HUMAN RESOURCES INFORMATION SYSTEM (HRIS) AND THE RECRUITMENT PROCESS IN MINISTRY OF HEALTH, UGANDA

By

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A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT SCIENCE IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER'S DEGREE IN PUBLIC ADMINISTRATION OF UGANDA MANAGEMENT INSTITUTE

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DECLARATION

I **Livingstone Matsiko,** do hereby declare that this Dissertation entitled ***"Human Resources Information System (HRIS) and the Recruitment process in the Ministry of Health, Uganda"*** is my own composition and has never been presented in fulfillment of the requirements for an academic award at any other academic Institution. All sources of information used in this report have been well cited and corresponding authors acknowledged. I therefore submit it to Uganda Management Institute for the award of a Master's Degree in Public Administration.

Signed: …….. Date……

APPROVAL

We certify that this research by Livingstone Matsiko, entitled "HRIS and the Recruitment process in the Ministry of Health, Uganda" was conducted under our supervision and is now ready for submission.

DR. AIDA NYENJE LUBWAMA

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Date…….

Uganda Management Institute Supervisor

DR. FRED WAHITU

Sign…….

Date…….

Uganda Management Institute Supervisor

DEDICATION

I dedicate this work to my beloved daughter Mitchell Ashley Birungi.

ACKNOWLEDGEMENT

I thank God because it is by his sufficient grace that I have come this far. I extend my gratitude to my supervisors: Dr. Aida Nyenje Lubwama and Dr. Fred Wahitu who didn't stop at being supervisors but went ahead and became friends and inspirations to me. I sincerely thank God for having given me a chance to meet the two as my supervisors. I also would like to appreciate the contribution made by Sr. Margaret Nabukenya throughout my research.

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However nothing would have been achieved without the understanding and encouragement of my entire family especially my wife who stood by me through this study and encouraged me to continually search for excellence; my lovely daughter whose time I borrowed to concentrate on this work.

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LIST OF ABBREVIATIONS

CVs	Curriculum Vitae
ERS	Electronic Recruitment System
HR	Human Resources
HRH	Human Resources for Health
HRIS	Human Resources Information System
HRISs	Human Resources Information Systems
HRM	Human Resource Management
HSC	Health Service Commission
HTML	Hypertext Markup Language
ICT	Information and Communication Technology
ICTs	Information and Communication Technologies
IT	Information Technology
MMS	Multi-media Message Service
MoH	Ministry of Health
MoPS	Ministry of Public Service
MOT	Media Online Technology
NITA-U	National Information Technology Authority
NRM	National Resistance Movement
PDF	Portable Document Format
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
RTF	Rich Text Format
SMS	Short Message Service
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
UCC	Uganda Communication Commission
UICT	Uganda Institute for Information and Communication Technology
WWW	World Wide Web

ABSTRACT

This study examined the relationship between Human Resources Information System (HRIS) and the recruitment process in the Ministry of Health in Uganda. The independent variable was 'HRIS' while the dependent variable was 'recruitment process' in Ministry of Health. Specifically, the study sought to: investigate the relationship between e-advertising, e-application and e-interviewing on the one hand and the recruitment process in the Ministry of Health, on the other hand. The study adopted a cross sectional study design which involved the collection of data from Ministry of health staff using both qualitative and quantitative approaches. Questionnaires and an interview guide were used to collect data. Analysis of quantitative data was done with the aid of SPSS data analyst, while qualitative data was analysed using thematic analysis method. The findings of this research revealed that e-advertising has a weak negative relationship with the recruitment process in the MoH. On the other hand, e-application and e-interviewing have a significant positive relationship with the recruitment process in the MoH. It was therefore concluded that Strategies for e-advertising could negatively impact on the recruitment process in the sense that some suitable candidates may miss out; MoH has had minimal investment in technology which could be a supportive pillar for e-application, yet the policy also does not favour e-application as a strategy; strict adherence to the traditional forms of interviewing candidates drains the already struggling resources of MoH- financial, time and human resources. Basing on the findings, the study recommended that the Management of Ministry of Health should revise its Human resource Management Policy to incorporate the new trends (e-application and e-interviewing) brought by technology advancement. In addition to that, the study recommended that capacity of the existing staff in the Human resource department should be built to use HRIS and also approving more research projects in this area.

CHAPTER ONE
INTRODUCTION

1.1 Introduction

This study sought to examine the relationship between HRIS and the recruitment process in Ministry of Health, Uganda. The independent variable of the study was HRIS and the dependent variable was the recruitment process. In this study, HRIS was measured as; e-advertising, e-applications and e-interviewing, whereas recruitment effectiveness was perceived as recruitment lead-time, cost of hiring and quality of applicants. This chapter covered the study background, problem statement, general objective, specific objectives, research questions, hypotheses, conceptual framework, justification, scope, significance of the study and definitions of key concepts.

1.2 Background to the study

This section presents the historical perspective of the study, the guiding theory as well as the key concepts and context of the study.

1.2.1 Historical Background

According to Lai (2017), recruitment process have been there since the beginning of the very concept of an organization. Indeed, Kelly (2014) holds that the period 1950s to the 1980s saw the newspapers becoming the commonest means of recruitment, attracting over 75% of the candidates. The recruitment consultants of the 1980s used a telephone to contact the applicants and later conducted face- to- face interviews, which sometimes occurred at the bar (Kelly, 2014).

The early 90s saw the birth of the “world wide web” (www) which has majorly altered the sources of recruitment (Bernik, 2007). According to Kelly (2014), later in the mid-1990s, the first websites for jobs were established and since then, recruitment turned into an online

process whereby recruiters changed their ways and started recruiting online. Kelly (2014) further noted that with online recruitment, the recruiting organizations have to post jobs online on top of advertising in print magazines or newspapers. In this case, the applicants usually communicated through email which was followed by a telephone call (Benbasat and Barki, 2007).

In the 2000s, there was a drastic change in the recruitment methods, with an increase in job aspirants who used internet from 6% to 46% in 2003 (Kettley, 2003). According to Kelly (2014), recruiters posted their advertisements and bought resume database access to get the best candidate which made them become more tech savvy as print declined. Kaur (2015) holds that over 97% of job-seekers today use internet to look for their new career opportunities because it offers various options in which recruiting organizations can search for and recruit suitable candidates. Kaur (2015) further holds that the importance of IT in the management of public sector institutions is very important today because modern-day businesses are managed by the use of telephone, fax machine and other computer-based communication networks supported by the internet which has resulted into the modern online recruitment, commerce, government and production.

In Africa, the most recent trend in the recruitment process is e-recruitment which has gradually developed since its commencement and this resulted from the competitive globalized age (Asma and Maslin, 2015). The influence of internet led to revolutionizing of the traditional recruitment methods, whereby organizations use e-recruitment processes for advertising jobs, receiving applications, interviewing candidates and managing correspondences with applicants through e-mails (Kaur, 2015). According to Bernik (2007), the concept of Human Resource Information Systems evolved from the employee record keeping which was computerized in 1960s into more intricate reporting and decision systems in the recent years. In the same breath, Asma and Maslin (2015) add of late, managers and

employees are assuming activities once considered the domain of human resource professionals and administrative personnel. Eventually, given the power and accessibility to information for making decisions, organizations can quickly make responses to modern changes. The recent improvements in ICT have simplified generation of information in real-time, self-service and interactive work environment (Lai, 2017).

In Uganda, currently the use of ICT in human resource management majorly determines the performance the public institutions (Mafabi, 2017). Mafabi (2010) argues that the previously used paper-based system of hiring in government was revised and transformed into an automated system facilitated by technological advancement. In Ministry of health for instance, a paper-based recruitment system was used by Health Service Commission (HSC) until the 5th October 2017 when e-recruitment system was launched and operationalized (MoH, 2016). According to Mafabi, (2017) the innovations in ICT have called for reforming of recruitment processes in order to enhance efficacy, usefulness and receptiveness to what the clients need.

1.2.2. Theoretical background

This study was underpinned by *Technology Acceptance Model* by Davis (1986). He developed this while writing a proposal for his research degree and later used it in 1989 to explain individual behavior of using computer. The model is premised on the assertion that; when users are offered a modern information technology, deciding to adopt it depends on "perceived usefulness" and "perceived ease-of-use" of a technology. Davis (1989) believed that "perceived usefulness" is the extent of an individual's belief that particular information system would give better results. This factor explains why people choose to use or not to use technology. The model gives the justification of using HRIS in its recruitment process basing on its main constructs. They system may be used because it is easy to use and it is perceived

to be useful. Conversely, Davis (1989) defined "perceived ease-of-use" as the extent of an individual's conviction that if they use a given system, no effort will be required.

The assumption for TAM is that the concepts – "perceived ease of use" and "perceived usefulness", completely represent the effect of outside variables on Information Technology (IT) usage behavior (Chuttur, 2009). Benbasat and Barki (2007) hold that a public organization can only implement an ICT innovation after evaluating the "perceived usefulness" and "ease of use", owing to the fact that those two aspects control the practicability of an innovation.

TAM has been extensively criticized despite being frequently used by researchers (Priyanka and Kumar, 2013). According to Chuttur, (2009), the criticisms of the model involve its doubtful empirical value, inadequate power of explanations and predictions, inconsequence and lack of any applied value. The acceptance of technology may not be influenced by "perceived usefulness" and "ease of use" as the model suggests but also a framework of other factors including but not limited to the cost of technology and other structural requirements.

The criticisms of TAM notwithstanding, the researcher used the model to explain how HRIS influence the recruitment process in the Ministry of Health by applying the concepts of "perceived usefulness" and "perceived ease of use". The model helped to explain clearly what determines the adoption of HRIS by the Ministry of Health, that is; "perceived ease of use" and "perceived usefulness".

1.2.3 Conceptual Background

This study was guided by concepts of HRIS and recruitment. Different scholars have defined HRIS differently. Hustad and Munkvold (2005) defined HRIS as a system supported by internet that is used in organizations for the purpose of generation, storage, manipulation, analysis, retrieval and sharing of information regarding human resources. Asma and Maslin

(2015) concurred with Hustad and Munkvold (2005) and defined HRIS as a step by step system that facilitates collection, storage, retrieval, maintenance, and validation of data required by an institution regarding its staff, employee activities, and features of various units in the organization. According to these definitions, HRIS goes beyond "hardware and software applications but also includes peoples, policies, procedures, guidelines and information needed to support human resource function". This study defined HRIS as the application of electronic advertising, electronic application and electronic interviews in the recruitment process, in order to improve its effectiveness.

On the other hand, Khillare (2017) defined recruitment as the method of timely searching and hiring of the best-qualified aspirant from inside or outer side of a business to undertake the tasks. According to Khillare's definition, the recruitment process includes evaluating the task requirements, attracting suitable employees, screening and selecting applicants, appointing plus incorporating the new worker into the organization. Khillare's definition of recruitment concurs with Ali and Nur (2015) who consider recruitment as a process of attracting and choosing candidates for employment. In this study, recruitment process was referred to as a business process and was defined as the process of timely analyzing job requirements, attracting quality candidates and selecting the best candidates in a cost effective manner.

1.2.4 Contextual background

The study was conducted at the Ministry of Health headquarters, which is located on plot 6 Lourdel Road, Wandegeya Division in Kampala, the Capital City of Uganda. Available data showed that the recruitment system at the Ministry of Health had been criticized as being very slow, paper-based and expensive and had failed to attract quality candidates to fill up all the positions in the organizational structure. According to Human resources for Health Bi-annual Report (December 2015), only 90% of the positions in the structure had been filled.

The report findings are summarised in Table 1.1, where the headquarters reported only 90% staffing, leaving a 10% gap in staffing (M.o.H, 2017).

Table 1.1: Staffing at different central Ministry of Health cost centers FY2015/16

Cost Center	No. of units	Approved positions	%filled
MoH Head quarters	1	810	90
Mulago NRH	1	2,339	83
Butabika NRH	1	424	89
RRH	14	5,430	69

Source: MoH HRH Biannual Report December 2015

The Ministry of Health had made various attempts to close the gaps in its recruitment process by adopting ICT, including the launch of an Electronic Recruitment System that had helped the recruiters to quickly sort and analyze resumes in addition to fighting corruption in the process of hiring (Mafabi, 2017). Despite the efforts by the Ministry to address the malady, the recruitment process still remained unclear, with some officials not following the official procedure for hiring ministry staff. This had not only affected the image of the ministry but also created a situation where some public officers continued to hold public offices in acting capacity for a long time, contrary to the standing orders of Ministry of Public Service (Parliament of Uganda, 2016). Although this was attributed to failure to shift from manual to electronic recruitment system, no research had been done to prove this. This study therefore sought to explore the relationship between HRIS and the recruitment process in the Ministry of Health.

1.3 Statement of the Problem

Organisations that adopt HRIS in the recruitment process attract quality candidates, reduce the cost of hiring and minimize recruitment lead time which eventually leads to achievement of recruitment targets and enhances the overall performance of an organization (Mafabi,

2017). The Ministry of Health had made numerous efforts to improve its advertising, application and interviewing processes by adopting ICT. These efforts include the launch of electronic recruitment system that allows candidates to send their applications to the ministry without physically coming to human resource office. Adoption of this technology is useful and simplifies work and therefore brings good results of the recruitment process as suggested by the Technology Acceptance Model by Davis (1989).

Despite the Ministry's efforts, the recruitment process was still slow, bureaucratic and paper-based and as a result, the ministry had only achieved 90% staffing out of the targeted 100% as reported by the Health Committee of the Parliament of Uganda in 2016 (Parliament of Uganda, 2016). The committee revealed that the recruitment system was characterized by lack of transparency, inefficiency and ineffectiveness. The Ministry was unethical as some human resources recruited in the Ministry did not follow public service recruitment procedure (Parliamentary Health Service Committee report, 2016). This had resulted into many officers occupying public offices in acting capacity for a long time contrary to Public service standing orders. Failure to address this problem would result in poor performance of the institution in executing its mandate and ultimately affect the organizational image. Although it was informally claimed that this problem was caused by lack of enough funding for the HR department, the researcher believed that the causes of the problem were associated with failure to fully adopt ICT in the recruitment process. It is against this background that the researcher sought to examine relationship between HRIS in terms of e-advertising, e-application and e-interviewing on the recruitment process in the Ministry of Health.

1.4 Objectives of the study

1.4.1 General objective

The general objective of the study was to examine the relationship between HRIS and the recruitment process in the Ministry of Health, Uganda.

