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FACULTY OF SOCIAL SCIENCES AND HUMANITIES
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**Interrogating the use of Information Technology for information dissemination and
exhibition in Zimbabwean museum: A case study of Zimbabwe Museum of Human
Sciences**

By

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**A Dissertation Submitted to the Department of Culture and Heritage Studies in partial
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ABSTRACT

The use of information technology for information dissemination and exhibition in Zimbabwean museums has become a topic of substantial interrogation. The Zimbabwe Museum of Human Sciences (ZMHS) is facing a significant challenge as it lags behind in adopting modern technology for communication and exhibition purposes. Despite existing in an information technology era, the museum predominantly relies on traditional means of communication such as physical exhibitions and outreach programs. This abstract delves into the challenges faced by ZMHS, potential solutions, and the need for embracing digital and online platforms for the dissemination of information to a diverse global audience. The study primarily focuses on the potential usefulness of the internet for museums, with a specific emphasis on the ZMHS. It explores the ways in which the museum can utilize the internet, including websites, social media, virtual exhibitions, and digital databases to increase accessibility to museum collections and disseminate information to diverse global audiences, transcending geographical barriers. While the museum heavily relies on permanent exhibitions for communication, it has been criticized for its limitations, including being too abstract, inflexible, and uninteractive. Additionally, the museum faces challenges in adopting internet communication due to resource and financial constraints, as well as a lack of internal capacity for such a transition. It suggests that technologies such as the World Wide Web, enhanced by 3D visualization tools, can provide solutions to the problems faced by the museum, including the lack of space for large collections and the deterioration of artefacts due to unhealthy environmental conditions. The study concludes that the use of the internet should complement traditional means of communication, countering their limitations, and providing solutions to the challenges faced by the ZMHS.

DECLARATION FORM

I, Barbara Tswatswa studying for a Bachelor of Science Honors degree in Culture and Heritage Studies, conscious of the details that plagiarism is a serious academic offense and that misrepresenting information is a crack of ethics in Culture and Heritage Studies research, truthfully declare that:

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DEDICATION

The academic research is dedicated to my beloved mother, Getrude Macharangwanda who has been my rock and inspiration throughout my academic journey so as to have a better life.

APPROVAL FORM

I certify that I have supervised Barbara Tswatswa for the research title: 'Interrogating the use of Information Technology for information dissemination and exhibition in Zimbabwean museum: A case study of Zimbabwe Museum of Human Sciences'. The research is in partial fulfilment of the requirements of the Bachelor of Science Honors degree in Culture and Heritage Studies and recommends it proceeds for examination.

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The department board of examiners is satisfied that this dissertation report meets the examination requirements and therefore recommend Bindura University of Science Education to accept a research project by Barbara Tswatswa titled 'Interrogating the use of Information Technology for information dissemination and exhibition in Zimbabwean museum: A case study of Zimbabwe Museum of Human Sciences' in partial fulfilment of Bachelor of Science Honors degree in Culture and Heritage Studies.

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LIST OF ABBREVIATIONS

ICOM	: International Council of Museums
ICT	: Information Communication Technology
NMMZ	: National Museums and Monuments of Zimbabwe
Q-GIS	: Geographic Information System
UTM	: Universal Transverse Mercator
ZBC	: Zimbabwe Broadcasting Cooperation
ZHMS	: Zimbabwe Museum of Human Sciences

LIST OF TABLES

Figure 1: modified communication model Greenhill (1994).....	9
Figure 2: shows 5 administrative regions under NMMZ administrative and the position of Northen Region	21
Figure 3: shows the researcher standing at ZMHS front door after an interview	29
Figure 4: Shows the researcher standing in front an exhibition display in the display in the museum after her research	32
Figure 5: shows some of the ICT tools used at ZMHS	34

TABLE OF CONTENT

CHAPTER ONE	xiv
1.0 INTRODUCTION	1
1.2 Background of the Study	1
1.3 Research Problem	3
1.4 Research Objectives.....	4
1.5Research Questions	4
1.6 Assumptions of the Study	5
1.7 Significance of the Research.....	5
1.8 Delimitation of the Study	5
1.9 Limitation of the Study	6
1.10 Definition of Key Terms.....	6
CHAPTER TWO	8
2.0 THEORETICAL FRAMEWORK AND LITERATURE REVIEW	8
2.1 Introduction.....	Error! Bookmark not defined.
2.2 Theoretical Frameworks	8
2.3 Global View and History of Museum.....	9
2.3.1 Overview of Museums in Africa.....	10

