

THE APPLICATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY,  
(ICT) FOR THE PURPOSES OF HUMAN RESOURCE MANAGEMENT IN THE MINISTRY

OF EDUCATION: AN EXPLORATORY STUDY

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### **Abstract**

Human Resource Management plays a pivotal role in the management process of almost every organisation and has redefined the way in which people, the most valuable asset, are managed. Human Resource Management plays a key role in supporting continuous innovation and new Information and Communication Technologies can enable this process. One notes that ICT is at the cornerstone of the growth, development and enhancement of this field. The growth of the application of ICT tools and appliances has been pivotal in becoming a propellant of organisations to greater heights, an organisation which is able to harness this powerful tool is able to soar to greater heights in both performance and efficiency.

Henceforth, this paper explores the extent to which ICT has made an impact to the practice of Human Resource Management in the Namibian Public Sector with the main focus being the case of the Ministry of Education. A mixed methods approach was used in the study where interviews and questionnaires were utilised to draw data for this study. The respondents emanated from a population of Human Resource personnel in the various departments of the Ministry of Education. The key findings reveal that there is a prevalent opinion that Human Resource Information Systems are used in the Namibian Public Sector, specifically the Ministry of Education but to a lesser extent, one notes that due to ineffective exposure to Information and Communication Technology tools and instruments in the realm of Human Resource management in which such systems are not yet operational in this regard. Moreover, the study discovered that, there is a dearth of the use of Information and Communication Technology in the Human Resource Management in the Ministry of Education. Nevertheless, the study showed that although the application of ICT in the realm of Human Resource Management is low, however based on the researcher's findings there is commendable success being achieved in this regard.

The outcome of this study showed that, there is a lack of the application and use of Information and Communication Technology tools, appliances and tools for the purposes of Human Resource Management in the Ministry of Education, however as was shown in the study that the application of ICT tools and harnessing this instrument will bring a reformation, redefinition and a high level of quality to the Human Resource Management in the Namibian Public Sector specifically in the Ministry of Education.

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May the Lord richly bless you.

**Dedication**

I would like to dedicate this thesis to Mr Robert and Mrs Martha Taruwona, you are my backbone and the reason for my existence, I owe you everything and to all Human Resource Practitioners, may this study spur new thinking in the realm of Human Resource Management.

**Declarations**

I, Gamuchirayi Alyson Taruwona, declare hereby that this study is a true reflection of my own research and that this work, or part thereof has not been submitted for a degree in any other institution of higher education.

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## **Acronyms**

**DSS** – Decision Support Systems

**HR** – Human Resources

**HRIS** – Human Resource Information System

**HRM** – Human Resource Management

**ICT** – Information and Communications Technology

**IT** – Information Technology

**MoE** – Ministry of Education

**MIS** – Management Information Systems

**NDP4** – National Development Plan 4

**NMICT** – Namibia Ministry Information and Communications Technology

**PA** – Public Administration

**R&D** – Research and Development

**SACMEQ** – Southern African Consortium for Monitoring Education Quality

**USA** – United States of America

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## **CHAPTER 1: INTRODUCTION AND ORIENTATION OF THE STUDY**

### **1.1 Orientation of the study**

HRM plays a pivotal role in the management process of almost every organisation and has redefined the way in which people, the most valuable asset, are managed. HRM plays a key role in supporting continuous innovation and new Information and Communication Technologies can enable this process. According to Nel, Werner, Haasbroek, Poisat, Sono & Poisat (2008, p.7), “[h]uman Resource Management is the purposeful action of the Human Resource department, aimed at assisting functional managers in the optimal application and utilisation of the human resources under their control, in accordance with official organisational policy.” The researcher’s main motivation for pursuing this study was to find out the extent to which ICT has made an impact to the practice of HRM in the Namibian Public Sector with the main focus being the case of the MoE.

More so, the researcher wanted to critically analyse the nature of Information and Communications Technology in relation to HRM functions in the MoE. One notes that, the fast pace of technological advancements, as perpetuated by the advent of HRIS has gained increased impact and relevance among both scientific and applied research. According to Kavanagh and Thite (2009, p.103), “[h]RIS are used to acquire, store, manipulate, analyse, retrieve and distribute information regarding an organisation’s human resources.” More so, Bruce (2014), notes that HRIS are advantageous to the smooth operation of any organisation, as they allow for integration of data, through prudent reporting and analysis capabilities, internal evaluations and audits; improved accuracy in the entering and manipulation of data in applications such as payroll systems, training

packages to mention a few. One notes that, the incorporation of HRIS systems in an organisation ensures that organisations operate from a vantage point of efficiency, effectiveness, cost effectiveness, and eliminate unnecessary wastage of resources through databases which are not updated, containing ghost employees. Henceforth, this study investigated the relationship between ICT and the traditional role that HRM plays in the Namibian Public Sector.

Ndirangu (1996) embarked on a study of a similar focus in Zimbabwe and suggested that in the last couple of years, there has been a move towards implementing computerised MIS and DSS within organisations. Some of the effort in this area has been manifested through the implementation of computer-based HRIS for streamlining personnel records keeping and recruitment processes. A number of key organisations and institutions particularly in both advanced industrial as well as developing countries now have in place various forms of computer based HRM Systems.

One notes that, the public sector is lagging behind when it comes to implementing and adopting computerised management information systems and HRIS within its institutions, hence offering the general public lacklustre and poor services which in turn handicaps it and stifles any chance of achieving its vision of becoming a knowledge based economy which ICT at its core. Hence this study therefore focused on exploring the relationship between HRM and ICT in the MoE.

Moreover, a notable number of studies have been conducted in both Uganda and Zimbabwe with regard to HRIS; such as by Ndirangu (1996) and Kitoogo (1999) which have explored the phenomena of HR Information Management Systems and its impact on HRM. However, in the specific context of Namibia the relationship between ICT and HRM remains unexplored. There is therefore a knowledge gap that this study specifically addressed.

## **1.2 Statement of the problem**

According to the ICT policy of Namibia (2005) there is a drastic lack of the application of ICT for the purposes of HRM in the Namibian Public Sector. Furthermore, this policy points out that as Namibia moves towards the goal of being a knowledge-based economy, ICT is at the cornerstone of this vision. One notes that if this situation that is the lack of the application of ICT is not addressed, it will result in poor service delivery, inefficiency, incompetence, stagnation and so on. Therefore, the purpose of this study was to explore the application of ICT for the purposes of HRM in the Namibian Public Sector and recommendations were made to rectify these pertinent problems. (ICT policy of Namibia, 2005).

### **1.3 Research Objectives**

The main objective for this research was to explore the application of ICT for the purposes of HRM in the MoE

Specific objectives:

1. To investigate the extent to which HRIS are used in the MoE and their optimization to public service delivery.
2. To explore the effectiveness of ICT in the domain of HRM in the MoE.
3. To explore the nature of ICT tools and appliances that are used in HRM functions of the MoE.

### **1.4 Significance of the study**

The outcome of this research provided useful insight on the importance of the relationship between HRM and ICT. Furthermore, this research also highlighted the importance of integrating the use of modern technologies to augment the HRM function of the Namibian public sector particularly in the Ministry of Education. Moreover, this study was aimed at narrowing the knowledge gap that exists in this field of study by clearly highlighting the importance of the relationship of ICT and HRM.

### **1.5 Limitations of the Study**

The main limitation to principally execute this research was that of the nature of the research itself, especially the fact that the phenomenon of ICT is fairly new and there is a need for a paradigm shift from the traditional way of doing things to a paperless and “smart” approach to HRM, as propagated by proponents of advanced technologies.

## **1.6 Conclusion of Chapter**

This was an introductory chapter which outlined the research topic, research problem, aim and objectives, background of study and defined the boundaries of the research. The chapter also laid a foundation from which the rest of the chapters developed.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

The literature review is related to the subject of the application of ICT for the purposes of HRM in the ME. The literature reviewed included books, journals, case studies, online research papers and discussions. Based on the objectives and research questions raised in this particular study, the following concepts are discussed in this literature review: definition of HRM, definition of ICT, definition of the public sector and the linkages amongst these concepts. The chapter also examined existing theories and concepts on HRM and ICT. The conceptual framework was also discussed in this section.

### **2.2 Definition of Human Resource Management**

According to Nel, Werner, Haasbroek, Poisat, Sono & Poisat (2008) HRM is the function within an organisation that focuses on recruitment of, management of, and providing direction for the people who work in the organisation. HRM is the organisational function that deals with issues related to people such as compensation, hiring, performance management, organisation development, safety, wellness, benefits, employee motivation, communication, administration, and training. Moreover, HRM is also a strategic and comprehensive approach to managing people and the workplace culture and environment.

Carrell, Elbert, Hatfield, Marx, Grobler & Van der Schyf (2006) further supports this notion by noting that it involves making those decisions that define the overall mission and objectives of the organisation, determining the most effective utilisation of its resources, and crafting and executing the strategy in ways that produce the intended results. Effective HRM enables employees to

contribute effectively and productively to the overall company direction and the achievement of the organisation's goals and objectives.

Erasmus, Schenk and Swanepoel (2008) described HRM as focusing on aspects pertaining to all aspects that relate to, and interplay with the management of the work and the people doing it, of and in organisations. In addition, Mathis and Thite (2009, p.119), supported the notion above by defining HRM as “[d]esigning management systems to ensure that human talent is used effectively and efficiently towards accomplishing organisational goals.” With the growing importance and recognition of people and people management in contemporary organisations, strategic HRM has remained critically important in management thinking and practice. Strategic HRM derives its theoretical significance from the resource based view of the firm that treats human capital as a strategic asset and a competitive advantage in improving organisational performance. Reflecting the systems view, Kavanagh and Thite (2009) stress the importance of HR structure that is the systems, practices, competencies and employee performance behaviours that reflect the development and management of the firm’s strategic human capital for organisational performance.

From the above definitions it becomes clear that HRM plays a pivotal role in the smooth functioning of any organisation, through highlighting the importance of the management of the most vital resource in any organisation which is people. Hence with this premise, this research focused more on how this function can be enhanced through the application of ICT with special reference to the ME.

## **2.3 History of Human Resource Management**

One notes that, the complex subject of Human Resource has evolved through the centuries dating back to the 18th century it has developed and enhanced to be what it is today, the detailed history of its evolution is shown below:

According to Carrell, Elbert, Hatfield, Marx, Grobler & Van der Schyf (2006), in the last eighty years, both the scientific management and the human relations approach have appeared and declined; today what has popularly become known as the human resource approach:

### **2.3.1 Scientific Management**

This was the first radical change in what most owners and managers of the early 1900s generally considered the most effective means of managing employees that is constant supervision and threats of the loss of their jobs. Fredrick Taylor, Frank and Lillian Gilbreth and Henry Gantt believed that managers should take a scientific and objective approach in studying how work can be most efficiently designed. Taylor, the “father of scientific management,” and the others employed scientific data collection and analysis methods often found in research laboratories at that time. He emphasised the study of the motions required for each job, the tools utilised and the time required for each task. Then, based on scientific data instead of a boss’s subjective judgment, fair performance standards for each job could be determined. Workers who produced output above the standards would receive additional incentive pay.

