process has resulted in more collaborative relationships in their bank.

It also emerged that employees at KCB were willing and ready to join teams arising from their satisfaction with the recent appraisal outcomes. Majority score (Over 78%) the respondents agreed that they were willing and ready to join teams arising from their satisfaction with the recent appraisal outcomes.

It further emerged that employees have positive perception towards KCB as an organization due to the current system of HRIS based PA. This was supported by majority, (81.3%) of the respondents agreed that employees had positive perception toward their bank due to current system of HRIS based PA.

Additionally it emerged from the study that that employees at KCB are willing to work with extra effort towards the company goals owing to company current HRIS based appraisal systems. This was

supported by majority (62.5%) of the respondents agreed that they would work with extra effort towards the company goals owing to company current HRIS based appraisal systems. It was found that KCB has become more efficient and quality prone from current employee PA trends. Majority (76.6%) of the respondents agreed that their bank has become more efficient and quality prone from current employee PA trends.

It was further found that employees at KCB are motivated to work for the company due to quick feedback from the HRIS based PA process. This was supported by the majority, (75%) of the respondents agreed that they were motivated to work for the company due to quick feedback from the HRIS based PA process.

Additionally it was found that employees feel encouraged to accept the changes and innovative efforts. Majority (79.7%) of the respondents agreed that bank employees feel encouraged to accept the changes and innovative efforts.

Finally it was found that KCB has become more flexible from HRIS based appraisal processes. Majority (79.7%) of the respondents agreed that their bank has become more flexible from HRIS based appraisal processes.

### *5.3 Conclusions*

The study was conducted within the prescribed time period and with scheduled but budgetary constraints. The response rate was impressive in that over two third of the respondents from all the categories selected for the study actually took part in the study and provided valuable and reliable responses.

Arising from the summary of findings, this study concludes that organizations greatly benefit from the adoption of the HRIS processes of decision making, learning and performance appraisal. The application of these HRIS processes works towards improved developments and high levels of effectiveness among its operations and programs through high satisfaction, motivation, attraction rate, innovation commitments and building a valuable reputation among other organizational programs.

The study also concludes that when the use of HRIS decision making process becomes the norm and practice in organizations, it results in more improvements towards organizational effectiveness including making the organization generally more effective, resulting in more strategic focus and change orientations, creating a feeling of high satisfaction with the organization services among other important improvements.

Additionally, this study concludes that the application of HRIS based learning process has equally resulted in positive developments and improvements for the organization by contributing to the organization being more productive, resulting in better communication/ feedback processes, increasing employees' preference for working for the company and creating a climate of high commitment among the employees and stakeholders.

Further, it is concluded that the application of HRIS based performance appraisal has resulted in more positive and functional developments and improvements. HRIS based employee performance process has created environments conducive for effective organization through better collaborative relationships, positive perception toward the company by stakeholders, more efficiency and quality in the work and service provisions, better change management prospects through low resistance to changes among other important denominators.

Finally, the study concludes that the adoption of the HRIS processes and the resultant outcomes has resulted in high to very high levels of satisfaction among the banks' stakeholders and employees. Almost all the HRIS processes and related programs including change and developments in leadership and management systems, stakeholder motivation morale and commitment levels, organizational focus and flexibility programs and product innovations and technological transfer programs among other effectiveness indicators

#### *5.4 Recommendations*

Arising from the summary of findings and conclusion from the study as presented in the immediate sections above this study recommends that the banking industry and other service industries undertake a holistic application of the computer based technology in their operations, processes systems and functions. All the key areas including marketing, customer services, and operations functions should all be computerized

The study also recommends that thorough training and development programs be organized within the organization, for both the internal and external employees on the use of ICT based processes. The stakeholder need to be equipped with comprehensive knowledge if the results of the ICT based processes are to be seen to be beneficial

The study also recommends that the bank introduces involvement and participation programs in the implementation and evaluation of the HRIS and other computer based programs. This will work to reduce the levels of resistance to change towards their adoption and effective application. This will create an atmosphere of effectiveness

#### *5.5 Areas for Further Research*

This study recommends that further research be conducted on the influences of HRIS based decision making, learning and performance appraisal processes on organizational effectiveness in the banking sector as well as other industries. This will be in reaction to the fact that in this particular study, the HRIS based decision making process proved to have had most and greatest influences organizational effectiveness.