1.4.2 Specific objectives

The study sought to achieve the following specific objectives

1. To investigate the relationship between e-advertising and the recruitment process in the Ministry of Health
2. To investigate the relationship between e-applications and the recruitment process in the Ministry of Health
3. To investigate the relationship between e-interviewing and the recruitment process in the Ministry of Health

1.5 Research questions

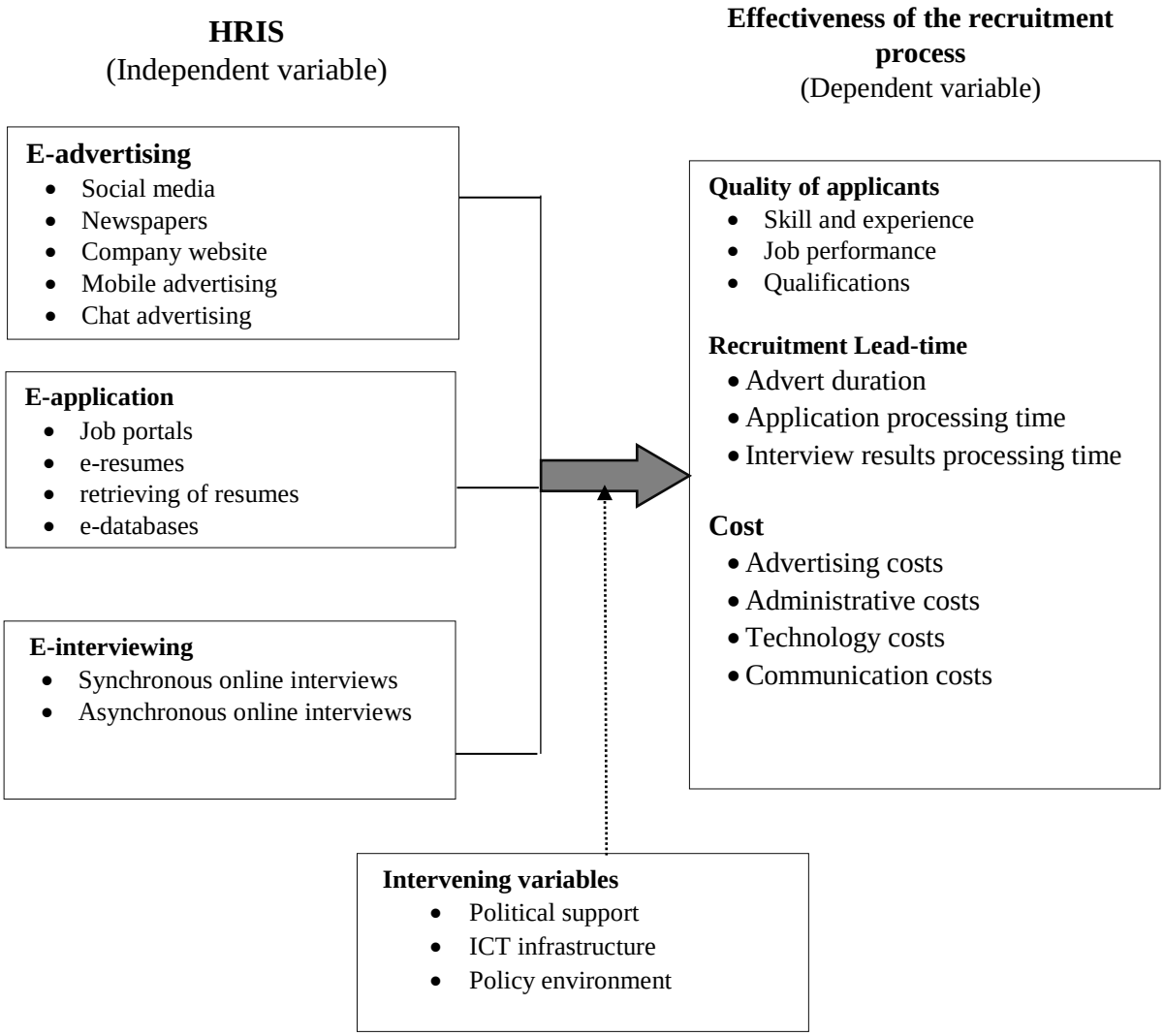
1. What is the relationship between e-advertising and the recruitment process in the Ministry of Health?
2. What is the relationship between e-applications and the recruitment process in the Ministry of Health?
3. What is the relationship between e-interviewing and the recruitment process in the Ministry of Health?

1.6 Research Hypotheses

This study tested the following hypotheses

1. There a significant positive relationship between e-advertising and the recruitment process in the Ministry of Health.
2. There is a significant positive relationship between e-application and the recruitment process in the Ministry of Health.
3. There is a significant positive relationship between e-interviewing and the recruitment process in the Ministry of Health.

1.7 Conceptual framework



Source: Adapted from Holm (2010)

Figure 1.1: Conceptual framework for HRIS and the recruitment process

The Conceptual framework illustrates the association between HRIS (independent variable) and the recruitment effectiveness (dependent variable). HRIS was measured as; e-advertising, e-application and e-interviewing as the key parameters. On the other hand, effectiveness of the recruitment process was measured in terms of hiring costs, hiring lead-time and quality of applicants. According to the model, when HRISs (e-recruitment, e-applications and e-interviewing) are adopted in the recruitment process, the recruitment process is likely to be

more effective in terms of lead time, quality of applicants and the cost of recruitment. However, the above relationship can be explained by "perceived usefulness" and "perceived ease of use" of technology. According to TAM, "perceived usefulness" and "perceived ease of use" of a technology determine its acceptance and adoption (Davis, 1989). Therefore, the effect caused by HRIS on the recruitment process may be affected by "ease of use of an ICT and the usefulness of technology". When a public organization like Ministry of Health perceives e-advertising, e-applications and e-interviewing as easy to use and also perceives them to be of great benefit to the organization in terms of reducing the lead time, cost of recruitment and bringing quality applicants in the recruitment tasks, it will easily adopt the technology and this will positively influence the effectiveness of the recruitment process although there may be uncontrollable factors that may affect the relationship in the model. These are intervening variables and may include Political support, policy environment and ICT infrastructure.

1.8 Significance of the study

Policy experts and researchers will get up to date information needed to inform relevant institutions in making better policies both in Uganda and other countries with similar settings.

Policy makers may use the study findings to review the "Human resources for health" policy and other related policies not only in the MoH but also other institutions of government.

The Health Service Commission may use the findings of the study to improve the already launched electronic recruitment system in order to further enhance its effectiveness and efficiency. The researcher will share a copy of this report with the Health Service Commission.

Future researchers may use the findings of the study as a basis for future research especially in exploring the correlation between HRIS and other human resource management areas.

Other organizations may use study findings to improve their recruitment processes and attract quality applicants with minimal costs.

The study was undertaken to partly satisfy the partial requirements for the award of a Master of Public Administration of Uganda Management Institute.

1.9 Justification of the study

The success of every organization depends upon managing human resources and in particular, staffing is very important in generating human capital (Marangunic and Granic, 2015). Application of HRIS in human resource management is believed to be one of the recent trends in managing human resources in the Public sector in Uganda. Literature revealed that little effort had been made to investigate the influence of HRIS on the recruitment process in the public-sector. This study therefore would close this gap by exploring this area and generating knowledge and evidence. The study was important considering the dynamic role the MoH headquarters plays in service delivery country wide. Management and policy makers needed to understand and appreciate the influence of HRIS on the recruitment process in order to decide its adoption as well as how to integrate ICT in the recruitment process in order close existing gaps. The Ministry of Health was particularly chosen because of the challenges it was experiencing with "human resources for health", which impacted on both the local and international community. The study findings would generate new debate and add to the body of existing knowledge on applicability of HRIS in Human Resource Management and recruitment in particular.

1.10 Scope of the study

1.10.1 Geographical scope

The study was conducted at the MoH headquarters located on "Plot 6 Lourdel Road" Wandegeya Division in Kampala, the capital city of Uganda, about 2.5 kilometers (2miles) to

the north of Kampala, with Coordinates of; “0°19'59.0"N, 32°34'39.0"E (Latitude: 0.333044; Longitude: 32.577486)”.

1.10.2 Content scope

The study explored the relationship between HRIS and the recruitment process in the MoH headquarters. The study specifically considered e-advertising, e-applications and e-interviewing and their relationship with the recruitment process in the MoH.

1.10.3 Time scope

The study considered the period 2014–2017 because it was characterized by massive recruitment of employees in the various departments and restructuring of some departments of the MoH and the HRH report shows that the recruitment didn’t embrace ICT (MoH, 2016).

1.11 Operational Definitions.

E-advertising is the posting of open jobs in the Ministry of Health to internet based platforms so that interested candidates can access and apply form them.

E-application is the use of online based systems to submit job applications to the Ministry of Health electronically without physically going to the HR office.

E-interviewing is the application of modern technology by the ministry of health to create and record live or automated video interviews using immediate response to questions

ICT infrastructure means all networks, devices, protocols and procedures used in Information and communication technology

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter analyses the related literature on HRIS and the recruitment process based on what others have observed world over. The literature was reviewed according to study objectives which included investigating the relationship between e-advertising and the recruitment process, investigating the relationship between e-applications and the recruitment process and investigating the relationship between e-interviewing and the recruitment process. The various sources of literature reviewed included; past research dissertations, texts books, journals, conference papers and magazines. The chapter is organized in four sections; theoretical and conceptual review, review of literature in accordance with the specific objectives and summary of the literature.

2.2 Theoretical review

This study was underpinned by "Technology Acceptance Model" (TAM) by Davis (1989). According to the model, individuals are influenced by "perceived usefulness" and "perceived ease-of-use" in making decisions on whether to use a new technology or not (Davis, 1989). TAM was designed with the view of explaining what affects the decisions of the individuals to accept a technologies introduced to them (Lai, 2017). Davis (1989) holds that people choose to use or not to use a technology to the extent that they find it helpful in terms of enhancing their performance. However, Davis maintained that it is not enough to determine whether or not a user will accept the technology or not, arguing that even if it betters the user performance, it may not ensure an easy user experience, which is why 'perceived ease of use' is important.

According to Oluwole (2016), "TAM as an information system model, gives the steps to be followed by those seeking information or learning in accepting, inculcating and utilizing of

new technologies to achieve technology literacy needs". According to Davis (1989), the basic assumption advanced by TAM is the belief in its constructs of "perceived ease of use" and "perceived usefulness", which entirely represent the effect of external variables on Information Technology (IT) usage behavior. The justification of using TAM to guide the study was to give an underpinning for determining how HRIS influences recruitment process in the Ministry of health.

Various authors hold different views on TAM and these include Ducey (2013) who considers the model to be one that examines the factors that influence acceptance of technology. The scholar (Ducey) further asserts that the model is frugal and causes curiosity to adopt use of technology, which can sometimes affect the real use of the system. This was in agreement with Davis (1989) who noted that other factors may influence a decision towards accepting an information system and these are external variables as indicated in figure 2.1.

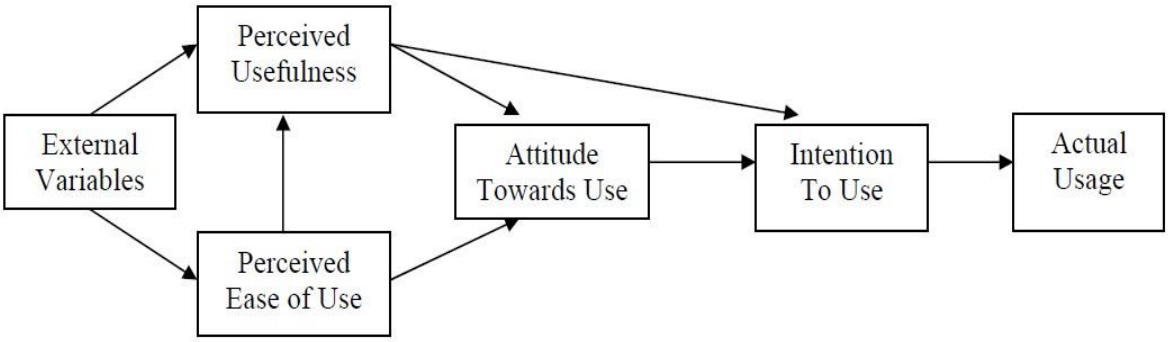


Figure 2.1: TAM, Adapted from Davis, Bagozzi &Warshaw (1989)

In line with Davis' argument, the adoption of ICT in recruitment process by the Ministry of Health may also be influenced by other external variables which may include political, social, legal, economic and technological factors.

In a study conducted to assess the validity of TAM, Aypay, Celik and Server (2012) tested the model in forecasting strength of accepting computer usage among teachers who are not yet in service and reported a strong relationship between TAM and technology usage. Also, Jiang, Chen and Lai (2017) discovered that individual behaviors of technology acceptance are valuable but incomplete if social factors and personal environment are excluded. Again, Lee, Tsai and Lanting (2011) compared TAM and adoption of online banking by consumers and found a strong correlation. Further, Venkatesh's comparison of TAM and adoption of technology in 2003 revealed that "perceived usefulness" and "perceived ease of use" directly influence the intention to adopt technology and therefore takes away the people's way of thinking. In the opinion of Marangunic and Granic (2015), what makes a choice to accepting a technology is the continuous enhancement of technology in ICT applications. These authors' are in agreement due to their argument that individuals and organizations will accept to use a service if they believe it is of importance, apart from Chen and Lai (2017) who believe in the need to bring social and environmental factors into consideration.

TAM has been criticized by many because of its doubtful empirical value, inadequate justification and power of prediction, inconsequence as well as absence of value of real-world (Chuttur, 2009). Josefsson (2016) agreed with Davis (1989), adding that perceived usefulness may determine how people use or do not use an application, as determined by the extent to which they find it helpful for a better performance. However, Josefsson emphasized that the two factors may not satisfactory to conclude that an individual will use a technology or not. Therefore, organizations should balance what causes embracing of technology usage if they are to avoid a situation where difficult in usage is heavier than the benefit.

In an assessment done by Okafor, Nico and Azman, (2016), it was discovered that "perceived ease of use" does not influence the usage of audiovisual aid technology for SMEs in Malaysia. In the same study, participants' responses suggested that "perceived usefulness"

does not suggest an intention to adopt Combination of media technologies in future. The Limitations of TAM were also highlighted by Khan and Woosley (2011) who concluded that most of the studies conducted to validate the theory considered academic setting rather than business setting. Therefore the theory may be challenged in explaining technology acceptance in business settings like Ministry of Health.

In yet another view, Bagozzi (2007) argued that "TAM is inadequate in explaining technology adoption by ignoring the societal influence that dictates technology adoption and therefore inadequate to examine the adoption of technology from an individual perspective because environment, exposure, society and economic status in the vicinity where technology is exposed to an individual can collectively affect the adoption and use". Despite its weaknesses, the theory guided the study by explaining how HRIS influences the recruitment process in the Ministry of Health, where by the ministry can adopt the electronic recruitment (e-advertising, e-application and e-interviewing) if it perceives that it might be useful in solving the challenges it is facing and that the system will be easy to use.

2.3 Conceptual review

2.3.1 Human resources Information System

Advancement in ICT and introduction of modern recruitment methods are giving organizations alternatives for searching and employing staff (Zapper, 2011). Modern methods of recruitment involve the use of HRIS which helps the organization to reach a wider population and therefore generate a big sample space of candidates from which the organization will choose. Similarly, Kaur (2015) holds that the goal of the organization is important in ascertaining the nature of online recruiting systems and this affects how the system works.

In terms of HRM, the HRISs fundamentally change the process of hiring from the viewpoint of the organization and job seekers (Bernik, 2007). According to Khillare (2017), the conventional styles of recruitment are perceived to be time-wasting characterized by high operational charges and inadequate geographical stretch. An investigation by Williams (2009) showed declining staffing costs due to focus on integration of ICT in hiring process compared to traditional styles of hiring. Bernik, 2007, Khillare (2017) and Williams (2009) shared the same opinion regarding the changes made by ICT in the recruitment process. They all believed that it reduces the bureaucracy, saves time and cost of the organization. However, in the researcher's opinion, the organization must first weigh the cost of setting up a recruitment process against the benefits arising, such that the organization gains from cost-benefit analysis.