However, the movement’s treatment of the worker as someone who is motivated solely by money – led to problems. As such, the scientific management approach resulted in work methods and techniques that showed great concern for employee output but little concern for the employee satisfaction. So-called time and motion studies replaced “rule of thumb” work methods with the

“one best way” to perform a task. Proponents of scientific management are quick to point out that the average turn of the century worker had little formal education and few skills or abilities that could be applied to organisational problems.

Moreover, one notes that during this era, as cited by Carrell, Elbert, Hatfield, Marx, Grobler & Van der Schyf (2006), the personnel departments had the traditional responsibilities of recruiting, selection, training and health and safety. But the main focus of their activities was the implementation of scientific management techniques; for instance the personnel staff conducted time and motion studies and fatigue studies, performed job analyses, prepared job specifications and created wage incentive programs. During this period, many personnel departments also actively supported welfare programs that addressed the needs of the workers; holidays, personal hygiene, job training, canteens, company housing and recreational programs. Such welfare programs generally reflected the paternalistic attitude of management common at the time; “we know what is best for you”. But primarily for that reason, the popularity of employee welfare programs declined internationally.

### **2.3.2 Human Relations**

The researcher notes that, due to the decline of the scientific management era, this ushered in the human relations age, according to Carrell, Elbert, Hatfield, Marx, Grobler & Van der Schyf (2006), during the 1930s and 1940s, with impetus provided by the classic Hawthorne studies in the United States of America, management’s attention shifted from scientific management to human relations. The Hawthorne studies demonstrated that employee productivity was affected not only by the way the job was designed and the manner in which employees were rewarded economically but also by certain social and psychological factors. Hawthorne researchers Elton Mayo and F.J

Roethlisberger discovered that employees' feelings, emotions and sentiments were strongly affected by such work conditions as group relationships, leadership styles and support from management. And those feelings could, in turn have a significant impact on productivity. Thus, it was asserted that treating employees with dignity would both enhance employee satisfaction and enable the achievement of higher productivity. The shift to human relations was also influenced by the growing strength of unions all over the world during this period.

One also notes that, the Hawthorne studies were an effort to determine what effect hours of work, periods of rest, and lighting might have on worker fatigue and productivity. These experiments constituted one of the first cooperative industry-university research efforts. As the studies progressed, however, it was discovered that the social environment could have an equivalent if not greater effect on productivity than the physical environment.

One is of the opinion that, the human relations approach was no doubt instrumental in improving the working environment of many workers, but it only achieved minimal success in increasing worker output and enhancing job satisfaction. The lacklustre performance of the approach is attributable to the following:

The approach was based on an oversimplified concept of human behaviour in an organisational setting: the notion "a happy worker is a hard worker", generally presented to management is an untested hypothesis, is now recognised to be valid for only part of the workforce.

The approach failed to consider the concept of individual differences. Each worker is a unique and complex person with different wants, needs and values. What motivates one worker may not motivate another.

The approach failed to recognise the need both for job structure and for controls on employee behaviour, and it largely neglected the importance of procedures, standards and work rules in guiding employees toward the goals of the organisation.

### **2.3.3 Human resource approach**

According to Nel et. al (2008), the focus of HRM lies in the integration of HRM strategy into the global strategy of the organisation, because the world has become a global marketplace. This approach has been needed for a long time, since human resources are the only dynamic production factor an organisation has, and it is also the only factor that reacts when acted upon. The focus is thus on managing people within the employer- employee relationship. Staff is, therefore the key factor to success of an organisation, since effective utilisation of the resource results in a competitive advantage and optimises shareholder value. It also means that employees need to be encouraged to reach their potential and to have effective quality of life and job satisfaction. Therefore attracting, retaining and developing the right people forms a critical focus for effective organisation achievement. In view of the above, according to Stone (2005), “[h]uman resource management involves the productive use of people in achieving the organisation’s strategic objectives and the satisfaction of individual employee needs.”

According to Carrell, Elbert, Hatfield, Marx, Grobler & Van der Schyf (2006), the human resource approach is relatively new in the management of people. The term became popular in the 1970s as research in the behavioural sciences showed that managing people as resources rather than as factors of production, or as human beings who act solely on the basis of emotions, could result in real benefits to both the organisation and the employee.

One can say that, the history of HRM has progressed through the ages from times when people were ostracized in the work place to the modern environment where people are viewed as assets to any organisation and are treated accordingly. The Human Resource function will have to adapt with the times as staff become more dynamic and less limited in their roles and as the advent of modern technologies further lightens their work burden and promoting efficiency and effectiveness. Hence the motivation of the study was to highlight the importance of integrating modern technologies with Human Resource Management to further alter the Human Resource function, and propel this function to greater heights.

One can further argue, and say that the Human Resource function is of paramount importance as it accentuates people as the major propellant of activity in any organisation, however people alone are limited as processes become more dynamic and challenging, it is through the adoption and application of modern ICT tools and appliances such as the integration of payroll systems, decision support systems, HRISs can one keep abreast with the shifting times and become effective, efficient and relevant, unlike a lack of these tools and appliances, thus through this argument one can attest this study justifiable.

#### **2.4 Definition of Information and Communication Technology**

According to ICT (2016), ICT is often used as an extended synonym or as an umbrella term for IT, but is a more specific term (i.e. more broad in scope) that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit and manipulate information.

The term ICT is also used to refer to the convergence of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the telephone network with the computer network system using a single unified system of cabling, signal distribution and management.

However, ICT has no universal definition, as the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis. The broadness of ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form, for example personal computers, digital television, email, robots; therefore, one can say that ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. More importantly, ICT delineates how these various forms of digital mediums interact with one another to, for example, meet a specified goal.

Moreover, *ICT in Education (2015)*, notes that, ICTs stand for information and communication technologies and are defined, as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information.” These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony.

In recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. But ICTs are more than just these technologies; older technologies such as the telephone, radio and television, although now given less attention, have a longer and richer history as instructional tools. For instance, radio and television have for over forty years

been used for open and distance learning, although print remains the cheapest, most accessible and therefore most dominant delivery mechanism in both developed and developing countries.

From the above statements and definitions, it is evident that ICT plays a major role in transforming the way in which basic operations are executed, in that it has brought a reformation to the way information is handled, stored and manipulated to enhance the efficiency and effectiveness of management.

According to the NMICT policy for the Republic of Namibia (2009), “[i]CT has been instrumental to the creation of sustainable growth and development by countries in the last fifty years. The global economy is currently dependent and shaped by the benefits arising from ICT. The rapid development and commensurate convergence of the technologies utilized by the Information Technology, Telecommunications, Broadcasting and Postal sectors of the economy has created opportunities for growth in a new competitive space. From the perspective of a developing country, ICT is both a prerequisite for economic progress and a major potential contributor to economic progress. It contributes to limitless possibilities – with few boundaries - for all sectors of society (public sector, civil society and industry).” One notes that this research was aimed at focusing on the application of ICT for the purposes of HRM specifically in the ME.

One concurs with the above notion in that for all sectors of society particularly the public sector and in this case the ME is afforded limitless possibilities in terms of excellence of service delivery and service quality through the application of ICT tools and appliances as ICT acts as a lubricant in smoothing all the kinks and creases in the public sector engine, through the symphony and harmony produced as ICT is applied to the execution of HR roles in the ME.

## **2.5 The Role of Information and Communication Technology in Human Resource Management**

It is clear that HRM plays a pivotal role in the smooth functioning of any organisation, as it acts as a mainstay that upholds all processes and operations in the organisation, however sheer human effort alone cannot make this function reach its full potential, but it is through the support and application of ICT can this function reach the epitome of its full potential.

Stredwick (2005), suggests that rapid changing technologies have probably had the biggest impact, in a few short years, the computer has fundamentally changed jobs. The spreadsheet has eliminated huge numbers of jobs. The work that had previously been carried out by a roomful of HR consultants to sort out and shortlist candidates is easily performed by a computer programme. Information technology goes further than just making offices more productive. Organisational charts and rules are ignored by the cable that links employees and information now flows more freely than ever before. Employees can now be linked in buildings around countrywide units and around the world. Networking has moved beyond the technical definition to a way of employees working together, often in different locations and many from a home base. Technology also leads to shorter and shorter cycle times, so urgency, time directed performance and immovable deadlines are part and parcel of employee's normal working environment. The need for employees to work flexibly is crucial in this respect. They need to be able to move quickly from one task to another, to be able to service their own areas and to change their working hours and practices.

One notes that Stredwick (2005), has hit the bull's eye in the notion above, as ICT has indeed revolutionised the way in which business processes, HR functions are performed, decisions are made, to mention a few. The application of ICT has made it possible to for HR functions and roles to be executed in an impeccable manner through its simple, efficient and effective methods,

through its array of tools and appliances which perpetuate this occurrence. Hence one is of the motivation that the application of ICT is a major propellant in the success of execution of HR functions in any public sector organisation, in this case the ME.

As explained by Kavanagh and Thite (2009), the increased use of technology and the changed focus of the HRM function does in this regard add value to the organisation's product or service. However, in determining the strategic fit between technology and HR, it is not the strategy per se that leads to competitive advantage but rather how well it is "implemented", taking into account the environmental realities that can be unique to each organisation and, indeed, between units and functions of the organisation.

Kavanagh and Thite (2009, p.119) note that, "[t]echnology makes it happen but it is an ever-demanding customer that drives the process. Today's customers are better educated, more informed and have less time to wait about either for the service that is not good enough or the new products that they can afford and want today. This is partly because, women, who have always taken more purchasing decisions, spend more time working now. A faster response, higher quality and a heightened, more personalised and sensitive to their needs and other customer demands while retaining accessibility, functionality and reliability."

From the above, this study therefore denotes that ICT plays a crucial role in the management of HR and that it aids in the effective management of human capital, through the application of its various tools and appliances. However, the impetus of this study was centred on uncovering the link or relationship between HRM and ICT in the public sector and how this relationship supports not only the effective functioning of HRM in the ME, but also in public service delivery in general.

## **2.6 The use of new ICTs in HRM to foster continuous innovation in public administration.**

Di Paulo, Corso, & Gastaldi (2011) embarked on a study aimed at analysing the use of ICT in HRM to foster innovation and change in Italian Public Administration, a sector characterized by traditional organisational models and management styles that do not foster behaviours towards innovation and change. Their main purpose was to analyse the impact that ICTs can play within the HR processes of the Public Administration at local level.