2.3.2 Museums in Zimbabwe	11
2.3.3 Museums in the Information Age	12
2.4 APPLICATION OF ICT FOR INFORMATION DISSEMINATION AND EXHIBITIONS IN MUSEUMS.....	13
2.4.1 Global Perspective.....	13
2.4.2 Use of ICTs in Zimbabwean Museums.....	14
2.5 Ethical issues on the use of ICTs in Museums	15
2.6 Application of ICT in the heritage sector	16
2.7 Chapter summary	17
CHAPTER 3	18
3.0 RESEARCH METHODS AND METHODOLOGY	18
3.1 Introduction.....	Error! Bookmark not defined.
3.2 Research Design.....	18
3.3 Research Methodology	19
3.4 Area of Study	20
3.5 Population of Study.....	21
3.6 Sampled population	22
3.7 SAMPLING METHODS.....	22
3.7.1 Purposive Sampling.....	22
3.7.2 Snowball Sampling	22

3.8 RESEARCH INSTRUMENTS	23
3.8.1 Desk top surveys	23
3.8.2 Questionnaires	23
3.8.4 Semi-structured Interviews	24
3.9 Data Analysis Plan	24
3.10 Ethical considerations	24
3.11 Chapter Summary	25
CHAPTER FOUR.....	26
4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION	26
4.1 INTRODUCTION	Error! Bookmark not defined.
4.2 DATA PRESENTATION.....	26
4.2.1 DEMOGRAPHIC INFORMATION OF RESPONDENTS	26
4.3 Research Findings.....	27
4.3.1 Do you have ICT department here at ZMHS	27
4.3.2 To what extent in is information and technology being used in exhibition and information dissemination at the Zimbabwe Museum of Human Sciences.....	30
4.3.3 Which ICT tools are being used at the Zimbabwe Museum of Human Sciences for information dissemination and exhibition in Zimbabwean Museums	32
4.4 Conclusion	35
CHAPTER FIVE	36

5.0 CONCLUSIONS AND RECOMMENDATIONS	36
5.1 Introduction.....	36
5.2 Research Summary	36
5.3 Conclusion	37
5.4 Recommendations.....	39
5.5 Directions for Future Research	40
REFERENCES	41

CHAPTER ONE

1.1 INTRODUCTION

1.2 Background of the Study

A museum is defined as non-profit, institution that is responsible for conservation, interpretation, exhibition and collection of intangible and tangible heritage. Accessible by the public, inclusive and accessible of museums provide sustainability and divisive. They communicate and operate professionally, ethically and with community participation, providing different experiences for edutainment knowledge sharing and reflection (ICOM 2022). Black (2012) states that a museum is a private/public permanent institution which is not for profit making, its duty is to conserve, collect, interpret, research and exhibit intangible and tangible heritage. Information communication and technology (ICT) is defined as a way of collecting, conveying and collating information technologically through technology (AJAYI 2009). Sunil (2013) pointed out that information communication and technology includes different components that work together to facilitate the management, processing, storage and communication of information and these include hardware's, software's, networks just to mention a few.

According to Gouveia (2007), information communication and technology in the museum institution come into existence in the 1960s it began from the need by people to exchange information and organize collections between institutions. This interface transformed with the advancement ICT of computers. Currently the use of ICTs has been having been increasing in many museums around the world. Lino (2010) states that information communication and technology allow interaction between museums and the society. Boiko (2011) states that ICTs help

museum staff to improve their pedagogical skills, equipping them with an opportunity to reach out to the younger generations.

Furthermore, the purpose of museums is to provide edutainment and unforgettable experiences to members of the public (Bowen 1999). This can be done and improved through different techniques which include publications, exhibitions, outreach and the internet. In this era of information technology where internet is now at the heart of communication, museums are embracing this new means of communication in communicating to a different audience around the world. Many scholars like McKenzie (1997), Bearman (1999), Jone-Gramil (1994), Donovan (1997), Lock (2003). And Schweibenz (1998) state that the use of ICT for exhibitions and dissemination of information in a museum is very important. Bowen (2000) pointed out that museums are places of innovation and research. Furthermore, they contribute to the advancement of knowledge in various disciplines, facilitate scholarly inquiry and support academic studies. ICTs help to create favorable conditions for new experiences and interpretation of museum objects and spaces. Students, scholars and researchers can have access to resources, archives, and collections, in the museum to develop new theories, conduct research and gain insights into different fields of study. Eslamian et al., (2019) postulates that museums are educational and tourism spaces and ICTs helps students and visitors to easily learn about the exhibitions in the museum. He further state that information and technology allow greater interaction between the cultures offered by museum institutions with the citizens.