2.3.2 Recruitment process

The world of recruitment is undergoing rapid transformation (Kettley, 2013). Kaur (2015) believes that organizations can transform their procedures of hiring by automating them, which eventually improves the speed of matching candidates with the available jobs. According to Hamarna (2011), online recruiting has the possibility of saving time and costs of the employer as it can rate the e-candidates independently.

Breaugh and Starke (2011) argue that "organizations that have invested heavily in ICT for their recruitment processes are reaping the benefits taking up the well-qualified, talented labour". Similarly, Aypay, Celik, and Server (2012) concured with Breaugh and Starke (2011) but revealed that e-recruiting systems stand a high chance of producing candidates that have poor job backgrounds and those that can't settle on one job. From the analysis, authors are in a disagreement on whether modern recruitment methods can generate well-qualified and talented labour force. However, the researcher believes that modern recruitment

methods may generate competent labour force although this is not a guarantee as many poor quality candidates may be attracted.

2.4 Review of related literature

2.4.1 E-advertising and the recruitment process

The advancement in the field of ICT shapes the world today and plays a big role in the running of corporate organizations in the whole world (Olubayo, Akingbade and Moru, 2015). According to Aypay, Celik and Server (2012), the use of formal sources of recruitment starts with identification of potential candidates, where they are, appealing and urging them to apply for the job after which receiving of resume, screening and sorting are done, after which applicants are contacted. The researcher shares an opinion with the authors, only that Aypay, Celik and Server (2012) didn't explain how HRIS is adopted at various stages of the recruitment process which made them seem hypothetical in their argument.

Ducey (2012) suggested a choice to contest at the "level of entry" vacancies at universities via "on-campus" recruitment which also has drawbacks like high recruitment expenses and lack of adjacent recruitment that could directly join the team of middle level employees of the organization. Nowadays, organizations can find a huge number of potential candidates and those promising for jobs at various levels by using internet, screen them online for a short time and communicate with the best candidates immediately. This is possible through application of ICT in recruitment process (Aggorowati, Suhartono and Gautama, 2012). The suggestion by Ducey (2012) to use "on-campus" recruitment is good as it targets professionals as they leave college, but this has challenges since such candidates are usually inexperienced and may require training, which is costly to the organization. The researcher also believes that on-campus recruitment may not generate employees to fill middle and top level positions because they need a lot of experience.

According to Freeman (2010), e-advertising enables real time exchange of information across a wide geographical area and this promotes safety of information. The developments facilitated by exchange of electronic data are clearly observed in easiness with which organizations advertise their open jobs across national and continental borders (Freeman, 2010). Piabuo (2017) believes that the recruitment approach adopted has a lot of significance in terms of organizational expenses and time required to run the recruitment process. The use of external recruitment channels like advertising in a widely read newspaper prolongs the recruitment process and leads to higher expenses than the internal recruitment.

Piabuo (2017) further argued that external hiring approach is adopted due to high demand for new staff and specialized individuals that possess unique expertise or experience. On the other hand, if the organization's demand for human resources is low, internal advertising is appropriate (Karia, et al. 2016). Hamarna (2011) believes that advertising on both online and offline channels increases the variety and ability to attract competent candidates compared to older methods of advertising which used to be the major source of candidates. Hamarna (2011) praises online sourcing software because of their role in improving the organization's capacity to effectively use various channels because most of them can be reached in an organization's sourcing software. In the opinion of the researcher, real time exchange of information between the organization and the prospective candidates is a global trend which should be adopted by all public Organisations. This is because of its role in saving time and costs of the organization although the system may only target those with ICT facilities.

According to Kelly (2014), online advertising includes specific efforts to attract qualified candidates by displaying on job boards and using websites. Kelly (2014) believes that it is part of the overall strategy to minimize money, time, and effort spent on traditional form of recruitment. Such extensive application of ICT by organizations may reduce the cost of advertisement and facilitate access to bigger terrestrial areas. Similarly, Marr (2007) holds the

view that the value of candidates resulting from e-adverting is equal or less compared with that of from other sources. Therefore, it may not be the "most effective" way of recruiting. The authors seem to believe that advertising on websites is effective, although the researcher believes that if these websites are not updated all the time, they may give outdated information, which may instead confuse the public. As such, for websites to work well, they should be accessible by many and updated all the time.

In a survey done by Piabuo et al. (2017), results showed that there is a strong relationship between e-advertisement and recruiting process, development and training, planning for human resources, evaluations and compensations and management efficiency. The study results indicated that ICT usage results into efficiency and effectiveness and therefore recommended that regular ICT training be emphasized so as to allow proper communication HRM Management and the various departments. Boxall and Purcell (2011) opine that the main e-advertising methods are job boards, websites for employers and professional websites. They believe that when an organization exploits all the three methods, it increases the chances of attracting quality candidates in a short time. However, Boxall and Purcell (2011) didn't consider the cost of exploiting all the advertising methods and comparing it with the benefit.

Piabuo (2017) argues that online advertisements minimise the expense of recruiting yet they allow a wider access by candidates compared to the traditional approaches. In the opinion of Kaur (2015) however, online-advertisements have disadvantages in comparison with the traditional approaches of advertising. He argued that e-advertising process is restricted within computer savvy candidates where many applicants send their resumes for the sake of knowing their personal value even if they are not serious with the job. He also noted that sometimes, organizations delay to update websites. On the contrary, the researcher believes that there are other recruitment methods apart from job boards, websites and professional

websites as suggested by Boxall and Purcell (2011). Moreover, the authors didn't give evidence as to why they believed the three methods were the main ones.

2.4.2 E-application and recruitment process

The success of an organization depends largely on the effective management of human resources which results from identifying as well as attracting quality candidates generated from the process of selection and placement (Asma and Maslin, 2015). A study conducted in Denmark in 2008-2009 revealed that the discovery of online recruitment had an influence on the hiring process and the tasks involved in hiring for three large organizations which had stable policies of recruitment. The researcher believes that the study findings are helpful to explain why public Organisations should adopt ICT in recruitment but the findings were generated from non-governmental Organisations which have less bureaucracy and few decision making levels. This makes is controversial to generalize the study findings for all Organisations.

Parry (2011) puts forward the argument that e-application has benefits that range from a wider reach of applicants, faster communication between candidates and organizations, lower expenses for advertising, easy access to data, minimized costs of communication and increased organizational attraction. However, this method of recruiting has setbacks which are linked with high CV burden, variety in quality of applicants, absence of a modified response to applicants and keeping candidate's issues confidential (Holm, 2010). Currently, online application is believed to be less costly and a faster way to discovering the suitable candidates than the old-style paper-based system of recruiting though there is no systematic evidence yet to prove this. However, the cost of setting up and sustaining an e-application system cannot be linked with the cost of the traditional system of job-application.

Parry (2011) argues that e-application persuades a large number of non-qualifying individuals to apply and can lead to discrimination against those who can't access internet. He further argues that organizations cannot depend entirely on e-application but need a mixture of various recruitment approaches. Parry suggests that applicants submitting resumes by email and websites reduces the time needed to sort the documents and getting back to the applicants. Khillare (2017) however revealed that price of managing the two systems of receiving application may be higher than the cost of managing applications through one channel. The authors are in agreement to the fact that e-application saves time and generates many candidates, however, the researcher believes that human resource experts should understand the interests in standard of systems for communicating online and the skills needed by recruitment experts.

Khillare (2017) believes that the main component of modern recruitment software technology is resume parsing/resume extraction because this component makes it possible to automatically assess academic documents and experience of individuals by mining information from the database. Resume parsing and extracting is of benefit to the recruiters because it helps them to extract the required details from electronic documents saved in various formats (Lai, 2017). Harmana (2011) contends that resume parsing involves the use of an intricate design and language scrutiny techniques to extract information that is relevant in the resumes. The researcher agrees with Khillare (2017) on the fact that Resume parsing and extracting enables easy resume handling and analysis. This technology therefore can be used by MoH to reduce on the time and cost of recruitment.

2.4.3 E-interviewing and recruitment process

Karia, et al. (2016) advanced that "successful recruitment practices are key components at the entry point of human resources in any organization, given that efficient recruitment strategies result into improved organizational outcomes". Kelly (2014) agrees with the authors about

the rising role of ICTs in the recruitment process and the entire human resource management since the purpose of recruitment is to find and recruit qualifying candidates. Therefore, adoption ICT in the recruitment processes of the MoH may ease and quicken strategic human resource management as suggested by Kelly (2014).

According to Bertrand and Bouchard (2013), online interviews makes it possbile to transform formerly paper-based interview tools into web-based tools. This argument is in agreement with Boxall and Purcell (2011) who suggest that "interactive forms give applicants an opportunity to access a web site, complete and summit their responses after which applicants' responses are given scores by the system and applicants' profiles are made instantly". Relatedly, Bertrand and Bouchard (2013) maintain that web-based interviewing allows organizations to give applicants an instant response regarding their potential to fill up the vacancy in the organization. Further, Boxall and Purcell (2011) hold that web-based interviews can be prepared to assess every charactereistic of the candidate including; cognitive capacity and relationship management skills. From the preceding arguments, it can be inferred that e-interviewing is not any different from the traditional interviews, only that the earlier doesn't require the candidate to physically appear for the interview. The authors seem to agree that web-based interviewing allows easy and convenient interaction between the Organisations and prospective employees. In the researcher's opinion, although web based interviews are convenient, they may only apply to those who are can access ICT facilities and are literate in using them.

Farnham (2010) described the various commputer technologies needed to conduct online interviews for applicants and these technologies include; video-conference and web-cams that provide for live exchange of information geographically distant areas. However, Aypay, Celik and Server (2012) added that "screening questions are part of the recruitment process and are supported by the latest recruitment software packages". In the opinion of Aypay,

Celik and Server (2012), online interviews are suitable when dealing with high volume recruitment processes. Farnham (2010) further stresses that traditional recruitment was a long process that involved many activities which required the candidate to keep interfacing with the recruiters. This argument is justifiable because it involves processes like identification of applicants and interviewing them to assess who the best candidates are. This, according to Farnham (2010), extended the time of completing the recruitment process because of physical interviews and the manual processes of sorting resumes. Farnham (2010), Aypay, Celik and Server (2012) are in agreement that e-interviewing is appropriate when handling a high number of applicants. But the researcher believes that the method may eliminate competent candidates who may fail to operate the system. In the context of the Ministry of Health, this may keep less competent staff who can use the e-interviewing system.

Jiang and Lai (2010) described on-line interviewing processes as the use of special technology packages to help screen, identify and select the suitable candidates. This argument was in agreement with that of Chuttur (2009) who indicated that "assessment tools aim to provide additional information regarding candidate's ability that can't be measure empirically using other stages of the recruitment process, such as details of the level of numerical reasoning ability or the quality of report writing skills". Therefore, during interviews, assessment forms and tests form the scope of services enhanced by e-recruitment. In this case the Ministry of Health should digitalize all its recruitment forms and make them available in softcopies.

According to Chuttur (2009), prompted assessment forms enable utilisation of various recruitment tools. In the same opinion, Samuel (2014) holds that each interview assessment is focused on specific skills relevant for the job whereby all candidates applying for a particular job are assessed using similar questions which eventually ensures fairness and objective analysis. Innovative online recruitment tools make management tasks more efficient and

saving time for recruitment plus the expenses. Hamarna (2011) believes that recruitment software facilitates recruiters to identify talents in candidates and also keeps a record of various steps taken to identify the best candidates and to close gaps in the future (Hamarna, 2011). Chuttur (2009), Samuel (2014) and Hamarna (2011) shared an opinion that e-interviewing may only look for skills rather than proficiency. It is the researcher's conviction that e-interviewing should be supported by face-to-face and practical interviews such that the proficiency aspect is tested.

Lastly but not least, Freeman (2010) holds that electronic interviews facilitate real time interaction and full-time recruitment activity by the recruiting agencies. Therefore, recruiting organizations can use very little time to advertise the jobs, suitable candidates apply for these jobs, interviews are conducted on line and finally the candidates meets the recruiting agency at negotiation level. Freeman (2010) compared online recruitment with old style systems where it would take one week to release a newsprint advert, application submitted after two weeks and interviews after three months and concluded that this was a very tiresome and time-consuming process, as supported by Parry, (2011). In fact Holm (2010) observes that "on average, e-recruitment hiring is 70% faster than traditional hiring methods and the recruiting cycle is speeded up at every stage, from putting adverts on appropriate medium, submission of applications to managing agreements made between organizations and recruited employees". The researcher concurs with Freeman (2010) and Parry (2011) on the fact that modern interviewing methods are quicker that traditional ones but doubts the quality of e-interviews. Therefore the ministry of health should explore the area of quality management and control while conducting electronic interviews if it to achieve the intended recruitment goal.

2.5 Summary of the literature review

The reviewed literature discovered not much empirical evidence on the influence of HRIS on the recruitment process. Similarly, knowledge available on the influence of HRIS in improving the effectiveness of the recruitment process was highly limited. Moreover, there was no conclusive agreement on the relationship between HRIS and the effectiveness of the recruitment process. Theoretically, literature revealed that individuals and Organisations will adopt technology if they perceive it useful and easy to use.

Literature reveals that when an organisation adopts HRIS, its interior and exterior communication attain become speedy, precise and simple, which also enhances outreach and networking capacity of the institution. This further results into efficiency and effectiveness in its processes.

Literature also suggests two characteristics required for all government operations and especially for public services that is transparency and accountability. These according to the literature can be attained with introduction of ICT in all processes. Human resources information systems enhance transparency and accountability and promote networked structures for public administration, managing information and creating knowledge.

Additionally, HRIS support people to participate in inclusive political process which produces well informed public consent thus the legitimacy of government. However, literature clearly spells out key issues faced in adoption of HRIS which include; development of ICT infrastructure, building capacity of human resources, and creating employment.

Currently, developing countries in the world lack legal and regulatory frameworks for ICT and the government strategy. Furthermore, literature shows that HRIS in the current information era has also become an inter-organizational phenomenon, coupled with

improving technologies that have led to more cooperative initiates between government Ministries, Departments and Agencies.

Further, literature revealed that developing countries including Uganda are behind schedule regarding the adoption technology for recruitment. It is also clear that researchers agree to the fact that ICT adoption facilitates e-business and e-services including e-recruitment by reducing cost, time and increasing quality of applicants. This study explored and endeavored to bridge the identified knowledge gaps, as discussed in Chapter four of this report.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methods that were adopted to generate the research findings. It presents the research design, study population, determination of sample size, sampling techniques and procedures, data collection methods, data collection instruments, validity and reliability, procedure of data collection, data analysis and measurement of variables.

3.2 Research Design

The study applied a cross sectional study design, because data were to be collected at one point in time and conclusions be made. According to Frederick (2018), with a cross sectional study design, a snapshot of the population is produced at a particular point in time and is fast, cost effective and convenient for examining various sections of the population, in this case Ministry of Health staff. The study applied a mixed methods approach. Quantitative method was used because of its suitability for bigger populations, while the qualitative approach helped to generate views, ideas, attitudes and feelings of the respondents, described phenomena in a natural setting and provided in-depth explanations to the events (Amin, 2005).