Di Paulo, Corso, & Gastaldi (2011) noted that, PA is a critical environment, where traditional bureaucratic organisational models and management styles do not foster innovation and change. Moreover the PA is often characterised by low employee motivation, highly regulated and rigid HRM systems and more and more strict financial restrictions, all factors which represent barriers for innovation. It was therefore important to understand that the PA can achieve continuous innovation, through leveraging in particular on the combination of two key enabling factors: new HRM systems and new ICTs. In that evidence from the private sector showed how the combined use of these two levers influenced the organisational culture, the learning capabilities, and the process of knowledge management (Corso and Paolucci, 2001) thus increasing efficiency and, at the same time, innovation to satisfy both today's and tomorrow's demands of citizens.

More so Di Paulo, Corso, & Gastaldi (2011) note that, New ICTs can play an important role in enabling Continuous Innovation creating an environment that encourages people to learn and share knowledge - by aligning goals, integrating bits and pieces of information within and across organisational boundaries, and producing new knowledge that is usable by and useful to the organisation (Magnusson and Martini, 2008). According to Corso et al. (2008), new ICTs, such as

Intranets, Enterprise 2.0 and Collaboration Technologies, are changing organisations enabling a move from a unidirectional top-down and close working environment, to a more social creative and open one. ICT has become the “Virtual Workspace”, where employees can find what they need for working, learning and interacting with each other. In this sense Information and Communication Technologies have become tools for enabling new organisational models whose key features are: knowledge sharing, internal and external social networks and active involvement at all levels. This organisational models aim to openness and innovation through important elements such as collaboration, communication and empowerment (Corso et al., 2008).

One notes that, the study conducted by Di Paulo, Corso, & Gastaldi (2011), pertaining to the subject of using new ICTs in HRM to foster continuous innovation in the Italian public administration highlighted the following key points:

Firstly the research was aimed at highlighting the importance of the integration of new ICTs and new HRM systems in the Public administration’s Human Resource Departments, which they noted that the combination of these two can influence the organisational culture, learning capabilities and the process of knowledge management thus increasing efficiency, innovation and the general success of the organisation.

The study also focused on the effects of using ICTs in the main HR processes, in that what were the adverse impact of using ICT in the general HRM processes of the public administration.

The lack of the application of new ICTs was as a result of insufficient financial resources, difficulties in organisational change, problems of coordination and communication, to mention a few.

The moderate presence of organisational roles and structures focusing on IT within the HR Department, and their main focus on routine HR activities, further confirm that the HR Department priorities in the PA is still personnel administration and efficiency not in new ICTs

It is evident from the above key points that this study focused more on the integration of new ICTs and HRM systems in the Italian public administration so as to ensure and influence improved organisational culture, efficiency in the operation of HR functions, increasing effectiveness, improved innovation and so on. One notes that this study argued from the point of view of highlighting the integration of ICT and HRM systems so as to improve innovation and efficiency.

## **2.7 ICT Development and Its Impact on e-Business and HRM Strategies**

Moomal & Masrom (2015) embarked on a study aimed at providing an analysis on the ICT development and its impact on e-business and HRM strategies in the Public organisations of Pakistan. According to Moomal & Masrom (2015) ICT creates globalization that affects the business environment and revolutionize the structure and performance of the Public and Private sector organisations around the globe. Its frequent advancement affects the business strategies and management functions of the human resource within the organisations. Many researchers found that the development of ICT and its impact on effective e-business and HRM strategies need intense focus from the scholars in developing countries including Pakistan. Today, we are in the world where ICT has been penetrated into almost all activities of human beings. Theoretical and empirical studies have revealed the necessity to adopt and exploit the outcomes of ICT in various organisations. While, internet usage that causes the frequent improvement in ICTs also have been addressed by various scholars. In consequence, ICT and its impact in the social, economic and

personal development has become the area of interest for many scientific researchers during recent decades.

More so, Moomal & Masrom (2015) noted that, it is believed that HRM is the most crucial and core asset for the development of any organisation. On the other hand, ICTs enhanced the competitiveness of HR of the organisations and play an influential role in the functioning of the organisations by coordinating the work environment as it plays major role in human development itself.

Organisations and the HRM strategies are almost changed and positively affected by ICT ranging from paperless office, time attendance, databanks, automating work practices, tele working, transaction processing, reporting and tracking applications, e-recruiting, using internet for staffing, employee development using internet and others . In general, the development of ICT in the modern world has greatly influenced the e-business environment and HRM within the organisations. On the other hand, ICT has been determined as a major technological innovation for developed countries. There has been little research on ICT usage in developing countries due to various legal, cultural and regulatory elements that limit technological capabilities, reduce R&D and excessive use of foreign technology. Thus, due to lack of research on ICT's impact in HRM, in Pakistan, this research explored the current state of ICT development and its impact on HRM in the case of the ME.

One notes that, the study of ICT Development and Its Impact on e-Business and HRM Strategies in the Organisations of Pakistan by Moomal & Masrom (2015) focused on the premise of uncovering the impact of ICT development on e-business and HRM strategies in the Public sector

organisations of Pakistan. One notes that this study drew a conclusion that there is little or no significant impact of ICT development on e-business and HRM strategies in the Public Sector organisations of Pakistan, this was because of awareness, annual income rate, social and cultural influences.

Due to the literacy rate of Pakistan being almost 55%, this may affect the e-business of the country in a way that most of the population is not fully aware of the innovative technologies used by other developing countries. One notes that, in the case of Namibia, it boasts a 76.5% literacy rate, according to the UNESCO statistics database (2016), which allows most adults to comprehend the complexities of innovative technologies, which if they are applied correctly especially in the realm of HRM they would yield favourable success in terms of efficiency, effectiveness and quality of service delivery in the public sector, specifically in the case of the ME.

## **2.8 Impact of ICT and the HR function in the Namibian Education sector**

According to the NDP4 main document, “Since independence in 1990, Namibia has invested significantly in the education sector. Education has, in fact, received the lion’s share of the National Budget almost every year. Despite this, there is broad consensus in Namibia that the education system remains weak by international standards, and requires significant intervention as a primary priority for the future of the country. This view is supported by many businesses and industries as well as a number of top politicians and Government officials, including the President, the Prime Minister and the Minister of Education.

The problems associated with the education system are extensive, and range from a lack of quality to a lack of infrastructure and ICT - While some advances have been seen over the past 26 years, these have been limited. Many regard them as inadequate, in that they have not given the system

the reform it has sought. Since education, as with any training, is a direct skills transfer, it is critical that those with the immense responsibility of educating the nation, and of ensuring that skills are efficiently transferred, are in fact equipped to do so. One notes that, through the application of ICT tools and appliances one is placed in a position where the HR role is practiced in a dynamic and efficient way, which sets the educational system of Namibia apart.

One great challenge associated with education is the fact that it is a long-term investment, with results rarely seen overnight. Education requires continued outlay in both money and time and, thus, remains a public and private cost that is unlikely to disappear or dissipate over time. As such, it is important to ensure that we achieve the intended returns on these investments, so that this expenditure requirement remains manageable and its yields positive. A number of challenges have been identified in the education system, but these can be broadly grouped into two overarching categories, namely quality in the system across all layers and segments, and the mismatch between the demand for and supply of skills in the country. Since independence, the Namibian education system has often failed to deliver quality in its graduates. Issues surrounding the quality of education provision persist at practically every level and in almost every type of training institution. Passing standards are generally low, and the knowledge required to achieve these marks is often considered insufficient by global standards. Southern African Consortium for Monitoring Education Quality (SACMEQ) results show that Namibia spends significantly on education; however, the returns on its investment in the form of marks attained remain relatively low. Clearly, therefore, current and projected future demand for skills is poorly catered for by educational institutions.

According to the NDP4 document, Education is acknowledged to be the single most important aspect of human development, and a critical success factor for economic advancement and

increased equality, however there is a host of challenges that is hampering the education sector, such as a lack of quality, lack of infrastructure and lack of ICT, to mention a few. One notes that the aim of the NDP4 document positions the nation in a place where it is on track to achieve the nation's Vision 2030, where Namibia strives to become a knowledge based economy.

One notes that the NDP4 document, strives to focus on the execution of development strategies as well as monitoring and evaluating development. The Government recommits itself to its social contract with the Namibian people to achieve the intended national objectives. It is with this notion in my mind that made up the foundation of this research, in that it strove to uncover the extent to which ICT is applied in the ME for the purposes of HRM.

## **2.9 Conclusion of Chapter**

The aim of this chapter was to clearly articulate the literature and theoretical framework relevant to the study and also to critically analyse the literature. One notes that HRM is a powerful tool that exalts people the most important asset in any organisation, however to unlock the full potential of this powerful resource there is a desperate need for an application of ICT tools and appliances so as to ensure efficiency, effectiveness, delivery of quality services, amongst other reasons. This chapter principally displayed the knowledge gap that exists in this field where organisations are so accustomed to using their traditional methods which prove inefficient with the current dispensation of technology, hence one is of the opinion that when an organisation, in this case the ME has grasped the full potential of the application of ICT tools it is able to become more efficient, proactive and provide better quality services.

## **CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Introduction**

This chapter examined the methods the researcher used to collect data. Based on the need to gain a broader understanding of the relationship between ICT and HR in the ME and as was outlined in Chapter two, the study sought to explore the application of ICT for the purposes of HR in the ME. It pursued to show the research design, research instruments used in conducting the study, data collection and presentation procedures and methods of analyzing data. In this chapter the researcher outlined the methods one used to obtain information vital to the research as well as the methods one implemented in order to get access to the information.

### **3.2 Research design**

In this study the researcher used the mixed methods approach in order to properly interpret and provide a concise conclusion to the study elements, which were of a quantitative and qualitative nature which were to be put into consideration. The research design was built upon the premise of the research objectives which was to explore the application of ICT for the purposes of HRM in the ME, and the following specific objectives:

1. To investigate the extent to which HRIS are used in the ME and their optimization to public service delivery.
2. To explore the effectiveness of ICT in the domain of HRM in the ME.
3. To explore the nature of ICT tools and appliances that are used in HRM functions of the ME.

### **3.3 Population**

The population that was utilized for this study was based on the Human Resource department of the Ministry of Education, which comprised of four main Departments namely, Department of Schools/Formal Education, Department of Policy and Administration, Department of Lifelong Learning and the Department of Tertiary Education, Science and Technology. This study focused on 60 HR personnel from the above mentioned departments of the Ministry of Education. (ME payroll System)

### **3.4 Sample**

Sarantakos (2005, p. 153) states that “sampling is a procedure the researcher employs to extract samples for the study”. The selection of the population sample is expected to be representative. This enables the researcher to gain valuable information from the population sample and obtain data that are representative of the whole population.

From the 60 HR personnel mentioned above a sample size of 20 individuals were used as an appropriate representation to provide objectivity to the research. The following table shows the nature of the sample:

**Table 1: Nature of Sample.**

Name of Department	Total number of HR personnel in the department	HR personnel selected for the study (Non-Managers)	HR personnel selected for the study (Managers)
Schools/Formal Education	15	4	1
Policy and Administration	15	4	1
Lifelong Learning	15	4	1
Tertiary Education, Science and Technology	15	3	2

### 3.5 Research Instruments

The researcher used interviews and questionnaires. These two instruments provided the basis for the appropriate results being realized and ensured that the purpose of the research was realized.