**REFERENCES**

- [1] Anderson F W (2011). *Organizational effectiveness dimension, development of better strategies*. Pearson Education Limited, Harlow, Essex, England
- [2] Anwar S A (2013). *The criteria for effectiveness management practices among organizations*. Pearson international, New Delhi, India
- [3] Armstrong, M (2005). *Human Resources Management .5th edition* Prentice Hall Publishers, Upper Saddle River, New Jersey, USA
- [4] Attner D K (2013). *Strategic human resource management*. Harcourt College Publishers, Philadelphia, New York, USA
- [5] Bashir K H (2011) *Effective human resources development practices: Toward better strategies, standard and performances, 2<sup>nd</sup> Edition*. Cape publishers, Cape Town, South Africa
- [6] Beddian T G (2007). *Organizational effectiveness Practices in Private and Public Sectors, banking sector perspectives, International Edition: McGraw-Hill International, New York, USA*.
- [7] Belle D J (2011). *Human resources management in the hospitality industry: employee learning and appraisal issues*. Heinemann Education Publishers, Boston USA
- [8] Benet S M (2011). *Challenges in personnel and human resources management: HRIS Strategy development perspectives*. Pearson International. Boston, USA
- [9] Birien F L (2014). *The need for success in organizational human resources management, International Edition: McGraw-Hill International, New York, USA*
- [10] Bogonko HO (2012). *Determinants of organizational effectiveness and performance in the public sector institutions: technology management program*, Government printers, Nairobi, Kenya
- [11] Bongo, M O (2013). *The banking sector reforms in Africa: Successes through adoption of the better technology*. Brazzaville Press Centre international, Brazzaville, Congo
- [12] Chang H (2009). *A handbook of strategic human resource resources management*. Prentice Hall International, New Delhi India
- [13] Cole G A (2009). *Personnel and Human resources management. 4th edition* Prentice Hall Publisher, Harlow, Essex England
- [14] Cole G A (2010). *Business administration and managed, strategic focus, International Edition: McGraw-Hill International, New York, USA*
- [15] Coulter M (2009). *The basis for effective empowerment systems through technology and HR development initiatives*. McGraw-Hill international, New York, USA
- [16] Danny H R (2012). *Achieving improved performance and effectiveness through technology and communication, private sector reform programs*. Prentice Hall International, San Diego, State University, CA, USA
- [17] Gachau, P G (2013). *The relevance of computer technology in employee programs today*. East African Publishers, Nairobi, Kenya

- [18] Galgalo A L (2010). *The genesis behind organizational success, superior performance and improved effectiveness: banking sector programs*. Government Printers, Nairobi, Kenya
- [19] Glinow N G (2011). *Organizational improvements mindset and behavior*, 3rd Edition. McGraw Hill, New York, USA
- [20] Gluek J (2010). *Human resources management*. Prentice Hall Publisher, Harlow, Essex England.
- [21] Gore J M (2013). *Issues and trends in the management of human resources and labormatters today*. Heinemann Education Publishers, New Jersey, USA
- [22] Gray F C (2008). *Current developments in the managing of labor - the application of electronic devices*. 7<sup>th</sup> Edition, Prentice Hall, Liverpool, England
- [23] Gulied, I M (2012). *Effectiveness Challenges facing the public sector banking organization in Kenya*. Government Printers, Nairobi, Kenya.
- [24] Haines G (2010). *Technology and employee appraisal and remuneration*. Prentice Hall Publishers, Upper Saddle River, New Jersey, USA
- [25] Hall J (2009). *Foundations of organizational building through effective human resources management principles and practices*, 2nd Edition, Pearson International, Geneva, Switzerland
- [26] Harrison T P (2009). *The benefits of enterprising technological application in resources management and development- the human resources case*. Pearson Education Limited, Harlow, Essex, England
- [27] Hassan K M (2011). *Banking sector effectiveness and labor issues in Africa: The Kenya scenario*, East African Publishers, Nairobi, Kenya
- [28] Hellriegel TN (2012) *HRIS decision perspectives and stakeholder commitments and motivation: The global scenario*. Kogan Page Limited, London, UK
- [29] Hitt H (2013). *Organization design and effectiveness through sound strategic human resource management practices*. San Francisco Publishing Co. Ltd, CA, USA
- [30] Holt K L (2012). *Achieving overall organizational success through technology- the ICT effect*, Pearson International, Geneva, Switzerland
- [31] Honda J P (2012). *Performance and effectiveness management issues; the human competency concern*, McGraw Hill International, Boston, USA
- [32] Hussein K M (2012). *The importance of computer technology in engineering the human resources*, Long Man Publishers, Nairobi, Kenya
- [33] Ibrahim, H (2010). *Personnel and human resources management practices in the public sector organization – the global scenarios, international dimensions*. Heinemann Education, Publishers
- [34] Kamau P M (2010). *The Banking Sector and Consumer Awareness Programs- The Use of Technology*: Government Printers, Nairobi, Kenya
- [35] Kamau, J P (2013). *The domestic issues in the provision of banking services*, Long Man Publishers, Nairobi, Kenya
- [36] Khaemba (2012). *Factors affecting employee performance among the public and private organizations in Kenya*. The IHRM Press Centre, Nairobi, Kenya