3.3 Study Population

The study population comprised of 120 employees at the Ministry of Health headquarters and the Health Service Commission and these included; Directors, Commissioners and Program officers. This population was selected because they went through the ministry's process of recruitment and some oversee the process of recruitment, while some manage the Electronic Recruitment System at Health Service Commission.

3.4 Determination of sample size

The study used a sample of 96 respondents basing on and Krejcie and Morgan's (1970) sampling guideline. These respondents were selected from all sub-population groups as indicated in Table 3.1

Table 3.1: Sample Size and Sampling techniques

Category	Study population	Sample Size	Sampling techniques
Directors of MoH	2	2	Purposive Sampling
Commissioners at MoH and Health Service Commission	8	8	Purposive Sampling
Program officers	110	86	Systematic sampling
TOTAL	**120**	**96**	

Source: S***taff list from Ministry of health and Health service Commission***

3.5 Sampling techniques and procedure

A sampling technique is a procedure used in selecting sample members from the population (Frederick, 2018). The study used purposive sampling techniques and systematic sampling techniques, as further explained.

3.5.1 Purposive sampling

According to Mugenda and Mugenda (2013), purposive sampling is more like non-probability sampling in which case researchers rely on their own discretion when identifying members of to participate in the study. Purposive sampling was applied to select directors and commissioners. This sampling method was used because it was considerably economical in terms of time, labour needed and money, since the researcher could easily meet the required sample.

3.5.2 Systematic sampling

Frederick (2018) defined systematic sampling technique as one where a sample is identified from a population by selecting a random starting point at the initial stage and selecting other members after a fixed sampling interval, using a sampling frame. Systematic sampling

method was used in such a manner that the researcher randomly selected the first respondent from the population and later selected every 3rd respondent from the sampling list. This technique was used to select respondents in the Program Officers category because the members of this category were homogenous. Systematic sampling was preferred in order to eliminate bias in selection of respondents. In addition to that, the technique was easy to construct and the generated responses from the respondents were representative of the population.

3.6 Data collection methods

The researcher used questionnaires and interview methods.

3.6.1 Questionnaire method

According to Mugenda and Mugenda (2013), a questionnaire method is one where the researcher conceptualizes and operationalizes the variables and questions. The study used this method by distributing self-administered questionnaires to respondents in the category of program officers which were collected after one week. This was done to allow enough time for the respondents, since these were busy officers. This method was used in order to provide for uniformity and to eliminate interference from interviewer.

3.6.2 Interview method

This method was applied to collect data from Directors and Commissioners of MoH and Health Service Commission. This enabled the researcher to obtain more elaborative, accurate and in-depth information through further probing, which could not be attained using the questionnaire. Using the interview method, the researcher had the opportunity to get information that could have been omitted using other instruments but was vital for the study. The researcher documented the responses in notebooks and later analyzed, processed and presented the results.

3.7 Data collection instruments

Data were collected using questionnaires and interview guides.

3.7.1 Questionnaire

A close-ended questionnaire was designed and divided into sections of; background information, e-advertising, e-application, e-interviewing and the recruitment process. The questionnaire was standardized using a 5-point Likert scale to enable registering of computable primary data from respondents (Amin, 2005), as seen in appendix i. The questionnaires were easy for respondents to answer, relatively easy to analyze and were administered at a low cost.

3.7.2 Interview guide

Frederick (2018) defines interview guide as a list of questions developed to guide the researcher while conducting interviews with respondents. In this study, an interview guide was used to generate responses from with Directors and Commissioners in MoH. This guide enabled the researcher to obtain in-depth data regarding the relationship between HRIS and effectiveness of the recruitment process at MoH. (See appendix ii). The interview guide was useful in generating detailed information about respondent's feelings, perceptions and opinions.

3.8 Data Quality Control

3.8.1 Validity

Validity is the degree to which study instruments correctly measures what the researcher intends to measure. The validity of instruments was tested using Content Validity Index (CVI). The Content Validity Index of the instruments was ascertained through expert judgment of the relevance to the study of the various items in the data collection instruments and a consensus judgment was given on each variable, taking only variable scoring above 0.70, as recommended by Amin (2005). This helped the researcher to ascertain the

credibility, accuracy and correctness of the questionnaires and interview guide. The following method was applied;

$$CVI = \frac{\text{No. of items declared valid}}{\text{Total number of items in the instrument}}$$

Table 3.2: Content validity results

Variable	Total number of items	Number of valid items	CVI
HRIS	14	12	0.86
Recruitment Process	10	9	0.90

Source: Expert Judgement

From Table 3.2 above, HRIS yielded CVI of 0.86 and Recruitment process yielded a content validity index (CVI) of 0.9. All the variables produced CVI greater than 0.70 which is the considered acceptable for social sciences research, according to Amin (2005). Therefore the instruments were declared relevant and valid.

3.8.2 Reliability

The questionnaire instrument was pretested using 10 respondents from Ministry of Gender, Labour and Social Development. This was done to determine the consistency of the study instruments. Cronbach's alpha coefficient was calculated to show how tools were reliable and this was done using Statistical Package for Social Sciences (SPSS), taking only variables that score 0.7 as suggested by Amin (2005). The results of reliability tests are presented in Table 3.4.

Table 3.3: Cronbach's alpha value and the level of consistency

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	unacceptable

Table 3.4: Reliability results

Variable	Total Number of items	Cronbach's alpha
e-advertising	4	0.822
e-application	4	0.926
e-interviewing	3	0.793
Recruitment process	10	0.737

Source: Primary data

From table 3.4, all the variables had a Cronbach's alpha greater than 0.7 which is the acceptable minimum value, according to Amin (2005). Therefore research instruments were reliable and consistent in collecting data. Results in table 3.4 were generated basing on the Cronbach's alpha value and the level of consistency in Table 3.3.

3.9 Procedure for data collection

The researcher, after successful defense of the proposal, secured an introductory letter from Uganda Management Institute, so as to obtain permission to conduct the study at Ministry of Health. In addition, a cover letter was attached onto the questionnaire containing a summary of the study, objectives and explanation of confidentiality to be observed. The researcher distributed questionnaires personally and respondents were given a period of five days to fill them. After one week, the questionnaires were collected and checked for completeness and clarity. The researcher assigned a code number to each questionnaire, prior to entering responses into Statistical Package for Social Sciences (SPSS) data analyst. Findings from the interviews on the other hand, were transcribed during the interview sessions and at the end of each interview, the interviewer reviewed the records to ensure clarity and completeness.

3.10 Data analysis

3.10.1 Quantitative data analysis

Quantitative data was cleaned and coded according to the research objectives. The process of cleaning data was done to eliminate any errors and help improve the reliability of the data. SPSS and Microsoft excel software programmes were employed to tabulate the raw data and provide comparisons that eased the scrutiny. The researcher presented Quantitative data as descriptive statistics using frequencies, percentages, mean and standard deviations from each of the study variables. “Strongly agree” and “agree” responses were joined to mean “agree” whereas “strongly disagree” and “disagree” were combined to indicate “disagree”. Pearson’s correlation co-efficients and regression coefficients were calculated and used to test the relationship between e-advertising, e-application and interviewing on the one hand, and the recruitment process on the other hand. The positive correlation between the two variables would indicate a direct positive relationship between the variables while a negative correlation meant mean an inverse relationship between HRIS and recruitment process.

3.10.2 Qualitative data analysis

Qualitative data was analyzed using content analysis method and according to the study objectives. In this case, data obtained from interviews was organized according to the objectives of e-advertising and recruitment process, e-application and the recruitment process and e-interviewing and the recruitment process. Qualitative data was then presented as narratives as stated by respondents. Implications, deductions and inferences of qualitative information were drawn on HRIS and recruitment process. Efforts were made to investigate the connection between the qualitative data findings and the quantitative findings on the basis of agreement and disagreement. This helped to measure the quality of quantitative data in this research.

3.11 Measurement of variables

The variables in the study were measured at the nominal and ordinal scales. Numbers were nominally assigned to the different attributes of respondents' bio-data, which resulted into categorization of the respondents according to these attributes. On the other hand, data on HRIS and recruitment was measured at the ordinal level. In this case, responses to the various questions were assigned numbers depicting the extent of agreement or disagreement with a certain view. A five-point Likert scale namely; "5=strongly agree", "4=Agree", "3=Undecided", "2=Disagree" and "1=strongly disagree" was adopted.

3.12 Ethical consideration

Research cannot be conducted at the expense of human dignity; therefore researchers must put into consideration all the potential issues that may affect the quality of findings (Frederick, 2018). This study was sensitive because of its nature, being an assessment of the recruitment process in a public institution. The researcher therefore followed all the professional guidelines of researchers including official introduction from the School of Management Science of Uganda Management Institute.

Also, the researcher ensured confidentiality of the data collected and ensured that it was used for only academic purposes. In addition to that, the researcher ensured proper citation and referencing for any piece of work that was used in writing this paper. Besides, written consent was sought for before engaging any respondent in the study. This involved explaining the study objectives to the respondents before an interview is conducted. The respondents were as well notified of the likely risks and benefits of being part of the study where the aspect of treating findings with confidentiality was emphasized. The researcher ensured that those who wished to withdraw from the study were free to do so at any point in time.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents data collected using the questionnaire and interview guide as described in Chapter 3 above. The corresponding interpretations also follow each presentation. The results of the study are presented according to the study objectives. All the responses are presented in terms of frequencies, percentages, correlations and regressions matrices which are presented in tables, graphs and pie charts. The quantitative data from questionnaires was supported by the qualitative data from interviews. The quantitative data was analyzed using a Likert's scale of "1= (Strongly disagree)" to "5=(Strongly agree) scale".

4.2 Response rate

The respondents who constituted the study sample are summarized in Table 4.1 below.

Table 4.1: Response rate

Category of respondent	**Target Response**	**Actual Response**	**Response rate**
Directors	2	1	50%
Commissioners MoH and HSC	8	5	63%
Program officers	86	86	100%
Total /overall response rate	**96**	**92**	**96%**

Source: Primary data

A total of 86 questionnaires were distributed to 86 Program officers and all of them were returned in record time. The response rate for questionnaires was a hundred percent (100%) as shown in the Table 4.1 above. Darren (2002) asserts that for a study to score a response rate of above 80%, it shows that the study was perfectly done meaning that all questions were perfectly understood by all the respondents from the study. On the other hand, the researcher anticipated conducting interviews with eight (8) Commissioners; out of these, only five were

interviewed, giving a response rate of 63%. In the same sense, the researcher anticipated to interview two (2) directors and out of these only one (1) was interviewed, indicating a response rate of 50%. Overall, a sample of 96 was targeted for this study, out of which 92 fully participated. This therefore gave an average response rate of 96%. According to Mugenda and Mugenda (2003), "a 50% response rate is adequate, 60% good and above 70% is rated very well". Therefore the response rate for the study was good and it indicated high participation and interest in the study.

4.3 Findings on the background characteristics of the respondents

The respondents' background information was considered for this study, since it may affect the ability of the respondents to accept and use a Human Resource Information System. The aspects covered herein were; age, level of education, duration on current employment, religion and administrative level. The rationale of collecting and analyzing background data was to have appropriate opinion about the study findings.

4.3.1 Administrative level

Respondents were asked to state the administrative level at which they do their work and the results are presented in Figure 4.1;

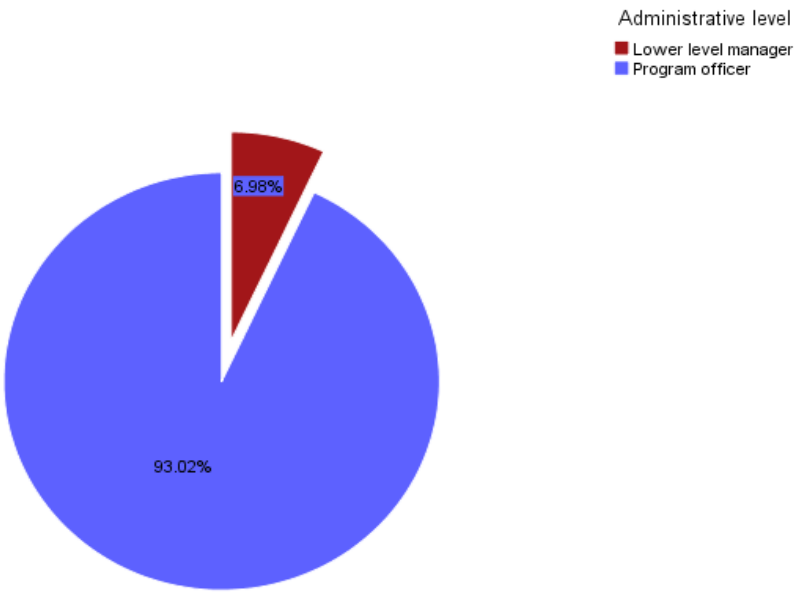


Figure 4.1: Administrative level of respondents

Figure 4.1 shows the administrative level where the respondents fall. The Lower level management staff respondents were 7% whereas the program officers were 93%. Majority of the respondents were program officers, contributing 93% of the total respondents. The results clearly show that programme officers constituted the greatest proportion of respondents for this study. Therefore majority of the information generated in the questionnaires was given by program officers.

4.3.2 Age of respondents

Respondents were asked to state their age and the findings are presented in Figure 4.2 below;

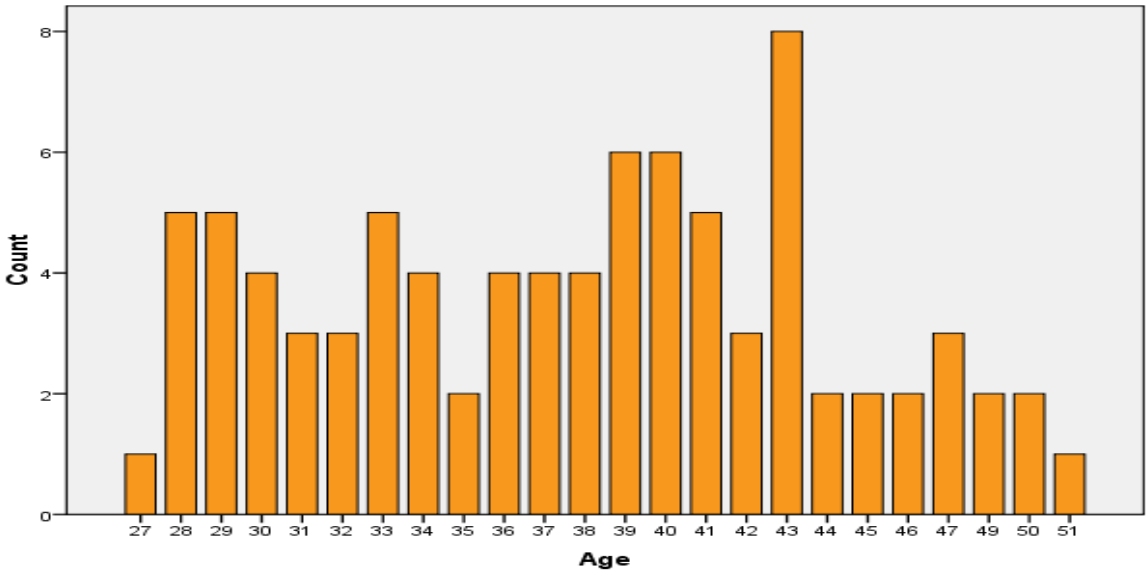


Figure 4.2: Age of the respondents

Age was used to describe respondent's characteristics since it greatly influences an individual's decision to accept or reject modern technology like HRIS. The findings indicate that the average age of the respondents was 37.7 years and median age was 38 years. Over 65% of the respondents were still in their youthful ages and therefore were expected to embrace use of HRIS.