The questionnaires comprised of various types of questions: closed ended questions with different options such as multiple choice questions, Yes or No questions, the other questions were open ended questions with spaces for the respondent to fill in. Interviews on the other hand helped the

study obtain more comprehensive information from the respondent than from questionnaires. Interviews were semi structured, where by the interviewer was asked pre-set questions.

### **3.6 Procedure**

The researcher used non - probability sampling procedure, mainly because it is a procedure synonymous with exploratory studies, moreover non probability sampling has a characteristic of being a purposeful driven sampling method, hence it will be sufficient in obtaining the results appropriate for this research. Judgmental sampling will be conducted. The researcher's technique were based on the judgments of the researcher. The questionnaires were used on the non-managerial HR personnel while the interviews were used on the managerial HR personnel.

### **3.7 Data Analysis**

After collecting data, the researcher went through the process of data analysis, by carefully analyzing the data collected for this research through the use of descriptive and interpretive analysis. These data were interpreted by classifying features, counting them then attempting to explain what was observed. The observation provided a concise depiction of the level of application of ICT for the purposes of HRM in Namibia. The researcher thereafter used interpretive analysis to analyse qualitative data which would have included opinions of different subsets of members (such as management versus ordinary members) in the ME. Microsoft excel was used to process and collate data which was used to present data in graphs, tables and pie charts.

### **3.8 Research Ethics**

The researcher ensured that the research results were handled in strict confidence and research participants were kept anonymous. The researcher also ensured that, participants' rights to decline to participate and to withdraw from the research once it has started, as well as the anticipated consequences of doing so were respected. More so, the researcher used, naturalistic observations through interviews, for which the disclosure of responses would not place participants at risk of criminal or civil liability or damage of reputation, thus confidentiality was held rigorously.

### **3.9 Conclusion of Chapter**

The purpose of this chapter was to define the methodology that was used to gather data for the research. The chapter described the research design, the research instruments and the sampling methods used in the study. The data collection plan and the data presentation and analysis procedures were also highlighted thus paving way for Chapter Four, where the presentation and analysis of gathered data was executed.

## **CHAPTER 4: DATA PRESENTATION AND ANALYSIS**

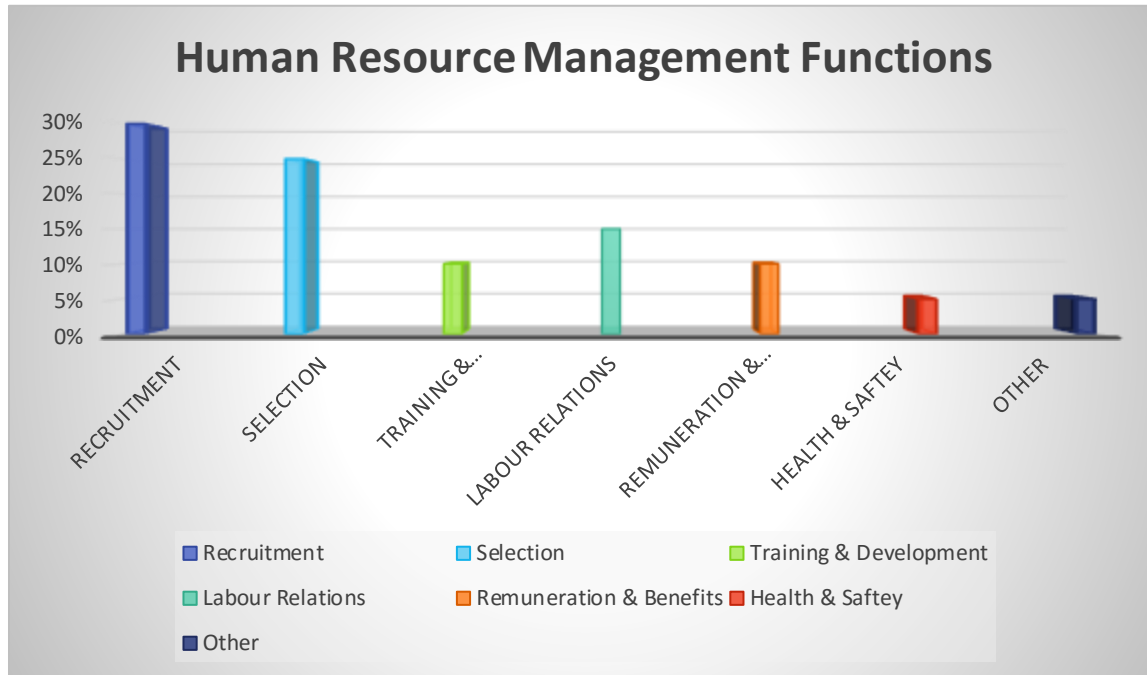
### **4.1 Introduction**

This chapter presents the results of the study. The study sought to investigate the application of ICT for the purposes of HRM in the MoE. The chapter presents data from interviews and questionnaires. The findings presented are informed mainly by the research objectives. The research objectives are listed below:

1. To investigate the extent to which HRIS are used in the MoE and their optimization to public service delivery.
2. To explore the effectiveness of ICT in the domain of HRM in the MoE.
3. To explore the nature of ICT tools and appliances that are used in HRM functions of the MoE.

#### 4.1.1 Respondents' respective HRM Functions

The respondents were asked to indicate to which function of HRM they practiced, and the results are shown in Figure 1 below:



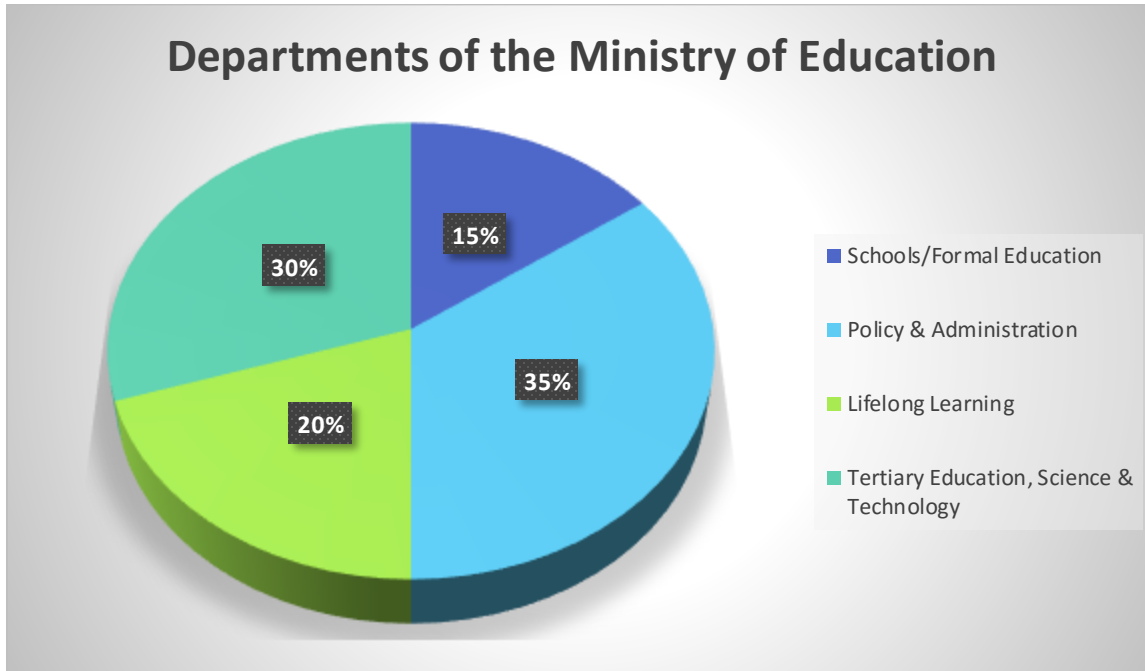
Source: Field data

**Figure 1: Human Resource Management Functions**

As depicted in Figure 1 above there is a fair distribution of respondents across the expanse of the Human Resource functions, the greater percentage of respondents are concentrated in the Recruitment and Selection functions with approximately 30% and 25% respectively.

#### 4.1.2 Departments of the Ministry of Education

The study was based on a case study of the HR Department of the ME, hence the respondents were asked to indicate to which department of the ME they belong to, the results are shown in Figure 2 below:



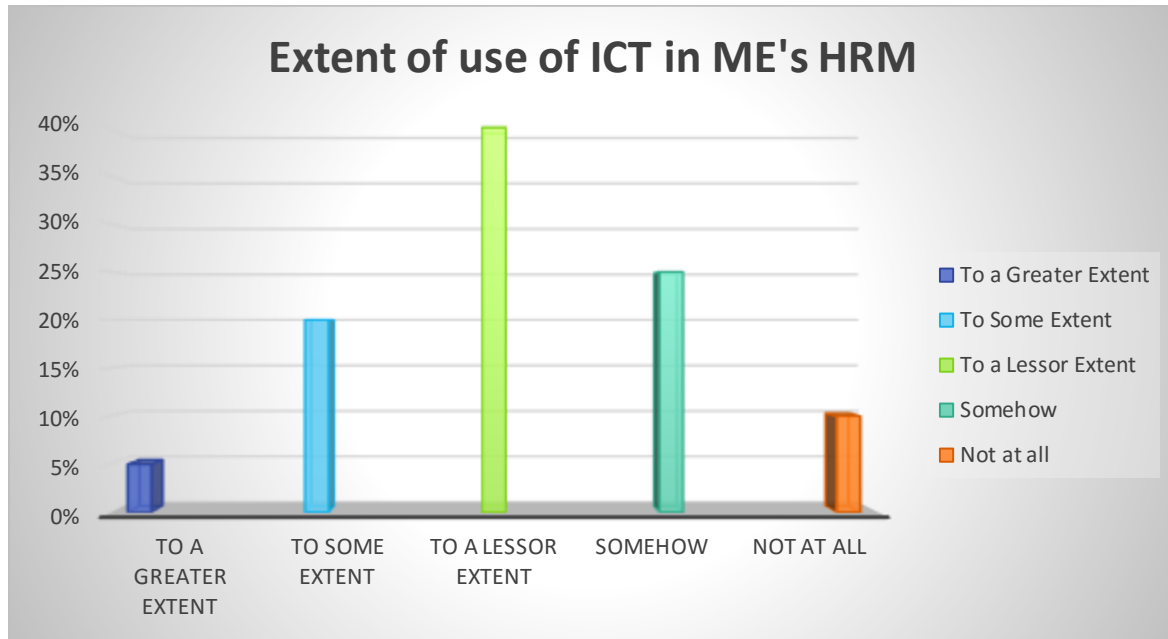
Source: Field data

**Figure 2: Departments of the Ministry of Education**

As illustrated in Figure.2 above the study pointed out that the majority of respondents who participated in the research belonged to the Policy & Administration and Tertiary Education, Science & Technology departments with 35% and 30% respectively. A considerably number of respondents belonged to the Schools/Formal Education and Lifelong Learning with 15% and 20% respectively.