- [37] Khan K R (2013). *The capabilities of sound performance and effectiveness management programs to service provision firms and organization*. Pretoria state university press, Pretoria, South Africa
- [38] Khan, K R (2012). *The labor and employees problems at work*. Pretoria state university press, Pretoria, South Africa
- [39] Khulecho, P M (2013). *The management of learning and appraisal functions of human resource, domestic and international dimensions*. Long Man Publishers, Nairobi, Kenya.
- [40] Kihara M W (2013). *Technology as a resource in services offerings- financial sector dimensions*. East African Publishers, Nairobi, Kenya
- [41] Kimani T (2013). *Reasons behind the success of the banking sector in Kenya*. Government Printers, Nairobi, Kenya
- [42] Kiprono S (2013) *Results of effectiveness through sound technological applications*. Longman Publishers, Nairobi, Kenya
- [43] Koontz Z W (2012); *Management in the 21st century* Pearson International, Geneva, Switzerland
- [44] Kovach, Kenneth. , Hughes, Allen. , Fagan, Paul. & Maggitti, Patrick. (2002). *Administrative & strategic advantages of HRIS*. Employment Relations Today, Vol. 29, No. 2. 2002. pg. 43-48
- [45] Lucy T (2010). *Management information systems*. Prentice Hall Publishers, Upper Saddle River, New Jersey, USA
- [46] Mathis N M (2012). *Employee learning and decision strategies and organizational performance*. Heinemann Education Publishers, New Jersey, USA
- [47] Mathis, R. L., & Jackson, J. H., (2010). *Human resource management*. (13th Ed.). South-Western College Pub.
- [48] Meyer P (2010) *effecting appropriate Organizational behavior, through sound appraisal and measurements practices 6th Edition*. McGraw Hill International, Boston, USA.
- [49] Mondy R W (2012). *Strategies of effective human resources management: aligning resources to technology*. Pearson International, Geneva, Switzerland
- [50] Mullins, L J (2007). *Management and Organizational Behaviours 7<sup>th</sup> Edition*. Pearson Education Limited Edinburgh Gate, Harlow, Essex, Cm 20 2je England.
- [51] Mwangi P N (2012). *The modern requirements in successful management of productivity and effectiveness concerns*. Uzima Publisher, Nairobi, Kenya
- [52] Nchengu G & karimi J (2013). *Redesigning the Kenya banking programs through sound human resources managerial philosophies*. KAM printing press, Nairobi, Kenya
- [53] Nicholas G (2011). *Factors influencing the employee and labor developments approaches and perspectives*. Prentice Hall International, San Diego, USA.
- [54] Nyoike, K M (2011). *Successes And Failures of Public Sector Organizations and Institutions among East Africa states*. East African Publishers, Nairobi, Kenya
- [55] Odhiambo P N (2012): *Difficulties in managing public sector organizations*. East African Publishers, Nairobi, Kenya