4.3.3 Sex of the Respondents

The respondents were asked to state their sex and the findings are presented in the Table 4.2 below;

Table 4.2: Sex of the respondents

Sex of respondents	Frequency	Percent
Male	36	41.9
Female	50	58.1
Total	86	100.0

Source: Primary data

Sex was used to define respondents' characteristics. From Table 4.2, 36(41.9%) of the respondents were male and 50(58.1%) were female. The variation in proportion of respondents according to their sex categories notwithstanding, the results showed that views of both male and female staff at MoH on the issue of HRIS and recruitment at the Ministry were well represented.

4.3.4 Duration on the current Job

The respondents were asked to state how long they had been in the current job and the findings are presented in the Table 4.3;

Table 4.3: Duration on the Current Job

	Frequency	Percent
Less than one year	2	2.3
1-2years	7	8.1
3-5years	22	25.6
5-10years	47	54.7
10 years and above	8	9.3
Total	86	100.0

Source: Primary data

Duration of respondents on the current job was used to ascertain the respondents' experience with the institution's operations. From table 4.3, The study results showed that 47(54.7%) of the respondents had worked in the Ministry of Health for 5-10years, 22(25.6%) for 3-5years and above while 8(9.3%) had worked in the Ministry for 10 years and above, 7 (8.1%) had worked in the Ministry for 1-2years and only 2(2.3%) of the respondents had worked in the Ministry for less than one year. Overall, most of the respondents (89.6%) had worked for the Ministry of health for over 3 years. This implies that majority of the respondents had reliable experience of over three years with the institution and therefore could be in position to give reliable responses.

4.3.5 Level of education

The researcher asked the respondents to state their highest level of education and the findings are presented in the Table 4.4;

Table 4.4: Respondents' highest level of education attainment

Level of education	Frequency	Percent
Certificate	1	1.2
Diploma	6	7.0
Bachelors	40	46.5
Masters	39	45.3
Total	86	100.0

Source: Primary data

The findings in Table 4.4 revealed that 40(46.5%) of the respondents had a bachelor's degree, 39(45.3%) of the respondents had a master's degree, 6(7%) of the respondents had a diploma and 1(1.2%) of the respondents had a certificate. With the above statistics, it can be argued that respondents had the requisite qualifications to conduct Ministry of health operations as over 90% of the respondents had attained a minimum of a Bachelor's Degree.

4.3.6 Religion of the respondents

The researcher asked the respondents to give their religion and the findings are presented in the Table 4.5 below;

Table 4.5: Religion of the respondents

	Frequency	Percent
Catholic	20	23.3
Protestant	48	55.8
Moslem	8	9.3
other	10	11.6
Total	86	100.0

Source: Primary data

From table 4.5 above, 48(55.8%) of the respondents were Protestants, Catholics were 20(23.3%), Moslems were 8(9.3%) and 10(11.6%) of the respondents were from other religions. Therefore Majority of the respondents were Protestants.

4.4 Empirical results

4.4.1 Descriptive statistics on the recruitment process

Respondents were asked to give their views on various statements on effectiveness of the recruitment process in the Ministry of Health. The effectiveness of the recruitment process was looked at in terms of quality of applicants, recruitment lead-time and cost of hiring. The variable was measured using 10 items which were given scores on “a five point Likert scale of 1=strongly disagree, 2= Disagree, 3=Undecided, 4=Agree, 5= strongly agree” and the results are shown in Table 4.9.

Table 4.6: Respondent's views on the effectiveness of the recruitment process

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
Quality of applicant					
The ministry matches the skills and experiences with the job requirements before hiring	29 (33.7%)	55 (64%)	-	-	2 (2.3%)
The employees who emerge the best in the interviews actually perform better when they are recruited	34 (39.5%)	51 (59.3%)	-	1 (1.2%)	-
Educational qualifications of candidates determine the quality of applicants which influences the success of the recruitment process	36 (41.8%)	48 (55.8%)	1 (1.2%)	1 (1.2%)	-
Recruitment lead-time					
The time taken to place an advert significantly influences the overall recruitment process	35 (40.7%)	50 (58.1%)	-	1 (1.2%)	-
The time taken to process application greatly influences the success of the recruitment process	47 (54.7%)	36 (41.8%)	-	3 (3.5%)	-
The time taken from interviewing stage to offer stage significantly influences the recruitment process	46 (53.5%)	40 (46.5%)	-	-	-
Cost of hiring					
Cost of advertising should be minimized in order minimize the cost of recruitment	33 (38.4%)	53 (61.6%)	-	-	-
Administrative costs of recruitment are higher when recruitment is paper based	42 (48.8%)	43 (50%)	1 (1.2%)	-	-
When technology is used in recruitment, the costs become higher	26 (30.2%)	13 (15.1%)	10 (11.6%)	-	37 (43.1%)
Communication costs during the process of the recruitment can be minimized by adopting HRIS	43 (50%)	43 (50%)	-	-	-

Source: Primary data

4.4.1.1 Quality of applicants

The respondents were asked to give opinions on whether Ministry matches the skills and experiences with the job requirements before hiring. Findings presented in Table 4.9 above

suggest that 97.7% of the respondents agreed with the statement and only 2.3% disagreed with the statement. This statistically means that the Ministry of Health matches the skills and experiences with the job requirements before hiring anybody. When participants were asked to give their views on whether the employees who emerge the best in the interviews actually perform better when they are recruited, 98.8% of the respondents agreed with the statement and only 2.3% disagreed with it. The results mean that one's performance during recruitment interviews determines their performance at work when recruited.

In the same sense, when respondents were asked to give their opinions on whether educational qualifications of candidates determine the quality of applicants which influences the success of the recruitment process, 97.6% of the respondents agreed with the statement, 1.2% disagreed with the statement while 1.2% of the respondents were undecided. According to these findings, educational qualifications are key in determining the quality of applicants and this further determines the success of the whole recruitment process.

4.4.1.2 Recruitment lead time

In order to assess respondents' views on recruitment lead-time as part of the recruitment process in the Ministry, the respondents were given a set of items against which they were meant to indicate their level of agreement or disagreement. The findings presented in Table 4.9 indicate that 98.8% of the respondents agreed with the statement and only 1.2% of the respondents disagreed with the statement. This statistically means that when an advert is run for a short time the recruitment process may not be successful as compared to when an advert is run for a long time.

The respondents were also asked to give their views on whether the time taken to process application greatly influences the success of the recruitment process. The findings show that only 96.5% of the respondents were in agreement with the statement and only 3.5% disagreed

with the statement. Statistically, the findings mean that the more time it takes to process applications; the more costly it will become to complete the recruitment process. Further, the respondents gave their views on the statement that; the time taken from interviewing stage to offer stage significantly influences the recruitment process. Findings indicate that all the respondents (100%) agreed with the statement. This therefore means that for a recruitment process to be effective, the time taken to make offer decisions should be reduced.

4.4.1.3 Cost of hiring

The respondents were asked to give their opinion on the costs involved during the process of recruitment. As to whether the cost of advertising should be minimized in order to minimize the cost of recruitment in the Ministry of health, findings show that all the respondents (100%) agreed with the statement. The findings statistically mean that cost of advertising increase the cost of recruitment in the Ministry of Health. On the other hand, when the respondents were asked to give their opinions on whether administrative costs of recruitment are higher when recruitment is paper based, findings indicated that 98.8% agreed with the statement and 1.2% of the respondents were undecided. Statistically, the findings mean that paper-based recruitment is more costly than web-based recruitment system. Again, respondents were asked to give their views on whether the use of technology (HRIS) in recruitment increases the cost of recruitment. The findings show that 45.3% of the respondents agreed with the statement, 43.1% disagreed with the statement and 11.6% were undecided about the statement. The findings mean that technology may increase the cost of the recruitment though to a low extent.

Finally, all the respondents (100%) agreed with the statement that communication costs during the process of the recruitment can be minimized by adopting HRIS. Therefore the finding statistically means that when the Ministry adopts e-advertising, e-application and e-interviews, it is likely to minimize its communication costs incurred while recruiting staff.

From the interviews conducted, all the respondents (100%) appreciated the fact the recruitment process in the Ministry of Health had challenges although they were working very hard to streamline the whole process by employing an Information System. The respondents believed that HRIS can transform the Ministry's recruitment process by removing the cases of inconsistences that existed. When they were probed on whether HRIS can increase the effectiveness of the hiring process in terms of "cost of hiring", "recruitment lead-time" and "quality of applicants", these respondents had diverse views;

The director had this to say:

> *"Technology is the solution to the current challenges facing the recruitment system in this institution, although we know that once it is adopted, it will present its own problem but I believe it will largely bring back sanity in the recruitment process…"*

The director's quotation implies that human resource information system is believed to improve the recruitment process. This supports the quantitative data generated by the questionnaire.

On the other hand, when a key informant at Health Service Commission was asked to give his view on whether e-advertising, e-application and e-interviewing have improved the recruitment process, he has this to say;

> *"First of all, the system reduced the time we used to take to complete the recruitment process by around 70%, as you can see, I have very few staff here by they manage the whole system including complaints. In my opinion this is a great move by the Commission and we believe that if improvements are done in the system, it will be possible to track applicants and whey they have applied from, we have a lot of hope in this system that it will transform the recruitment process…"*

4.4.2 The relationship between E-advertising and the recruitment process

Source of information on the current Job

Respondents were asked how they got information on the current job in order to ascertain how the ministry advertises its jobs. Figure 4.3 indicates that 60.47% of the respondents got information on their current jobs through Newspapers, 32.58% got information through websites, 2.33% got information through email, 1.16% got information through classified adverts and 3.49% got information through other means. This means that the ministry advertises through Newspapers and websites. However, no respondent got information from Social media and Chat advertising. That means they ministry had not exploited this method of advertising jobs. The findings on source of information about current job are presented in figure 4.3 below;

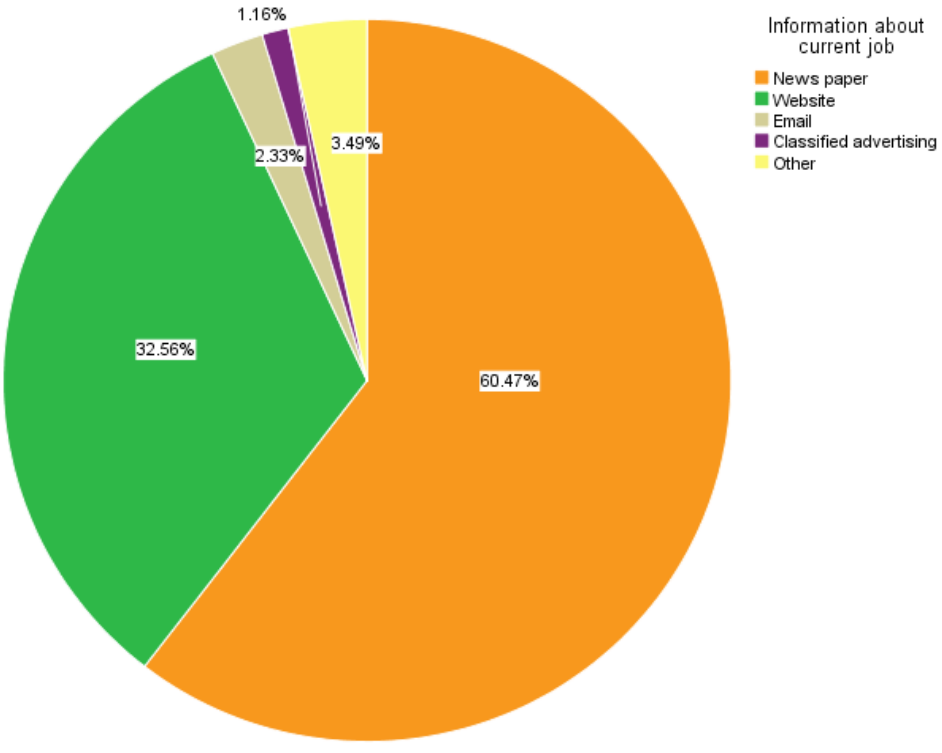


Figure 4.3: How participants got Information about current Job

The first objective of the study was "to investigate the relationship between e-advertising and the recruitment process in the Ministry of Health". The findings on this objective were

gathered using questionnaires which were administered to Program officers and lower level managers of the ministry. The respondents' views concerning the relationship between e-advertising and the recruitment process in the ministry of health were generated. The variable was measured using 4 components which were given scores on "a five point Likert scale of 1=strongly disagree, 2= Disagree, 3=Undecided, 4=Agree, 5= strongly agree". "Strongly agree" and "agree" were joined to mean "Agree", whereas "strongly disagree" and "disagree" were combined to mean "disagree" and findings are displayed in Table 4.7.

Table 4.7: Respondents views on e-advertising and recruitment process

Statement	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
The Ministry of health can strengthen its recruitment process by advertising on social media	78 (90.7%)	8 (9.3%)	-	-	-
The ministry can improve its recruitment process by advertising its jobs on its website	67 (77.9%)	19 (22.1%)	-	-	-
Mobile advertising improves the recruitment process of the ministry of health	22 (25.5%)	16 (18.6%)	23 (26.7%)	1 (1.2%)	24 (28%)
When the ministry of health advertises through chat advertising, it reduces the costs of the recruitment process	17 (19.8%)	16 (18.6%)	26 (30.2%)	1 (1.2%)	26 (30.2%)

Source: Primary data

The findings in Table 4.6 suggest that 100% were in agreement that the Ministry of health can strengthen its recruitment process by advertising on social media. Moreover, 100% of the respondents also agreed that the ministry can improve its recruitment process by advertising its jobs on its website. The findings statistically mean that social media and website advertising are believed to strengthen the recruitment process in the Ministry of Health.

When respondents were asked to give their views on whether mobile advertising improves the recruitment process of the ministry of health, 44.1% were in agreed with the statement, 29% disagreed with the statement and 26.7% were undecided. Respondents were also asked to give their views on whether advertising using chart at Ministry of Health reduces the costs of the recruitment process. Results showed that 38.4% of the respondents agreed with the statement, 30.2% were undecided and 31.4% disagreed with the statement. The findings show that to a low extent, mobile advertising and chat advertising are believed to strengthen the recruitment process. This is because less than 50% of the respondents believed that mobile and chat advertising could strengthen the recruitment process in Ministry of Health. The responses obtained from the program officers using questionnaires were compared with what key informants reported in interviews. For instance, all the key informants (100%) shared an opinion that e-advertising improves the recruitment process.

When probed on whether e-advertising can improve the quality of candidates, one of the commissioners was quoted saying;

> *"We have always tried to advertise on our website but the public is used to the traditional newspaper and notice board advertising, but I highly believe that if we exploit other media like the trending social media and many others, we can attract good quality candidates"*

On the other hand, the Systems Administrator at Health service commission said:

> *"We have in place an electronic recruitment system which has enabled us generate adverts, receives applications and offers aptitude tests to candidates. With time people will be used with ERS and will keep checking the availability of open job opportunities in the sector. In terms of quality, I don't see any difference in quality of candidates attracted currently from the quality we used to have…."*

The commissioner and the systems administrator's quotations imply that Ministry of Health already appreciates that e-advertising can improve the recruitment process. However the challenge is with the mind-sets of the public. The findings from the key informant interviews were in agreement with those generated through questionnaires.