### 4.1.3 Use of Information and Communications Technology in the Ministry of Education

This study was aimed at investigating the extent to which ICT is used in the ME for the purposes of HRM, this information is reflected in Figure.3 below:



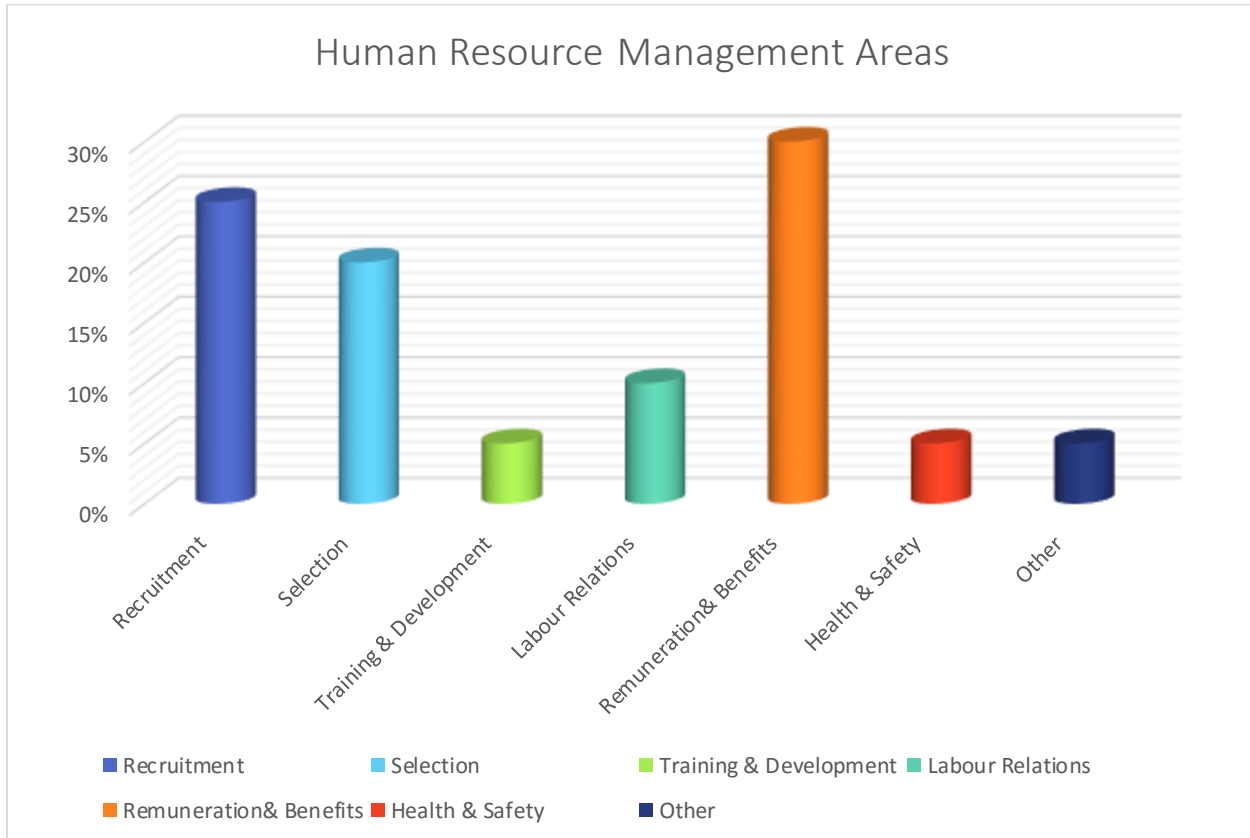
Source: Field data

**Figure 3: Use of ICT in Ministry of Education HRM**

As shown in Figure.3 above the research shows that a large percentage of the respondents indicated that the use of ICT is not widely used in the HRM practices of the ME this is evidently reflected by the statistical figure of over 65% combined, however on the other hand, about 25% of the respondents indicated that there is a considerable use of ICT tools and appliances in the ME's HRM.

#### 4.1.4 Use of Information and Communications Technology in Human Resource functions in the Ministry of Education

The study also sought to find out the most prevalent HRM area in which ICT tools and appliances are mostly utilized, and the results are shown in Figure.4 below:



Source: Field data

**Figure 4: Human Resource Management Area**

As depicted in Figure.4 above, the research shows that Recruitment, Selection and Remuneration and Benefits areas decisively are the areas where the use of ICT tools and appliances are mostly used. Conversely there is a poor usage of ICT tools in the other four HRM areas which is shown statistically by a figure of less than 30% collectively.

#### **4.1.5 The use of ICT in specific Human Resource Management functional areas**

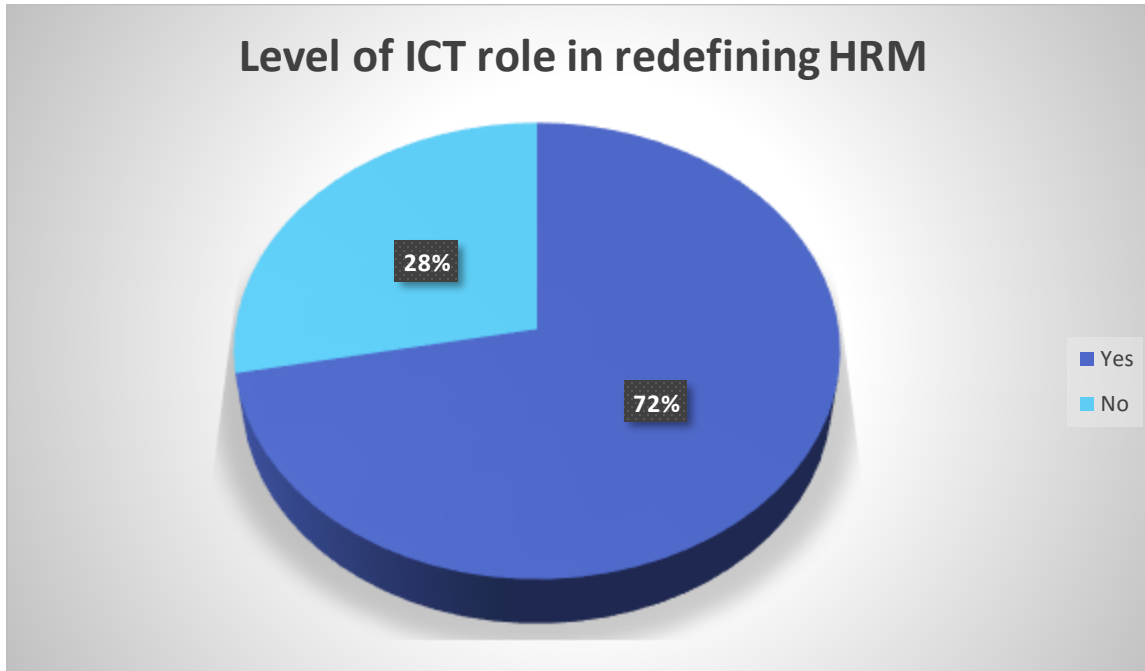
The respondents were asked to explain the specific uses that ICT aids them in their HRM functional areas. With reference to the above data, the Recruitment, Selection and Remuneration & Benefits functional area, mostly makes use of ICT tools in the following ways:

The HRM ICT tools can support hiring and retaining a high potential. It begins with launching the career website which is a very good promotional tool. The Employer can present all necessary information related to job, careers or personal development of each applicants there. One notes that, the advantage which companies should use via a career website is to have opportunity to apply for a job online. Additionally, a company can present information about corporate culture. Further, it can be connected to the internal recruiting track system which can help to HR generalist in communication with candidates to organize the selection processes. System should cover the whole application process, from position approval to candidate approach.

The HRM ICT tools can service the Remuneration and Benefits functional area through the provision of HRIS which categorically, sort, organise and effectively and effortlessly manage an organisation's payroll with little margin of error. More so these tools enable any HR Department to be competitive and up to par in terms of advanced technologies which lighten the burden of the crucial HRM Department.

#### 4.1.6 Role of the application of ICT in redefining Human Resource Management in the Ministry of Education

This study was also aimed at discovering the role that the application of ICT played in redefining HRM in the ME, this is shown in Figure.5 below:



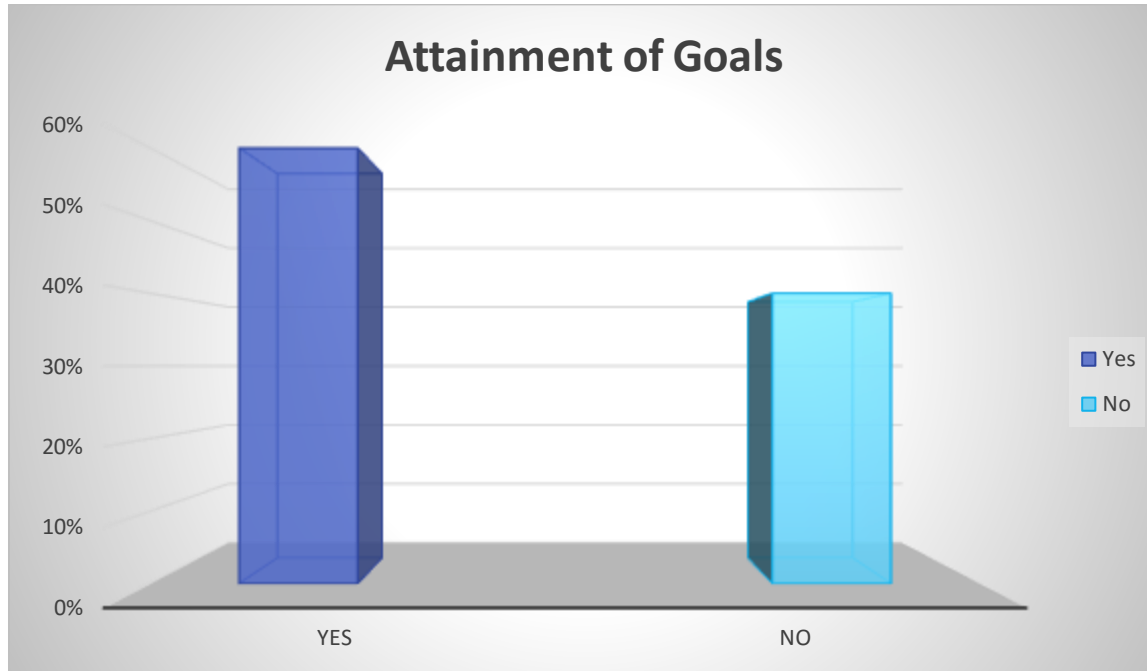
Source: Field data

**Figure 5: ICT role in redefining HRM**

As shown in Figure. 5 above 72% of the respondents were of the opinion that if ICT was applied it would redefine the HRM of the ME. However on the other hand 28% of the respondents indicated that the application of ICT does not play a major role in redefining HRM.