- [56] Odhiambo, T O (2011). *Symptoms of poor banking services among the private sector banking organizations*, KAM Printing Press, Nairobi, Kenya
- [57] Odingola, O A (2013) *Challenges facing the public organizations: Lack of technological Know-how*, KAM printing press, Nairobi, Kenya
- [58] Odunga W (2012). *Kenyan banking sector management programs and reforms; managing through technology*, Rongo University Press, Rongo, Kenya
- [59] Ogola B O (2012). *Labor problems in Africa*. University Press Centre, technical university Kenya.
- [60] Okafor A J (2013). *Coordinated employee development through learning*, Abuja International Press Centre, Abuja, Nigeria
- [61] Okechukwu PA (2012) *HRIS adoption and associated problems in Africa*. Abuja International Press Centre, Abuja, Nigeria.
- [62] Okelo P O (2012). *Productivity improvements among public sector organization through human resources appraisal and development strategies and programs*. East African Publishers, Nairobi, Kenya
- [63] Okemwa, PG (2012) *computer services and resultant outcomes*, Uzima publisher, Nairobi, Kenya.
- [64] Okibue, HB (2013) *The Ugandan banking Operation and Practices: An introductory guide*. East African Publishers, Kampala, Uganda.
- [65] Okumu S (2011). *Challenges in the application of computer technology in the Third World Countries: A Kenya perspective*. Maseno University Printing Section, Kisumu, Kenya
- [66] Oluyede, DJ (2013). *The doctrine of information processing and sharing through computer technology, the advantages and disadvantages* Abuja International Press Centre, Abuja, Nigeria.
- [67] Omari, AM (2009). *Underdevelopments in the rural areas in Kenya*. East African Publishers, Mombasa, Kenya.
- [68] Ondieki BO (2012). *Emerging perspectives labor and money sectors in Kenya, attitudes and perceptions*, 7th Edition. Prentice Hall, Pearson Education, Harlow, England
- [69] Owino PH (2010): *Organizational effectiveness practices: the Kenyan ideologies*, Maseno University Printing Section, Kisumu, Kenya
- [70] Planket N (2011). *Strategic human resource management and development*. Harcourt College Publishers, Philadelphia, New York, USA.
- [71] Post F (2004). *The Benefits Of employee Training and learning Programs: A Performance Perspective*. Pearson Education Harlow Liverpool, England
- [72] Rao R (2013). *The application of computer technology management in medium scale organizations- the effective management of human resources*. Pearson international, New Delhi, India
- [73] Robbins MR (2008). *Organizational behavior, modification and modeling*. Prentice Hall International, San Diego, USA

- 
- [74] Sabalala HC (2011). *The Kenya human resources practices: An introductory guide*. East African Publishers, Nairobi Kenya
- [75] Schermerhorn DH (2011). *The capabilities and limitation of use of technology in organization reengineering*. McGraw-Hill International, New York, USA
- [76] Slocum M (2005). *Computer application in human resources management and the law*. Pearson international, New Delhi, India
- [77] Stokes Z (2009). *Causes and effects of accidents in the oil sector- lack of technological innovations practices* McGraw-Hill International, New York, USA
- [78] Sweetney A (2010). *Human Resources Management For successful Managers* Heinemann Education, Publishers. New Jersey, USA.
- [79] Taylor CK (2009). *The philosophies associated with better use of computer technology today*. Prentice Hall International, Boston, USA.
- [80] Tobiang ER (2009). *Gaining commitments and competitiveness through application of modern technology in east Africa, the Ugandan scenario* east African publishers, Entebbe, Uganda
- [81] Upenda OD (2012). *Strategies for efficient labor utilization with results*. Longman Publishers, Nairobi, Kenya
- [82] Wangusu P (2011). *Techniques of technology and implementation for sustained performance and effectiveness*. Government Printers, Nairobi, Kenya
- [83] Warui TP (2012). *Continuous performance improvements in the public and private Sector organizations*. College Publishing Press, Kenya Polytechnic University, Nairobi, Kenya
- [84] Woodman NY (2008). *Effectiveness and quality management principles and practice in the manufacturing Sector*. Prentice Hall International, San Diego, State University, CA, USA.