4.4.2.1 Correlation results for e-advertising and recruitment process effectiveness

The first hypothesis stated; "there a significant relationship between e-advertising and the recruitment process in the Ministry of Health". Spearman's correlation coefficient (r) was used to test the hypothesis. Table 4.8 presents the correlation results.

Table 4.8: Correlation results for e-advertising and recruitment process

		E-advertising	Recruitment process
E-advertising	Pearson Correlation	1	-.080
	Sig. (2-tailed)		.466
	N	86	86

Findings show that there is a weak negative correlation (r=-0.80; p=0.466>0.05) between e-advertising and the recruitment process. The test for significance (p) showed that the significance of the correlation (p=0.466) was greater than the recommended significance at 0.05, implying very weak evidence against the hypotheses. Therefore the hypothesis that *there is a significant relationship between e-advertising and the recruitment process* was rejected. The implication of the correlation is that e-advertising accounted for -8% variance in the effectiveness of the recruitment process. The weak negative correlation implies that a change in e-advertising relates to a minor negative change in the effectives of the recruitment process, albeit in the negative sense. The negative nature of the correlation implied that there is an inverse relationship in that when e-advertising increases, effectiveness of the recruitment process decreases and vice versa. This situation could be attributed to the fact that in some instances, due to challenges associated with use of technology, more so in a

developing country like Uganda, the approach would exclude some capable candidates and possibly also come along with some delays.

4.4.2.2 Regression results for e-advertising and the recruitment process

A regression analysis was further done to determine the relationship between the dimensions of e-advertising (Social media, Newspapers, Company website, Mobile and chat advertising) and the recruitment process. Results on the regression tests are presented in Table 4.9 accompanied by analysis and interpretation.

Table 4.9: Model summary for e-advertising and the recruitment process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.080[a]	.006	-.005	3.66710

a. Predictors: (Constant), E-advertising
b. Dependent Variable: Recruitment process

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.203	1	7.203	.536	.466[a]
	Residual	1129.600	84	13.448		
	Total	1136.802	85			

a. Predictors: (Constant), E-advertising

b. Dependent Variable: Recruitment process

Results in Table 4.9, indicate a linear relationship (R=0.080) between the combinations of dimensions of e-advertising and the recruitment process. The adjusted R Square shows that all the dimensions of e-advertising combined, could account for -0.5% change in the recruitment process. These results were also put to an ANOVA test which showed that the significance (Sig=0.466[a]) is higher than the critical significance of 0.05 as indicated in Table 4.9 above. Therefore, there was not enough evidence to support the hypotheses. Contrary to

the results from the inferential statistics, findings from the interviews showed that interviewees strongly supported having e-advertising as one way of improving the recruitment process.

4.4.3 E-application and the recruitment process

The second objective of the study was "to investigate the relationship between e-application and the recruitment process in the Ministry of Health". The findings on this objective were based on evidence from questionnaires which were administered to program officers and Lower level managers of the ministry and interviews from key informants.

Method of application used by respondents

Respondents were asked to give the method of application they used to apply for the current jobs. This was done to ascertain the method of application used by candidates to apply for jobs in the ministry of health. Figure 4.4 suggests that 95.35% used hard copy application and only 4.65% used electronic application. The findings show that the Ministry of Health majorly uses hard copy application as compared to electronic application. The findings on the forms of application used by the respondents are presented in Figure 4.4 below;

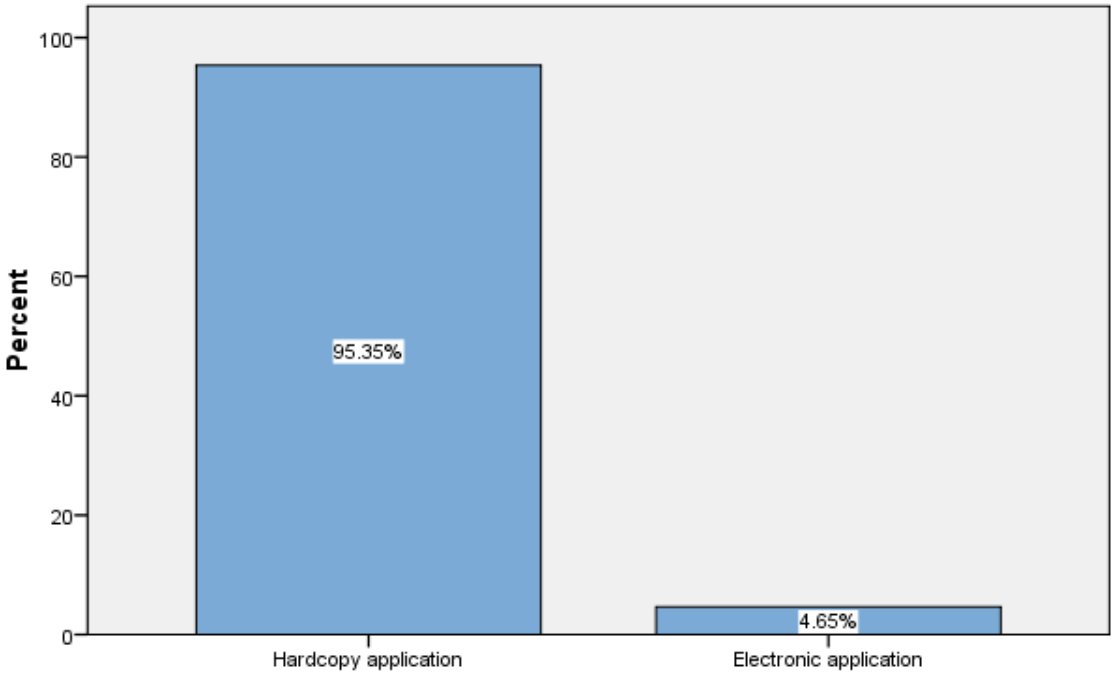


Figure 4.4: Form of application used by respondents

4.4.3.1 Respondents views on e-application and the recruitment process

The respondents' views concerning the relationship between e-applications and the recruitment process in the ministry of health were generated. The variable was measured using 4 items scored on "a five point Likert scale of 1=strongly disagree, 2= Disagree, 3=Undecided, 4=Agree, 5= strongly agree" and the results are displayed in Table 4.7.

Table 4.10: Respondents views on e-application and the recruitment process

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly disagree
The Ministry of health can strengthen its recruitment process by using e-application methods	60 (69.8%)	24 (27.9%)	-	-	2 (2.3%)
E-application via job portals makes the recruitment process simple and easy to manage	52 (60.5%)	33 (38.4%)	-	1 (1.1%)	-
E-uploading of resumes facilitates faster resume handling and reduces the load for human resource officers	51 (59.3%)	34 (39.5%)	-	-	1 (1.2%)
E-database maintenance guarantees quality of applicants all the time	50 (58.1%)	35 (40.7%)	1 (1.2%)	-	-

Source: Primary data

When respondents were asked to give their views on whether the Ministry of health can strengthen its recruitment process by using e-application methods; 97.7% of the respondents agreed with the statement and only 2.3% disagreed with the statement. This statistically means that e-application is highly believed to strengthen the recruitment process of the ministry. Regarding the statement whether e-application via job portals makes the recruitment process simple and easy to manage, 98.9% of the respondents agreed with the statement and 1.1% disagreed with it. This means that electronically submitted applications are easy to sort and manage in time and therefore simplifies the recruitment process.

Respondents were also asked to give their views on whether e-uploading of resumes facilitates faster resume handling and reduces the load for human resource officers. Findings suggested that 98.8% of the respondents were in agreement with the statement and only 1.2% disagreed with the statement. The findings mean that when resumes are uploaded on websites, it becomes easy to retrieve them as opposed to managing hardcopies. In the same sense, 98.8% of the respondents agreed with the statement that e-database maintenance guarantees quality of applicants all the time, whereas 1.2% of the respondents were undecided. The findings mean that electronic processing of resumes is more accurate is selecting the required candidates.

From the interviews conducted, the responses obtained from the directors and commissioners shown that there is a strong belief that e-application improves the recruitment process as stated by all (100%) of the informants.

When respondents were probed on whether e-application can improve recruitment lead time, one of the Commissioners was quoted saying;

> *"I know some good candidates may be left out because they don't know how to use technology, but if we are to recruit as scheduled, then information system is the only way to go…"*

Another Commissioner stated;

> *"The world had gone electronic, almost every aspect of management is handled properly using technology, why? It was discovered that technology is not only effective but efficient as well, therefore it is of no doubt that electronic application will improve the recruitment process…"*

On the other hand, Electronic Recruitment System coordinator at Health Service Commission stated;

"Currently, the system has been decentralised and hubs established at every Regional Referral Hospital, all our applicants are in position to sit for their aptitude tests from our hubs across the country, this has reduced the work load for Health service commission staff since most of the processes are currently automated…"

The findings show that informants shared an opinion that e-application can shorten lead-time thereby improving the recruitment process.

4.4.3.1 Correlation results for e-application and the recruitment process

The second hypotheses stated; "there a significant relationship between e-application and the recruitment process in the Ministry of Health". Spearman's correlation coefficient (r) was used to test the hypotheses. Table 4.11 presents the correlation results.

Table 4.11: Correlation results for e-application and recruitment process

	Recruitment process	
E-applications	Pearson Correlation	.214*
	Sig. (2-tailed)	.048
	N	86
*. Correlation is significant at the 0.05 level (2-tailed).		

Findings show that there is a significant positive correlation ($r=.214^{*}$; $p=.048<0.05$) between e-application and the recruitment process. These results were subjected to a test of significance (p) and the result (p=.048) is close to the recommended significance at 0.05, thus a significant correlation. The implication of the correlation is that e-application accounted for 21.4% change in the effectiveness of the recruitment process. The positive correlation implies that the two variables (e-applications and recruitment process) had a linear relationship. That means that when there is an increase in e-application, effectiveness of the recruitment process

increases and vice versa. Therefore the hypotheses; “there a significant relationship between e-application and the recruitment process in the Ministry of Health” was accepted as valid.

4.4.3.2 Regression results for e-application and the recruitment process

An analysis of regression was also done to determine the relationship between the dimensions of e-application (Job portals, e-resumes, retrieving of resumes and e-databases) and the recruitment process. Regression results are presented in Table 4.12 and thereafter analysed and interpreted.

Table 4.12: Model Summary for e-application and recruitment process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.214[a]	.046	.035	2.14538

a. Predictors: (Constant), Recruitment process

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.599	1	18.599	4.041	.048[a]
	Residual	386.622	84	4.603		
	Total	405.221	85			

a. Predictors: (Constant), Recruitment process

b. Dependent Variable: E-applications

Findings in Table 4.12 show a strong linear relationship (R=.214[a]) between the combinations of dimensions of e-application (Job portals, e-resumes, retrieving of resumes and e-databases) and the recruitment process. The adjusted R Square (0.035) shows that the combination of variable dimensions for e-application accounted for 3.5% change in the recruitment process.

When results were subjected to an ANOVA test, it was discovered that the significance value (Sig=.048[a]) was close to the critical significance at 0.05 as indicated in Table 12 above. Therefore, e-application has a significant positive effect on the recruitment process in the Ministry. As such, the hypotheses was accepted and validated. These findings were in line with the findings generated from the interviews conducted and therefore added a voice on the presented figures.

4.4.4 E-interviewing and the recruitment process

The third objective of the study was "to determine the relationship between e-interviewing and the recruitment process in the Ministry of Health". The findings of this objective were gathered using questionnaires administered to Program officers and Lower level managers of the ministry. Respondents were asked to give the method of interviews they subjected to as they vied for their current jobs. The findings are presented in Figure 4.5;

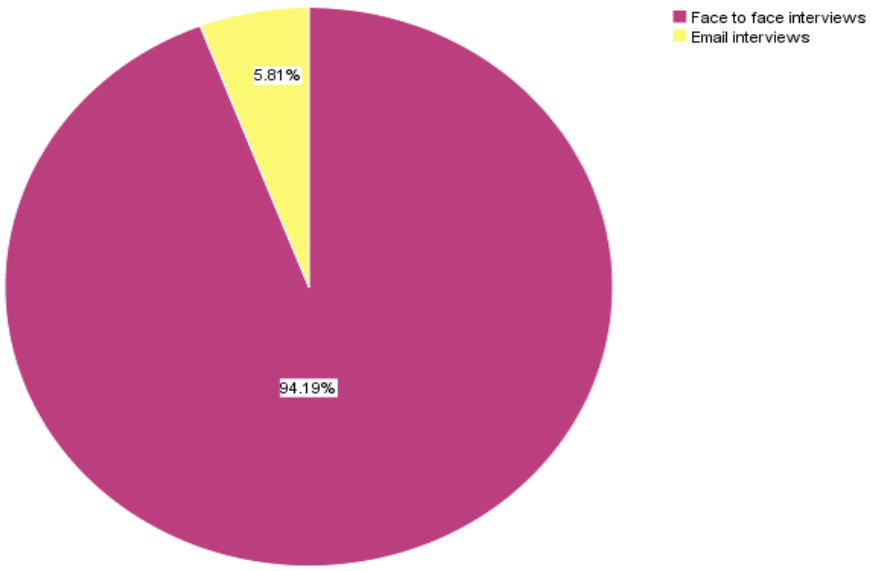


Figure 4.5: Method of interviews attended by respondents

The respondents were asked to choose the form of interview they were subjected to as they vied for their current jobs. This was done to ascertain the methods of interviews used by the Ministry of Health to select the best candidates for job openings. The findings presented in

Figure 4.5 suggest that 94.19% of the respondents were subjected to face to face interviews whereas 5.81% were subjected to email interviews. However, none of the respondents indicated having been subjected to video conferencing interviews and telephone interviews. The findings statistically mean that Ministry of Health majorly uses Face to face interviews as compared to other methods of interviewing candidates for jobs.

4.4.4.1 Respondents views on e-interviewing and the recruitment process

The respondents' views concerning the relationship between e-interviews and the recruitment process in the Ministry of Health were generated. The variable was measured using 3 items which were scored on "a five point Likert scale of 1=strongly disagree, 2= Disagree, 3=Undecided, 4=Agree, 5= strongly agree" and the results are displayed in Table 4.13 below.

Table 4.13: Respondent's views on e-interviewing and the recruitment process

Statement	**Strongly Agree**	**Agree**	**Undecided**	**Disagree**	**Strongly disagree**
Real time online interviews reduce the lead time for hiring	61 (70.9%)	25 (29.1%)	-	-	-
Non-real-time interviews are cheaper to conduct therefore reduces the cost of recruitment process	48 (55.8%)	38 (44.2%)	-	-	-
E-interviewing generates good quality candidates	42 (48.8%)	41 (47.7%)	2 (2.3%)	-	1 (1.2%)

Source: Primary data

Respondents were asked to give their opinions on whether real time online interviews reduce the lead time for hiring. Findings presented in Table 4.13 above suggest that all respondents (100%) responded in the affirmative. In the same manner, 100% of the respondents affirmed the statement that Non-real-time interviews are cheaper to conduct and therefore reduce the

cost of the recruitment process. On the other hand, when asked to give their views on whether E-interviewing generates good quality candidates, 96.5% of the respondents indicated agreement; 2.3% were undecided and 1.2% disagreed. The findings statistically mean there is a strong belief that both e-interviewing (real time and non-real time) generate good quality candidates, thereby improving the recruitment process. The findings from the interviews conducted with Directors and Commissioners showed that there is a strong belief that e-interviewing can improve the recruitment process in the Ministry of health as noted by all (100%) of the informants.