#### 4.1.7 The attainment of Human Resource goals through the use of Information and Communications Technology

The respondents were asked if in their opinion they thought that HR goals are efficiently achieved through the use of ICT tools, the responses are shown in Figure. 6 below:



Source: Field data

**Figure 6: Attainment of Goals**

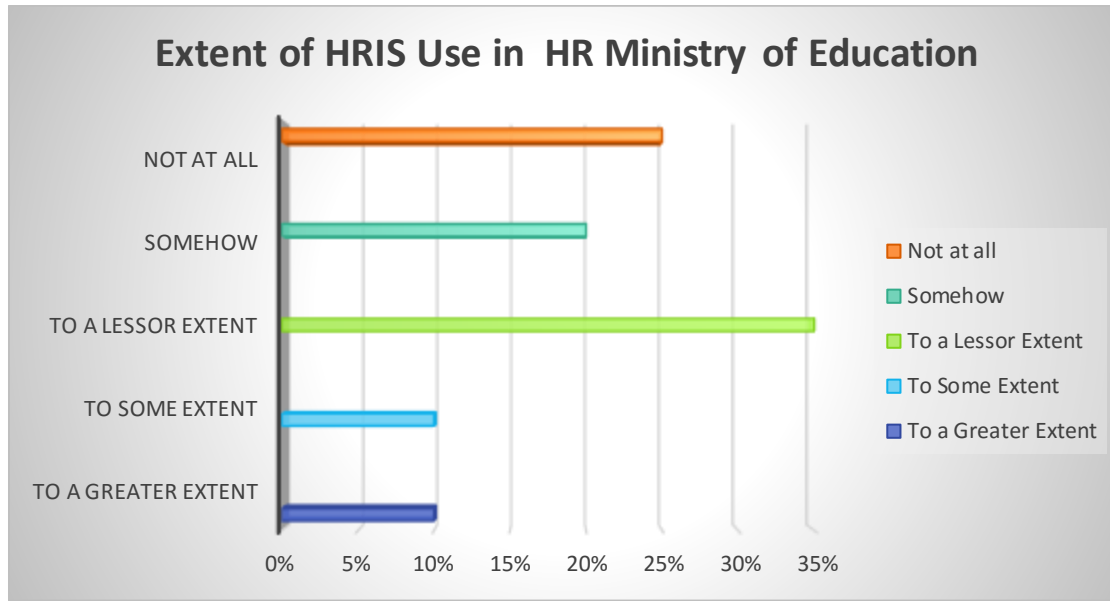
As shown in Figure.6 above 60% of the respondents are of the persuasion that HRM goals are efficiently achieved through the use of ICT tools and appliances, however on the other hand 40% of the respondents beg to differ with the above notion that HRM goals are efficiently achieved through the use of ICT tools and appliances.

#### **4.1.8 Achieving Human Resource goals through the use of ICT**

The respondents were asked to give reasons why they are of the opinion, whether they think that HRM goals are efficiently achieved through the use of ICT. With reference to the responses given in 4.1.7 one notes the majority of the respondents agreed with the notion, the main reason was that, ICT is a major driver in the reformation of any organisation, and hence the integration of these technologies and tools will aid the ME's HRM to achieve HR goals. Consequently about 40% of the respondents disagree with the notion, the main argument the respondents indicated was that they have not had much exposure with these new technologies, hence they revert to the traditional HR practices which give them a certain level of success.

#### 4.1.9 Human Resource Information Systems use in the Ministry of Education

The study also sought out to find out the extent to which HRIS are used in HRM in the ME, this is reflected in Figure.7 below:



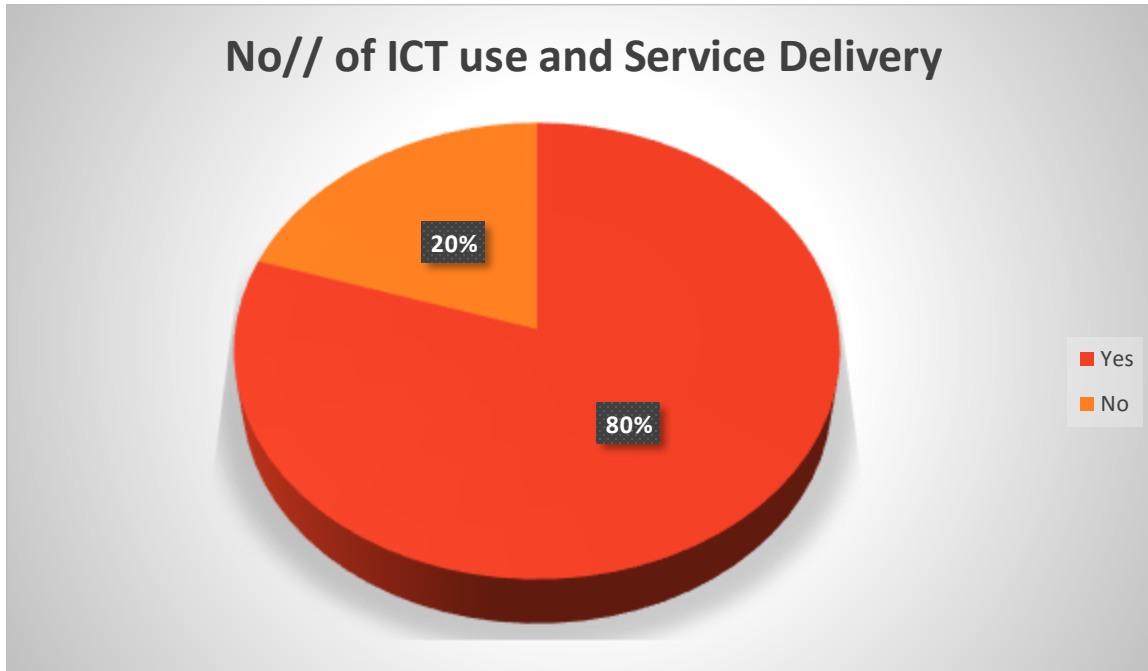
Source: Field data

**Figure 7: HRIS use in HR Ministry of Education**

As depicted in Figure.7 above, the study indicated that 35% of the respondents are of the opinion that HRIS are used in the HRM in the ME but to a lessor extent, more so 20% and 25% of the respondents agree with this notion by responding negatively to the notion. On the other hand there was a lackluster response in that approximately 20% of the respondents agree with the notion that there is great prevalence of the use of HRIS in the ME for the purposes of HRM.

#### 4.1.10 Information and Communication Technology and service delivery

The respondents were asked if in their opinion they think that the use of HRIS and ICT can aid the optimization of public service delivery in the realm of HRM, the results are shown in Figure. 8 below:



Source: Field data

**Figure 8: ICT and Service delivery**

As shown in Figure.8 there is an overwhelming response from the respondents that of 80% which agree with the notion, of that the use of HRIS and ICT can aid the optimisation of public service delivery in the realm of HRM. Conversely 20% of the respondents disagree with the notion of the use of ICT and HRIS aiding the optimization of public service delivery in the fraternity of HRM.

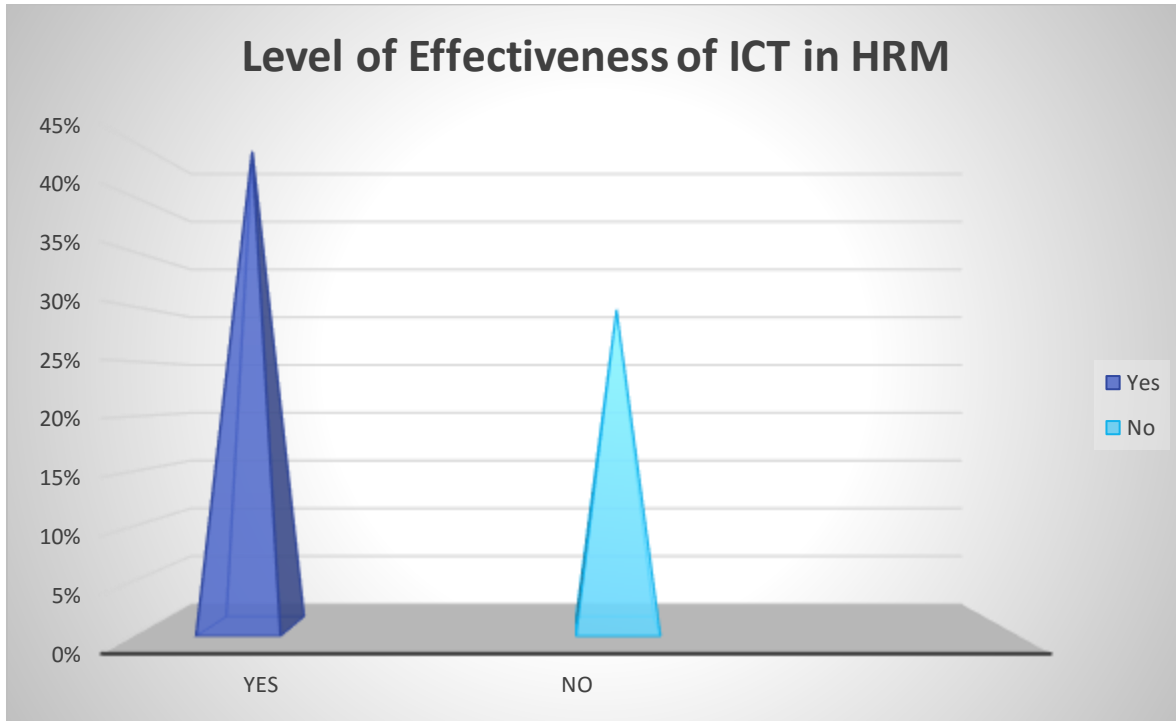
#### **4.1.11 Information and Communications Technology and Human Resource Information Systems use in optimising public service delivery**

The respondents were asked to give reasons why they think that the use of HRIS and ICT aids the optimisation of public service delivery in the realm of HRM. With reference to the data presented in 4.1.10 above it is evident that a considerable number of the respondents agreed with the above mentioned notion, one of the main reasons they came to this conclusion, was primarily hinged on the magnitude of importance of Technology being at the cornerstone of development of any organisation, especially organisations in the ME, hence by employing the use of ICT and HRIS, any organisation will be setting itself up for success specifically in the pinnacle of public service delivery.

However, on the other hand 20% of the respondents disagreed with the notion, that ICT as well as the use of HRIS aids the optimisation of public service delivery, in that many of the respondents who disagreed with the notion complained of the complexities posed by these systems, as compared to the traditional way of doing things, hence they concluded that these systems do not aid in any way to the optimisation of public service delivery in the realm of HRM.

#### 4.1.12 Effectiveness of Information and Communication Technology in the domain of Human Resource Management in the Ministry of Education

The study was aimed at exploring the effectiveness of ICT in the domain of HRM in the ME, this is reflected in Figure. 9 below:



Source: Field data

**Figure 9: Effectiveness of ICT**

As shown in Figure. 9 above 45% of the respondents indicated that the use of ICT is effective in the domain of HRM in the ME, while 30% of the respondents indicated that the use of ICT is not effective in the domain of HRM.

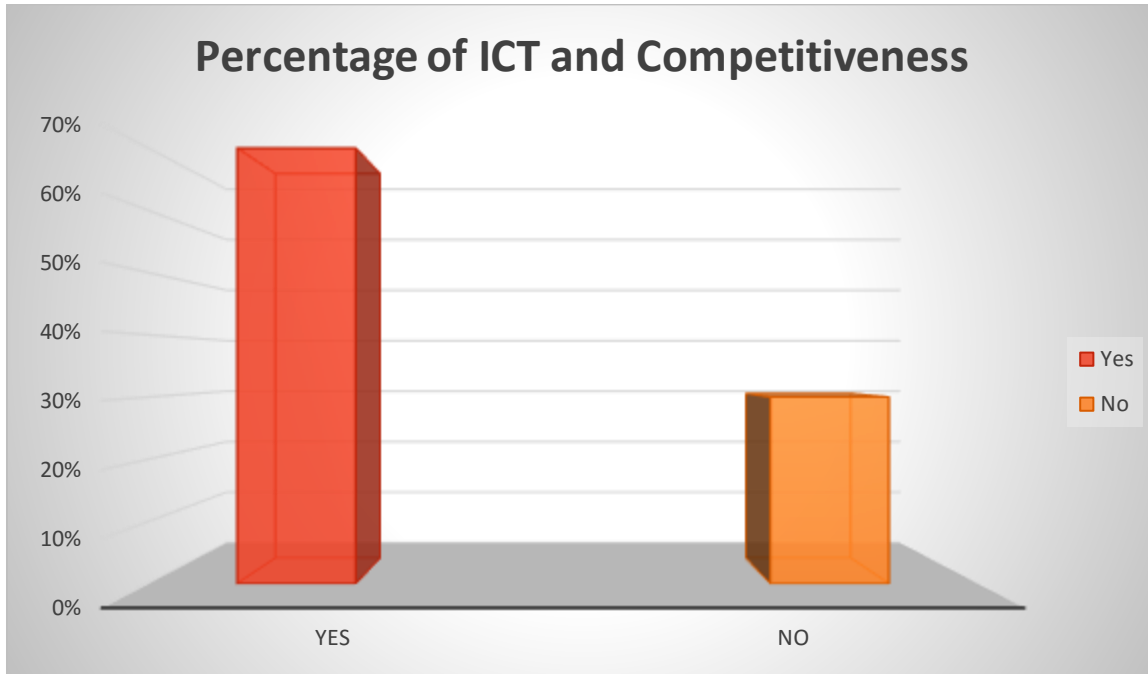
#### **4.1.13 Effectiveness of Information and Communications Technology in Human Resource Management**

The respondents were asked, in what way they think that ICT is effective in the domain of HRM in the ME. One notes that, with reference to the above responses a considerable number of respondents agreed with the above notion and their main reason was that due to the influx of modern technologies which have revolutionized the way the workplace is managed, the presence of ICT will subsequently improve HRM in the ME for the better and further set it up to be a formidable force in terms of quality and effectiveness.

However, on other the hand a small number of the respondents disagreed with the notion that the presence or the use of ICT is effective in the domain of HRM in the ME, one notes that their main argument based on their responses was that; the use of ICT is ineffective mainly because there is inadequate knowledge on how to apply it in such a way as to becoming competitive and productive, hence they argued that the use of ICT is effective in the domain of HRM in the ME.

#### 4.1.14 Information and Communications Technology and Competitiveness

The study was aimed at exploring whether the use of ICT and its appliances and tools gives competitive edge in the operational dynamics of the HRM in the ME, this is shown in Figure.10 below:



Source: Field data

**Figure 10: ICT and Competitiveness**

As depicted in Figure.10 above 70% of the respondents are of the opinion that the use of ICT tools and appliances is requisite in the provision of a competitive edge in the operational dynamics of the HRM in the ME. More so, 30% of the respondents were of the opinion that the use of ICT does not provide competitive edge in the operational dynamics of the HRM in the ME.

#### **4.1.15 Information and Communication Technology and Competiveness in the domain of Human Resource Management**

The respondents were asked to give reasons, to the question, why they thought that the use of ICT in HRM in the ME gave it competitive edge. With reference to the above data, one notes that a substantial amount of respondents agree with the statement in that the use ICT gives HRM a competitive edge in its operational dynamics. One of the main reasons they gave was that ICT tools subsequently ease operations and ensure that ME's HRM is executed efficiently and effectively and consequently giving it a competitive edge.

Consequently a small percentage of the respondents disagreed with the notion that the use of ICT tools gives a competitive edge to the operational dynamics of ME's HRM, in that due to traditional methods that have been employed in the ME which have gained considerable success, hence they believe that sticking to the status quo will effectively keep the ME's HRM afloat.

#### **4.2 Data Collected through the Interviews with the managers**

The following data was collected from the interviews conducted with the HR managers of the various departments of the ME:

##### **4.2.1 Participant's perspective on the Use of ICT's Prevalence in the HR of the ME**

On the question of the use of ICT's prevalence in the HRM of the ME, the managers were of the opinion that the use of ICT was prevalent but not used to its full potential. Therefore one notes that the study uncovered that there is a drastic lack of the application ICT for the purposes of HRM however through grasping the magnitude of this discrepancy the HRM in the ME is on its way to

rectifying this problem through acknowledging the need of the use of ICT tools for the provision of quality service delivery, efficiency and effectiveness.

#### **4.2.2 Participant's perspective on the departments where ICT is mainly used**

More so the interview revealed that the managers were of the opinion that, the recruitment and selection as well as the remuneration and benefits departments, were the main areas ICT tools were mostly used, the shared that in these departments they make use of HRIS, payroll systems, and have a plan of integrating the e-recruitment, however this has not been implemented hence turning back to the use of traditional methods as well as an unwillingness to change by the employees renders the current technologies unusable and stagnant thereby not adding value to the service delivery process.

#### **4.2.3 Participant's perspective on the extent to which HRIS are used in the ME**

More so, this study was aimed at investigating the extent to which HRIS are used in the ME and their optimisation to public service delivery, the study through the interview revealed that, the use of HRIS plays a major role in optimizing service delivery, however in the case of the ME, they still need to harness the use of these systems to ensure effectiveness and efficiency in public service delivery. In addition the management noted that, the mammoth task of undoing negative attitudes towards new HRIS and ICTs hamper the efficiency of the HR department, thereby crippling the optimisation of the use of HRIS and ICT in the realm of HRM.

#### **4.2.4 Participant's perspective on the Use of ICT tools and appliances in HRM in the ME**

One notes that on the question of the use of ICT and its appliances in HRM in the ME in giving it competitive edge in its operational dynamics, the interviewees were of the opinion that the use of ICT can drastically improve operational dynamics thereby setting it apart from other organisations, however there is a lack of the application of ICT for the purposes of HRM, in which if it is rectified, the ME can effectively provide quality, efficient and effective service as purported by the use of ICT tools and appliances

#### **4.2.5 Participant's perspective on the Use of ICT tools to achieve HR goals**

One notes that the study revealed that a considerable number of the managers felt that, the use of ICT tools and appliances, was a major driver and propellant of achieving HR goals in that, the work previously done manually would be done accurately with a programme or system, however on the other hand some managers shared their sentiments on how many employees have little or no exposure and knowledge on how to use these tools, and hence this affects the overall performance and service delivery of the HRM of the ME.

### **4.3 Conclusion of Chapter**

This chapter highlighted the presentation of the results uncovered through this study, and these results were relating to the objectives of this study. One notes that this chapter shall form a basis of the next chapter which discusses the summary of findings, conclusions and recommendations.

## **CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This Chapter looked at the summary of the findings acquired during the course of the research and will promptly postulate the conclusions drawn from this research, as well as laying down and or suggesting necessary recommendations for further study on this vast and expansive field of study. One notes that, this study was aimed at exploring the application of ICT for the purposes of HRM in the MoE, more so to explore the effectiveness of ICT in the domain of HRM in the Public Sector.

The specific research objectives were:

1. To investigate the extent to which HRIS are used in the MoE and their optimization to public service delivery.
2. To explore the effectiveness of ICT in the domain of HRM in the MoE.
3. To explore the nature of ICT tools and appliances that are used in HRM functions of the MoE.

Hence one wants to establish to what extent this study, has managed to uncover the above mentioned objectives, as well as suggesting ways to curb the conclusions drawn out of this research.

## 5.2 Methods and Procedures

The researcher used the mixed methods approach to collect primary data from the participants of the study, this method was used mainly because it provides a concise conclusion to this study through the use of both quantitative and qualitative elements. The data collected from the participants conveyed their thoughts, ideas, facts and information pertaining to the application of ICT for the purposes of HRM in the MoE.

The researcher used a non - probability sampling procedure, mainly because it is a procedure synonymous with exploratory studies, moreover non probability sampling has a characteristic of being a purposeful driven sampling method, hence it was sufficient in obtaining the results appropriate for this research. Judgmental sampling was conducted. The researcher's technique was based on the judgments of the researcher. The questionnaires were used on employees selected purposefully by the researcher, especially those belonging to the HR department while interviews were used on selected management and HR professionals.

One notes that, the questionnaire had two types of questions the first comprising of closed ended questions and the other containing open ended question that were meant to encourage respondents to convey their ideas, perspectives and thoughts on the subject more comprehensively. The interviews were semi-structured which allowed the researcher to pursue some interesting issues which were not part of the prepared questions.

### **5.3 Summary of Findings and Conclusions**

From the study one can say that the HRM arena, particularly in the MoE has taken on a transformational role in the way organisations are fashioned, people are managed and individuals developed; and through the use of ICT this role has been elevated to greater heights to be able to achieve unimaginable heights, while in conformity with the global transition of globalization and evolving into a knowledge and information based society.

The researcher was on a quest to explore the application of ICT for the purposes of HRM in MoE, and as articulated by the previous chapter, there are various pieces of information that can be drawn from this study, those of the need for the use of ICT in achieving HR goals and optimizing service delivery in the MoE, the need for the integration of HRIS and various Information, Communication tools for the effective and efficient performance of the HR function in the MoE, these are mostly anchored on the research objectives. One notes that these conclusions were built upon the premise of Kavanagh and Thite (2009), who noted that, “the increased use of technology and the changed focus of the HRM function does in this regard add value to the organisation’s product or service. However, in determining the strategic fit between technology and HR, it is not the strategy per se that leads to competitive advantage but rather how well it is “implemented”, taking into account the environmental realities that can be unique to each organisation and, indeed, between units and functions of the organisation”.