When respondents were probed on whether e-interviewing can reduce the cost of the recruitment process, a director was quoted saying;

> *"Well, we don't have e-interviewing facilities in place but I believe once we have them in place, then we can reduce the cost of recruiting employees…"*

One of the Commissioners had this to say;

> *"We should have adopted e-interviewing practises as early as yesterday, why? Because it's the way to go, if we are to reduce the cost of recruitment, the only way to go is human resource information system…"*

On the same issue, the key informant from Health Service Commission had this to say;

> *The beauty without ERS is that it has to a large extent eliminated issues of bias before interviews are being conducted. The system can never be corrupted, you know! And this means that all successful highlighted by candidates the system are of good quality, no bias……"*

The findings show that key informants had a similar opinion with other respondents as they all believed that e-interviewing reduces the cost of recruiting employees.

4.4.4.2 Correlation results for e-interviewing and the recruitment process

The third hypotheses stated; "there a significant relationship between e-interviewing and the recruitment process in the Ministry of Health". Spearman's correlation coefficient (r) was used to test the hypotheses. Table 4.14 below presents the results.

Table 4.14: Correlation results for e-interviewing and the recruitment process

		Recruitment process
E-interviewing	Pearson Correlation	.214*
	Sig. (2-tailed)	.048
	N	86
*. Correlation is significant at the 0.05 level (2-tailed).		

Findings show that there is a significant positive correlation ($r=.214^{*}$; $p=.048<0.05$) between e-interviewing and the recruitment process. These findings were further tested for significance (p) which revealed that correlation (p=.048) is close to the recommended significance at 0.05, thus a significant correlation. The implication of the correlation is that e-interviewing accounted for 21.4% change in the effectiveness of the recruitment process. The positive correlation implies that the changes in the two variables; e-interviewing and recruitment process, is linear. That means that when there is more effort to have e-interviewing at MoH, the recruitment process can be enhanced and vice versa. It should be noted that some people can miss the traditional interviews due to a number of barriers, such as sickness, loss of a loved one or logistical challenges. Therefore, with e-interviews, such can be overcome and as a result, the process stands to benefit from involving other good candidates who may otherwise have been excluded. Therefore the hypotheses; "there a significant relationship between e-interviewing and the recruitment process in the Ministry of Health" was accepted and validated by the findings.

4.4.4.3 Regression results for e-interviewing and the recruitment process

A further test was done using a regression analysis to determine the relationship between the dimensions of e-interviewing (Synchronous online interviews and synchronous online interviews) and the recruitment process. The results are shown in Table 4.15, followed by analysis and interpretation.

Table 4.15: e-interviewing and the recruitment process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.214[a]	.046	.035	2.14538

a. Predictors: (Constant), Recruitment process

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.599	1	18.599	4.041	.048[a]
	Residual	386.622	84	4.603		
	Total	405.221	85			

a. Predictors: (Constant), Recruitment process

b. Dependent Variable: E-interviewing

Findings in Table 4.15 above indicate that there is a strong linear relationship (R=.214[a]) between the combinations of dimensions of e-application (Synchronous online interviews and Asynchronous online interviews) and the recruitment process. The adjusted R Square indicates that the combined dimensions of e-application account for 3.5% change in the recruitment process. When findings were subjected to an ANOVA test, results showed that the significance (Sig=.048[a]) was close to the critical significance at 0.05 as shown in Table 4.15 above. Therefore there is a significant relationship between e-interviews and the recruitment process in the Ministry of health. From the findings, the hypothesis was validated. These findings were in line with the findings of the interviews conducted and therefore added a voice on the presented figures.

CHAPTER FIVE

SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings of the study, discusses the empirical results in view of the research objectives, stated hypotheses and similar findings from other research elsewhere. The researcher's conclusions are as well presented and finally recommendations made. The chapter also gives the areas suggested for future studies on the subject of HRIS and the recruitment process.

5.2 Summary of major findings

The study revealed a number of findings. These findings are summarized below;

5.2.1 E-advertising and the recruitment process

E-advertising had a negative relationship with the recruitment process in the Ministry of Health. In particular, the implication of a negative correlation is that adoption of e-advertising contributes to ineffectiveness of the recruitment process. In this case, it emerged from the findings that adoption of e-advertising negatively affected the effectiveness of the recruitment process and vice versa. Moreover, E-advertising accounted for -8% of the variance in the effectiveness of the recruitment process. The regression model showed that there is no linear relationship between the combination of dimensions of e-advertising and the recruitment process. The combination of dimensions of e-advertising (Social media, Newspapers, Company website, Mobile and chat advertising) accounted for -0.5% variation in the recruitment process.

5.2.2 E-application and the recruitment process

E-application had a significant positive effect on the recruitment process in the Ministry of Health. In particular, the positive significant relationship implied that a variation in e-

application contributes to a change in the recruitment process whereby adoption of e-application improves the recruitment process in the ministry of health. E-application accounted for 21.4% variation in the recruitment process. In addition, there was a strong linear relationship between the combinations of dimensions of e-application and the recruitment process. The combinations of the dimensions for e-applications accounted for 3.5% variation in the recruitment process.

5.2.3 E-interviewing and the recruitment process

E-interviewing had a significant positive effect on the recruitment process in the Ministry of Health. In particular, the positive significant relationship implied that a change in e-interviewing contributes to a change in the recruitment process whereby increase in e-interviewing by adoption of adoption of synchronous and asynchronous interviews improves the recruitment process in the Ministry of Health. E-interviewing accounted was associated with the recruitment process by 0.214 . In addition, there was a strong linear relationship between the combinations of dimensions of e-interviewing and the recruitment process. The combinations of the dimensions for e-interviewing accounted for 3.5% variation in the recruitment process.

5.3 Discussion of findings

5.3.1 E-advertising and the recruitment process in Ministry of Health

The study found out that e-advertising has a negative effect on the recruitment process in the Ministry of Health. The findings of this research were contrary to other studies, where it had been indicated that adoption of e-advertising approaches contributed to effectiveness of the recruitment process while failure to adopt e-advertising contributes to ineffectiveness of recruitment process. This finding was line with, Freeman (2010) who established that adoption of e-advertising by using websites and social media enables real time exchange of

information across a wide geographical area and this promotes safety of information since the air, marine, and ground traffic can be tracked. Relatedly, Kelly (2014) "believes that electronic advertising forms part of the overall strategy to reduce the amount of money, time, and effort spent on traditional form of recruitment". He further noted that extensive application of ICT by organizations may reduce the cost of advertisement and facilitate access to bigger terrestrial areas. Similarly, Marr (2007) holds the view that the value of candidates resulting from e-adverting is equal or less compared with that of from other sources.

Still incongruent with the research findings, Piabuo et al. (2017) revealed a strong relationship between e-advertisement and recruiting process, development and training, planning for human resources, evaluations and compensations and management efficiency. In fact, Piabuo (2017) posits that online advertisements minimize the expense of recruiting yet they allow a wider access by candidates compared to the traditional approaches. However, Kaur (2015) stressed the disadvantages of electronic advertising as he compared it with traditional approaches of advertising and argued that e-advertising process is restricted within computer savvy candidates where many applicants send their resumes for the sake of knowing their personal value even if they are not serious with the job.

5.3.2 E-application and the recruitment process in Ministry of Health

The study revealed that there is a significant positive relationship between e-application and the recruitment process in Ministry of Health. This is consistent with what was earlier established by Parry (2011) who supported this funding while examining e-HRM as a means to increase the value of the human resource function where he established that e-application has benefits that range from a wider reach of applicants, faster communication between

candidates and organizations, lower expenses for advertising, easy access to data, minimized costs of communication and increased organizational attraction.

Holm (2010) was in agreement with this finding while ascertaining the effect of e-recruitment on the recruitment process in three Danish MNCs. He established that online application is less costly and a faster way to discovering the suitable candidates than the old-style paper-based system of recruiting.

Khillare (2017), in his study of "*conceptual framework of e-recruitment in Current Business Scenario"* agreed with research finding. He found out that resume parsing/resume extraction makes it possible to automatically assess academic documents and experience of individuals by mining information from the database thereby saving time and money and reducing on recruitment lead-time.

5.3.3 E-interviewing and the recruitment process in Ministry of health

The study discovered a significant positive relationship between e-interviewing and the recruitment process. The research finding was consistent with what had been earlier established by other scholars. For instance, Bertrand and Bouchard (2013), in their study; *"Applying the Technology Acceptance Model to VRR with people who are favourable to its use"* established that web-based interviews allow organizations to give applicants an instant response regarding their potential to fill up the vacancy in the organization. Therefore were consistent with the research finding. Similarly, Aypay, Celik and Server (2012) concurred with the study finding while testing technology acceptance among teachers in Turkey. They established that e-interviewing is appropriate when handling a high number of applicants although they expressed concern about the system eliminating competent candidates who may fail to operate the system.

Still congruent with the research finding, Hamarna (2011) in his study; *"E-recruitment implementation in the United Nations Agencies in the Occupied Palestinian Territories"* established that when web-based interviews facilitates identification of talents and keeping of record of various steps taken to identify best candidates. This was consistent with the research findings.

Finally, Freeman (2010) was in agreement with the research finding, actually while studying *"Information and Communication Technology as a tool to implement and Drive Corporate Social Responsibility (CSR)".* He noted that electronic interviews facilitate real time interaction and full-time recruitment activity by the recruiting agencies, therefore, recruiting organizations can use very little time to advertise the jobs, receive applications and conduct interviews to select suitable candidates. This was consistent with the findings of this study.

5.4 Conclusion

5.4.1 E-advertising and the recruitment process

It was concluded that the contribution of e-advertising to effectiveness of the recruitment process is very minimal and largely negative, in the sense that the process would instead make recruitment less effective, albeit to a very mild extent. Network related challenges might affect the would-be applicants, who might miss out on the job advertisements out of inaccessibility or other related challenges. As a consequence, MoH may miss out on some suitable applicants who, therefore compromising the entire process of recruitment.

5.4.2 E-application and the recruitment process

In line with e-application, the conclusion derived from the study findings is that MoH has not invested much in technological advancements to support e-application. Besides, the existing policy at the Ministry does not seem to offer much clarity on the issue of e-application and as

such, even the human resource potential in terms of requisite skills to handle e-application is almost inexistent.

5.4.3 E-interviewing and the recruitment process

The capacity of MoH in terms of managing interviews is quite overstretched, in terms of financial, time and other costs. The dominance of face-to-face interviews over other forms of interviewing meant that little has been done to embrace technology in the recruitment process.

5.5 Recommendations

The findings of the study revealed a great need for the Ministry of Health to improve the effectiveness of its recruitment process by adopting human resource information as described by the respondents on the contributions of e-advertising, e-application and e-interviewing on the effectiveness of the recruitment process. In light of the above conclusion, below are the suggested recommendations as per study objectives;

5.5.1 E-advertising and the recruitment process

Based on the empirical results, it is recommended that the Management of Ministry of Health should revise its Human resource Management Policy to incorporate the new trends brought by technology advancement, such as social media advertising, website advertising and others. MoH should focus on standardizing the job advertising process so that the institution completely shifts from Traditional advertising to web-based advertising. Additionally, information should be availed to the public by displaying on the websites guidelines for accessing job adverts, approval for further studies based on organizational priorities, provision of managerial support if effective recruitment process is to be achieved.

5.5.2 E-application and the recruitment process

From the conclusions of this study, it is recommended the Management of the Ministry of Health should review the existing Human resource management policy to cater for e-application methods (e-resumes, database management and job portals). The policy should ensure that new trends in the e-applications are taken care of as technology continues to advance. The management of the Ministry of health should ensure that facilities required to manage an e-application system are in place. This is in terms of computers, internet servers, among others. Additionally, the Ministry should create capacity among the existing human resource department staff to use e-application systems.

5.5.3 E-interviewing and the recruitment process

From the conclusions of the study, the Management of the Ministry of Health should review the Ministry's Human resource Policy to cater for e-interviewing both (synchronous and asynchronous interviewing systems). Additionally, the management should ensure that they put in place facilities necessary for conducting e-interviews. These may not be limited to conferencing facilities, Standard Operating Procedures and guidelines. Further, the Management should ensure that more research in the area of recruitment is approved so that additional evidence is generated. Management should also build capacity for the existing staffing in managing interviews.

5.6 Limitations of the study

The study had a number of limitations. First and foremost, the research focused on the Ministry of Health headquarters and did not cover other levels of the institution, given the limitations of time and financial resources. Studies in the future should extend this study to various levels of the Ministry including National Referral Hospitals, Regional Referral Hospitals and the Local governments. In addition to that, the study only focused on three

factors (e-advertising, e-application and e-interviewing), yet there are other of factors like selection and orientation and others that contribute to the effectiveness of the recruitment process. Future researchers can focus on looking at the other factors other than those studied.

5.7 Contributions of the study

While the existing literature showed that how e-advertising, e-application and e-interviews affect the recruitment process in other sectors like Banking Sector, Lee, Tsai and Lanting (2011), there is no evidence given by any scholar in the context of the Ministry of Health, thus the study findings give the evidence of the relationships between Human Resources Information System (HRIS) (e-advertising, e-application and e-interviewing) and the recruitment process in the Ministry of Health, which can be referred to by other scholars.

5.8 Areas recommended for future research

Wholesomely, the study endeavoured to achieve its intended objectives as shown in the write-up, however, in the course, the researcher found areas that call for further research. These include;

The study was limited to HRIS and the recruitment process. Therefore there is need for further study to take into consideration other variables that may affect the effectiveness of the recruitment process.

The researcher limited the study to few dimensions of indicators of HRIS and recruitment process. Therefore, more research should be conducted while applying multidisciplinary measures of HRIS and a wider coverage of the recruitment process.

Again, the study scope was restricted to Ministry of Health. This makes the study findings limited to Ministry of Health, leaving out other government agencies in Uganda. This therefore leaves a need to replicate the study in other government Departments, Ministries and Agencies in order to find out differences in the findings.

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APPENDICES

Appendix i: Questionnaire

Dear Sir/Madam

My name is Livingstone Matsiko, pursuing a Master of Public Administration degree at Uganda Management Institute. I am conducting a study on the relationship between HRIS and the recruitment process in the Ministry of Health of Uganda, in partial fulfilment of the requirements for the award of a Master of Public Administration degree of Uganda Management institute. Any information provided in this questionnaire will be kept confidential and will strictly be used for academic purposes. Your participation in this study is voluntary. The study seeks to address the following objectives: To investigate the relationship between e-advertising and the recruitment process in the Ministry of Health; to investigate the relationship between e-applications on the recruitment process in the Ministry of Health and to investigate the relationship between e-interviewing and the recruitment process in the Ministry of Health

SECTION A: BACKGROUND INFORMATION

A1.Administrative level

a) Top Management ☐
b) Middle managers ☐
c) Lower level manager ☐
d) Program officers ☐

A2. Position (Optional)…….