#### **5.3.1 Objective 1: To investigate the extent to which Human Resource Information Systems are used in the Ministry of Education and their optimization to public service delivery**

From the study, the researcher discovered that there is a dearth of the use of ICT in the HRM in the MoE, this was evidently shown by the number of respondents who indicated that the use of ICT is prevalent in the MoE’s HRM to a lesser extent. More so, the researcher noted that an

extensive number of the respondents were of the opinion that HRIS are used in the MoE but to a lesser extent, one notes that due to ineffective exposure to ICT tools and instruments in the realm of HRM such systems are not yet operational in this regard. In addition, the study revealed that there was an overwhelming response to the notion of the use of HRIS and Information and Communication tools can aid the optimisation of public service delivery in the realm of HRM.

From these notions, the study concluded that HRIS and ICT tools are not used in the MoE. More so this conclusion was anchored on the notion by Di Paulo, Corso & Gastaldi (2011), who noted that, “[n]ew ICTs can play an important role in enabling Continuous Innovation creating an environment that encourages people to learn and share knowledge - by aligning goals, integrating bits and pieces of information within and across organisational boundaries, and producing new knowledge that is usable by and useful to the organisation”. Consequently the study concluded that the use of HRIS and ICT tools can aid the optimization of public service delivery in the realm of HRM in this specific case of the MoE. One notes that if the HRM can divorce the status quo and enter a new light of thinking and embracing these new technologies it can foster its way to competitiveness and efficient and effective service delivery with little effort required.

### **5.3.2 Objective 2: To explore the effectiveness of Information and Communications Technology in the domain of Human Resource Management in the Ministry of Education**

As reflected by the study a substantial number of respondents were of the opinion that if ICT tools and appliances were applied it would play a major role in redefining the fabric of HRM in the MoE, this is because ICT is central to the development of any organisation, and if more of these tools and appliances are used they will impact the industry for the better. Moomal & Masrom (2015), agree with this notion as they note that, ICT creates globalization that affects the business environment

and revolutionize the structure and performance of the Public and Private sector organisations around the globe. Its frequent advancement affects the business strategies and management functions of the human resource within the organisations. However from this study it was concluded that, there is a drastic lack of the use of ICT in the MoE, which was reflected by the statistical evidence of more than 65% of the respondents attesting to this notion. It is because of this drastic lack that service delivery suffers and stagnation, and this disparity is only remedied when the HRM of the MoE takes on a proactive role in applying ICT tools and appliances in a manner that aids the HR function to achieve goals and provide services effectively and efficiently.

### **5.3.3 Objective 3: To explore the nature of Information and Communications Technology (ICT) tools and appliances that are used in Human Resource Management functions of the Ministry of Education**

One notes that, from the study it is evident that the three most prominent HRM areas, are namely; Recruitment, Selection and Remuneration and Benefits. One notes that these areas mostly have the most potential of easily integrating ICT instruments and tools to their day to day running of these areas, this was indicated in the previous chapter in subsection 4.1.5.

Furthermore, the study revealed that a considerable number of respondents were of the persuasion that the use of ICT tools and instruments ensured the attainment of HRM goals, one notes that ICT is pivotal for the growth of any organisation hence it will be beneficial to the HRM of the MoE to employ the use of ICT tools and appliances.

One of the conclusions drawn was that, the Recruitment , Selection and Remuneration and Benefits functional areas were the areas in which ICT tools and appliances were mostly used, in

accordance to the sample, one notes that there are various Information and Communication tools at the disposal of the HRM in the MoE which can effectively alter the way they operate, this study concluded that for the HRM of the MoE to operate at full capacity be competitive they need to harness and utilize some of these aforementioned ICT tools and instruments. More so, the study also concluded that HR goals are effectively achieved through the use of ICT tools, however in the case of the Public sector particularly in the MoE this notion is not justified since there is a drastic lack of the use of ICT tools.

To sum up, one can say that there is a lack of the application and use of ICT tools, appliances and tools for the purposes of HRM in the MoE, however as was shown in the study that the application of ICT tools and harnessing this jewel will bring a reformation, redefinition and a high level of quality to the HRM in the MoE.

#### **5.4 Recommendations**

One is of the persuasion that, in view of the findings based on this study, the following recommendations were made.

1. There is a need to broaden the number of HRM functions which make use of ICT tools, in that if ICT tools are effectively used in all functional areas of the HRM of the MoE, the HRM function will be a force to be reckoned with. Moomal & Masrom (2015), believed that HRM is the most crucial and core asset for the development of any organisation. On the other hand, ICTs enhanced the competitiveness of HR of the organisations and play an influential role in the functioning of the organisations by coordinating the work

environment as it plays major role in human development itself. Based on this premise this recommendation is made.

2. As demonstrated in the study, ICT is pivotal to the makeup of any establishment, hence one recommends that all faculties of the Government of the Republic of Namibia be focussed on developing the nation through the use of this powerful tool. More so, In recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings (ICT in Education, 2016)
3. One notes that, ICT should not be confined to a few functional areas, in that it confines the ability of the magnitude of impact ICT tools and appliances can cause, hence it is recommended that ICT tools be spread across all HR functional areas.
4. Moreover, one notes that the success of any HRM department particularly in the ME is hinged on the good application of ICT tools, hence it is recommended that organisational goals be laid upon the foundation of ICT, in that it will ensure the efficient and effective execution of those goals.
5. More so, ICT as was shown in the study can perpetuate the optimization of public service delivery in the domain of HRM, it is recommended that public service delivery be performed on the concepts and principles of ICT to ensure success.

## **5.5 Future Research**

Based on this research study, the following recommendations were made for future research. The recommendations were guided by the observations observed above. These recommendations are as follows:

1. One can further study the application of ICT for the purposes of HRM in the MoE on a greater scale, using a larger sample size.
2. More over one can further investigate the success of applying the principles of ICT in the MoE in the domain of HRM.
3. Furthermore, one can conduct a comparative study between the application of ICT in the MoE and the Private Sector.
4. A study can be conducted focusing on the impact that ICT has on various components of HRM.

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## Appendices

### **APPENDIX 1: Questionnaire**

**TOPIC:** The application of Information and Communications Technology, (ICT) for the purposes of Human Resource Management in the Ministry of Education.

My Name is Gamuchirayi Taruwona. I am a Masters' student at the University of Namibia. As part of the requirements for my course I have to conduct a research project.

The purpose of this questionnaire is to gather data on the extent to which Information and Communication Technology has made an impact to the practice of Human Resource Management in the Ministry of Education.

It is also aimed at obtaining data on the nature of Information and Communications Technology in relation to Human Resource Management functions in the Namibian Public Sector specifically the Ministry of Education. No personal identification will be disclosed, and all responses will be used for educational purposes only.

Kindly fill in this questionnaire to the best of your ability.

This questionnaire will take about 20 minutes to complete and your participation will be highly appreciated.

**Instructions:** Please answer the following questions by indicating with an (X) against the appropriate response or writing down your answer in the space provided.

1. Please specify your gender?

Male	
Female	

2. Age range?

19 - 28	
29 - 38	
39 - 48	
49 +	

3. Qualifications

Secondary Education		Degree	
Diploma		Masters	
Post graduate Diploma			

4. Which function of Human Resource Management do you practice?

Recruitment		Labour Relations	
Selection		Remuneration & Benefits	
Training & Development		Health & Safety	
Other			

5. To which specific Department of the Ministry of Education do you belong to?

Schools/ Formal Education	
Policy & Administration	
Lifelong Learning	
Tertiary Education, Science & Technology	

6. To what extent is the use of Information and Communication Technology prevalent in the Ministry of Education’s Human Resource Management department?

To a greater extent	
To some extent	
To a lesser extent	
Somehow	
Not at all	

7. Which main Human Resource Management area is Information and Communication Technology tools mostly used?

Recruitment		Labour Relations	
Selection		Remuneration & Benefits	
Training & Development		Health & Safety	
Other			

8. With reference to the above question can you specify how you use Information & Communication Technology in the specific Human Resource Management Function you practice?

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9. Do you think that if Information and Communication Technology is applied it will play a major role in redefining Human Resource Management in the Ministry of Education?

Yes	
No	

10. In your opinion do you think that Human Resource goals are efficiently achieved through the use of Information and Communication Technology tools?

Yes	
No	

11. With Reference to question 10 can you please give reasons to your answer?

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12. To what extent are Human Resource Information Systems used in the Ministry of Education?

To a greater extent	
To some extent	
To a lesser extent	
Somehow	
Not at all	

13. In your opinion do you think the use of Human Resource Information Systems and Information and Communication Technology can aid the optimization of public service delivery in the realm of Human Resource Management specifically in the Ministry of Education?

Yes	
No	

14. With reference to question 13 can you please give reasons for your answer?

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15. Do you think Information and Communication Technology is effective in the domain of Human Resource Management in the Ministry of Education?

Yes	
No	

16. In what ways do you think Information and Communications Technology is effective in the domain of Human Resource Management in the Ministry of Education?

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17. In your opinion do you think the use of Information and Communication Technology and its appliances in Human Resource Management in the Ministry of Education gives it edge competitively in its operational dynamics?

Yes	
No	

18. With reference to question 17 can you please give reasons for your answer?

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Thank you for your participation.



**APPENDIX 2:** Interview guide for HR managers in the various departments of the Ministry of Education

**TOPIC:** The application of Information and Communications Technology, (ICT) for the purposes of Human Resource Management in the Ministry of Education.

Dear respondent, you have been selected to participate in this interview because you are a key person in the HR department. The purpose of this interview is to establish the role played by ICT for the purposes of HR in the Ministry of Education. The study is conducted in partial fulfilment of a Master of Public Administration offered by the University of Namibia. Kindly answer the following questions to the best of your ability.

It will take about 30 minutes of your time.

#### **A. BACKGROUND INFORMATION**

1. **Position** \_\_\_\_\_
2. Educational background \_\_\_\_\_
3. Gender \_\_\_\_\_
4. Department they belong to \_\_\_\_\_

#### **B. QUESTIONS PERTAINING TO THEIR MANAGEMENT POSITION**

5. In what way do you feel the use of ICT is prevalent in the Ministry of Education's Human Resource Management department?

6. Which main Human Resource Management area do you think Information and Communication Technology tools are mostly used and how are they used?
7. Do you think that if Information and Communication Technology is applied it will play a major role in redefining Human Resource Management in the Ministry of Education?
8. In your opinion do you think that Human Resource goals are efficiently achieved through the use of Information and Communication Technology tools?
9. In what way do you think that Human Resource Information Systems are used in the Ministry of Education?
10. In your opinion do you feel that the use of Human Resource Information Systems and Information and Communication Technology can aid the optimisation of public service delivery in the realm of Human Resource Management specifically in the Ministry of Education?
11. In what ways do you think Information and Communications Technology is effective in the domain of Human Resource Management in the Ministry of Education?
12. In your opinion do you think the use of Information and Communication Technology and its appliances in Human Resource Management in the Ministry of Education gives it edge competitively in its operational dynamics?
13. Is there anything else you would like to add with regards to ICT application for the purposes of HR in the Ministry of Education?

**Thank you very much for the time you have taken to participate in the interview**