A3. Age in years ……

Sex Male ☐ Female ☐

A4. Highest level of education

a) Certificate ☐
b) Diploma ☐
c) Bachelors ☐
d) Masters ☐
e) PHD ☐

A5. Time spent on the job (in years)

a) Less than one year ☐
b) 1-2years ☐
c) 3-5 years ☐
d) 5 -10 years ☐
e) 10 years and above ☐

A6. Religion

a. Catholic ☐

b. Protestant ☐
c. Moslem ☐
d. Others specify ☐

SECTION B: INDEPENDENT VARIABLE (HRIS)

B1. E-advertising

1. How did you get information about your current job (where was it advertised?)
   a) Social media ☐
   b) E-mail ☐
   c) Website ☐
   d) Newspapers ☐
   e) Classified advertising ☐
   f) Other ☐

Please indicate the extent to which you agree with the following observations about e-advertising and recruitment process. *Use a scale of; 5=Strongly agree, 4=Agree, 3=Undecided, 2=Disagree, 1=strongly disagree.*

Statement	**5**	**4**	**3**	**2**	**1**
2. The Ministry of health can strengthen its recruitment process by advertising on social media					
3. The ministry can improve its recruitment process by advertising its jobs on its website					
4. Mobile advertising improves the recruitment process of the ministry of health					
5. When the ministry of health advertises through chat advertising, it reduces the costs of the recruitment process					

B2. E-application

6. What form of application did you use to apply for your current job?
   a) Electronic application ☐
   b) Hard copy application ☐

Please indicate the extent to which you agree with the following observations about e-application and the recruitment process. *Use a scale of; 5=Strongly agree, 4=Agree, 3=Undecided, 2=Disagree, 1=strongly disagree.*

Statement	**5**	**4**	**3**	**2**	**1**
7. The Ministry of health can strengthen its recruitment process by using e-application methods					
8. E-application via job portals makes the recruitment process simple and easy to manage					
9. E-uploading of resumes facilitates faster resume handling and reduces the load for human resource officers					
10. E-database maintenance guarantees quality of applicants all the time					

B3. E-interviewing

11. How were you interviewed for the current job?
    a) Video conferencing ☐
    b) Email interviews ☐
    c) Face to face interviews ☐
    d) Telephone interviews ☐

Please indicate the extent to which you agree with the following observations about e-interviewing and recruitment process. *Use a scale of; 5=Strongly agree, 4=Agree, 3=Undecided, 2=Disagree, 1=strongly disagree.*

Statement	**5**	**4**	**3**	**2**	**1**
12. Real time online interviews reduce the lead time for hiring					
13. Non-real-time interviews are cheaper to conduct therefore reduces the cost of recruitment process					
14. E-interviewing generates good quality candidates					

SECTION C: DEPENDENT VARIABLE

Indicate the extent to which you agree with the following observations about the recruitment process. *Use a scale of; 5=Strongly agree, 4=Agree, 3=Undecided, 2=Disagree, 1=strongly disagree.*

Statement	**5**	**4**	**3**	**2**	**1**
C1. Quality of applicant					
15. The ministry matches the skills and experiences with the job requirements before hiring					
16. The employees who emerge the best in the interviews actually perform better when they are recruited					
17. Educational qualifications of candidates determine the quality of applicants which influences the success of the recruitment process					
C2.Recruitment lead-time					
18. The time taken to place an advert significantly influences the overall recruitment process					
19. The time taken to process application greatly influences the success of the recruitment process					
20. The time taken from interviewing stage to offer stage significantly influences the recruitment process					
C3. Cost of hiring					
21. Cost of advertising should be minimized in order minimize the cost of recruitment					
22. Administrative costs of recruitment are higher when recruitment is paper based					
23. When technology is used in recruitment, the costs become higher					
24. Communication costs during the process of the recruitment can be minimized by adopting HRIS					

Thank you for your participating in this study

Appendix ii: Interview guide

This interview is intended for academic purposes (A ward of a master's in Public Administration of Uganda Management Institute) only. I assure you of the utmost confidentiality of the responses given. It is intended to examine the relationship between HRIS and the recruitment process in the Ministry of Health. The study has the following objectives;

a) To investigate the relationship between e-advertising and the recruitment process in the Ministry of Health
b) To investigate the relationship between e-applications and the recruitment process in the Ministry of Health
c) To investigate the relationship between e-interviewing and the recruitment process in the Ministry of Health

As a head of department, you have been selected to participate in this study, you are free to choose not to participate in this study.

Questions

1. What is the current status of the recruitment system in the ministry of health?
2. Are you comfortable with the current status of the recruitment system in the ministry of health?
3. Do you think e-advertising can attract high quality candidates?
4. Do you think e-application can reduce the recruitment lead time?
5. Do you think e-interviewing can reduce the cost of the recruitment process?
6. In your opinion, how do you think HRIS can help to improve the recruitment process in the ministry of health?

Thank you so much for participating in this study

Appendix iii: Sampling guide

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.

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Appendix iv: Work plan

Activity	**Time (Month, 2018)**											
	J	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Proposal writing and defense												
Data collection												
Data Analysis and interpretation												
Report writing												
Submission of dissertation and defence												

Appendix v: Proposed Budget for the study

	Activity	**Budget Amount**
1	Printing and Photocopying and Binding	400,000
2	Stationery (Pens, Note books, highlighters, and stickers)	200,000
3	Transport	500,000
4	Research Assistant	600,000
5	Communication	100,000
6	Meals and refreshments	200,000
7	Miscellaneous	100,000
	Total Estimated Amount	**2,100,000**

Appendix vi: Request to access information in Ministry of health

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Kampala, Uganda
Website: http://www.umi.ac.ug

Your Ref:

Our Ref: G/35

17th September, 2018

TO WHOM IT MAY CONCERN

MASTERS IN PUBLIC ADMINISTRATION DEGREE

Mr. Livingstone Matsiko is a student of the Masters in Public Administration of Uganda Management Institute 6th Intake 2016/2017, **Reg. Number 16/MPA/KLA/WKD/0006.**

The purpose of this letter is to formally request you to allow this participant to access any information in your custody/organization, which is relevant to his research.

His Research Topic is: ***Human Resources Information System (HRIF) and the Recruitment Process in Ministry of Health, Uganda".***

Yours Sincerely,

Stella Kyohairwe (PhD)
HEAD, POLITICAL AND ADMINISTRATIVE SCIENCE

Appendix vii: Recommendation to proceed for field research

UGANDA MANAGEMENT INSTITUTE

Telephones: 256-41-4259722 /4223748 /4346620
256-31-2265138 /39 /40
256-75-2259722
Telefax: 256-41-4259581 /314
E-mail: admin@umi.ac.ug

Plot 44-52, Jinja Road
P.O. Box 20131
Kampala, Uganda
Website: http://www.umi.ac.ug

Your Ref:

Our Ref: G/35

17th September, 2018

Mr. Livingstone Matsiko
16/MPA/KLA/WKD/0006

Dear Mr. Matsiko,

FIELD RESEARCH

Following a successful defense of your proposal before a panel of Masters Defense Committee and the inclusion of suggested comments, I wish to recommend you to proceed for fieldwork.

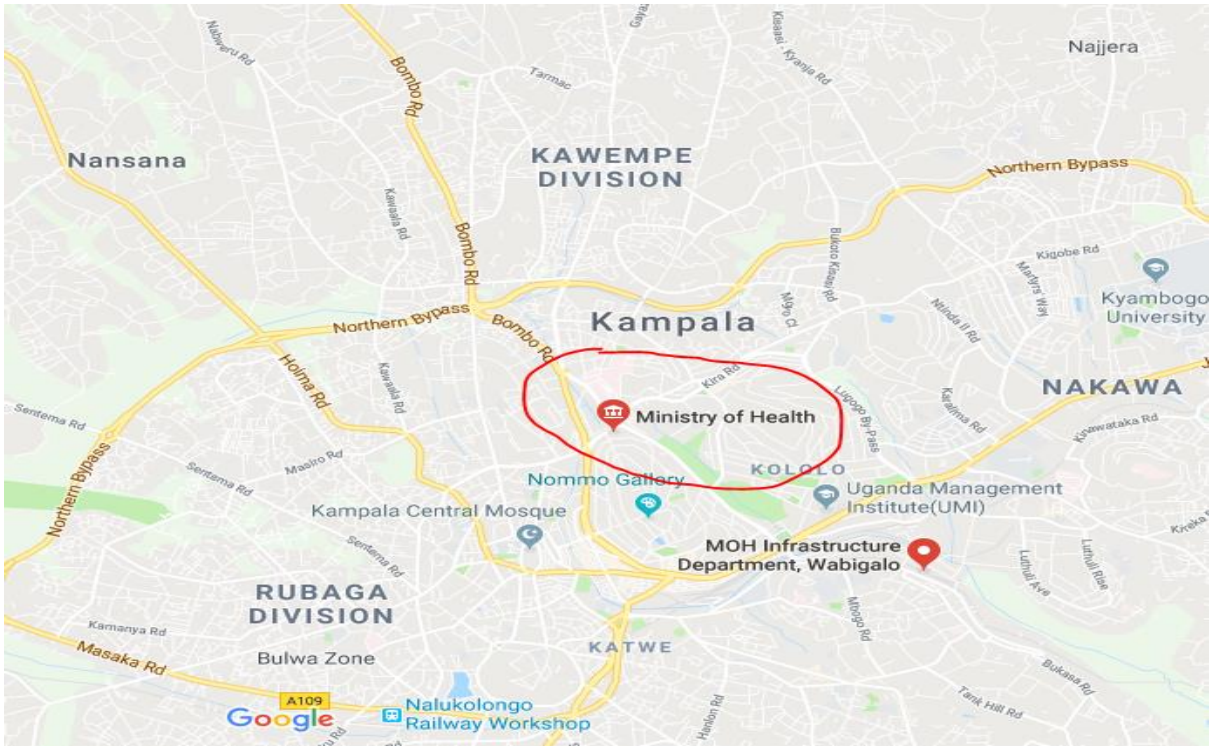
Please note that the previous chapters 1, 2 and 3 will need to be continuously improved and updated as you progress in your research work.

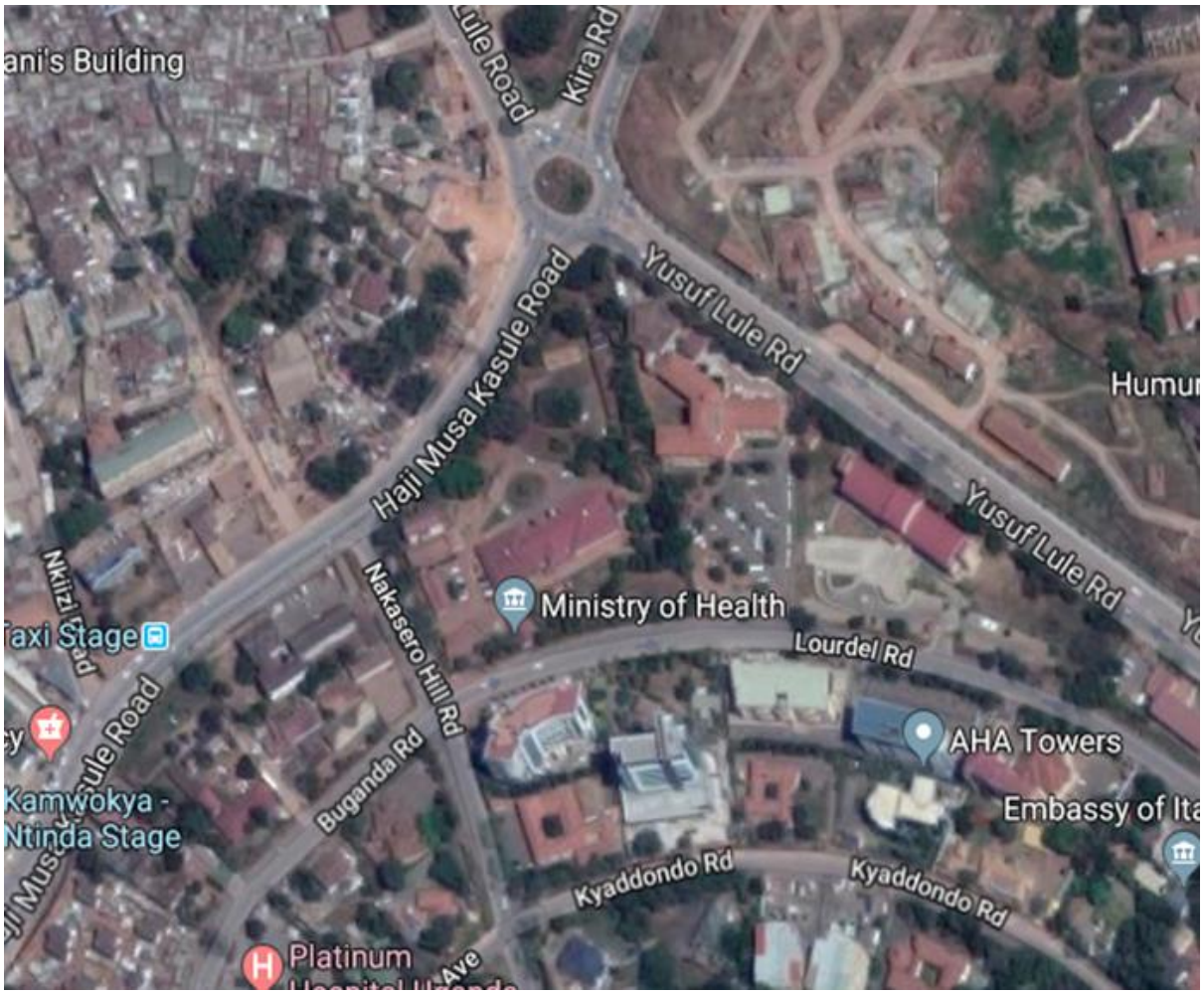
Wishing you the best in the field.

Yours Sincerely

Stella Kyohairwe (PhD)
HEAD, POLITICAL AND ADMINISTRATIVE SCIENCE

Appendix viii: Map of the Ministry of health headquarters





1st February 2019

The Permanent Secretary

Health Service Commission

Dear Sir,

RE: REQUEST FOR INFORMATION REGARDING ELECTRONIC RECRUITMENT SYSTEM (ERS) (THROUGH AN INTERVIEW) FOR AN ACADEMIC RESEARCH STUDY

I am a student of Master of Public Administration (MPA) of Uganda Management Institute (UMI). As a necessity to fulfil the requirements for award of a Master's degree, a student has to conduct an academic research study. In line with that, my study topic is: ***Human Resources Information System and the recruitment process in the Ministry of Health, Uganda.***

The purpose of this letter therefore is to request you to allow me interview the head of the team that is currently managing the Electronic Recruitment System or his assistant. The information generated through this interview will strictly be used for academic purposes and will enable me enrich my study by giving me reliable information against which I will make my recommendations.

I will share a copy of my dissertation for filing upon finalisation and approval of my study by the Institute.

Attached is my introductory letter from Uganda Management Institute and my student Identity Card to support my request.

I will be glad to get this information to enrich my academic research

Thank you very much

Yours faithfully

MATSIKO LIVINGSTONE

STUDENT/RESEARCHER