This research intends to study the uses of information for information dissemination or exhibition in Zimbabwean Museums. One of the major reasons for initiating this research is to see the positive and negative impacts of using technology for information dissemination or exhibition of artefacts housed in the museum. This includes the use of social media platforms, virtual reality exhibitions,

virtual videos and other technological tools for electronic exhibitions. According to Honn (2010) the integration of information technology in the day to day running of a museum is very important in the modern world because it leads to a smooth dissemination of information. In the modern world the use of interactive virtual tours as education and entertainment tools is increasing. Information technology in museum helps the members of the public to easily access historical and cultural artefacts that have been visualized and also opens up the possibility of presenting the visitors extensive materials for deep value in a unified information and cultural space (Bognar 2017). The use of information technology in Zimbabwean Museums for information dissemination and exhibition has not been sufficiently studied and it looks as a factor needed to be addressed. It is therefore against this background that this study will seek to interrogate the use of information technology for information dissemination and exhibition in Zimbabwean Museums using Zimbabwe Museum of Human Sciences as a case study.

The information and communication vision and the use of modern devices are integrated in the technology of augmented reality this gives members of the public especially young people an opportunity to view artefacts exhibited in the museum on the screen of their personal ICT devices of their choice. Additionally, it also allows people to receive information on the chosen items frequently. Social-media is very important in the marketing of museum to different audiences.

1.3 Research Problem

Much of researches in the field of heritage and museum studies in Zimbabwe focuses much on the preservation and conservation of heritage sites and artifacts in museums. Chirikure and Pwiti's (2008), Ndoro (2001), Chipangura et al. (2018, Chipangura 2018). While it is true that a lot has been researched and written about heritage and museum studies in Zimbabwe, it is surprising that the use of information communication and technology in the dissemination of information and

exhibition designs have not received much attention from scholars. The gap the researcher realized is literature on the use of information communication and technology in the dissemination of information and exhibition designs at Zimbabwe Museum of Human Sciences. Against this background, the study will focus on interrogating the use of information communication and technology in information dissemination and setting up and designing of exhibitions at Zimbabwe Museum of Human Science.

1.4 Research Objectives

- To evaluate the extent in which information and technology is being used in exhibitions at the Zimbabwe Museum of Human Sciences.
- To assess the advantages of using information and technology in the dissemination of information and designing of exhibition.
- To identify types of information communication a technology used for communication and designing of exhibitions in a museum.

1.5 Research Questions

- Which ICT tools are being used at the Zimbabwe Museum of Human Sciences for information dissemination and exhibition in Zimbabwean Museums?
- What are the roles of the ICT department here at Zimbabwe Museum of Human Sciences?
- How do you disseminate information to the public/which methods do you use to disseminate information to the public?
- Do you have any online exhibitions?
- How effective is the use of ICTs in dissemination of information and exhibition designing?

1.6 Assumptions of the Study

The assumption of the study is that there are many ICT tools which are used in archeological researches at the Zimbabwe Museum of human sciences archeology department.

1.7 Significance of the Research

This study will provide important and fundamental insights into the use of information technology for information dissemination and exhibition at Zimbabwean Museums therefore the research has both practical and theoretical implications. From a theoretical perspective, this study will address an existing literature gap by locating the use information technology at Zimbabwe museum of Human sciences in spreading information and also on exhibition designs and presentations. Therefore, this research aims to contribute by addressing this glaring gap in the use of information technology for information dissemination and exhibition in Zimbabwean Museums. The research will be of crucial importance since it will tackle questions that are less raised and that have been less addressed previously. It is going to show the glaring gap in one's understanding of the use of information technology for information dissemination and exhibition in Zimbabwean Museums. Therefore, the research will be beneficial to all stakeholders in museums, heritage management and related researches by providing in-depth knowledge and understanding on the use of technology in archaeological research in Zimbabwe. The research will also provide guidance for policy planners, managers and policy makers in museum and heritage studies researches.

1.8 Delimitation of the Study

Delimitations of the study refer to the parameters or boundaries that the researcher sets in the study. These boundaries help the researcher in deciding what to include and what to exclude in the research study. The research was mainly confined to uses of information communication and

technology in the dissemination of information and exhibition designs at Zimbabwe Museum OF Human Sciences.

1.9 Limitation of the Study

Limitations of the research are the characteristics of design or methodology that will/influenced the interpretation, of the findings from the study. Limitations of the study can also be defined as weaknesses within the study that may have influenced outcomes and conclusions of the research. The major limitation of this study is lack of previous studies on the topic. Previous studies in the research are very important because they are a foundation of the research. Another limitation is that the study is likely going to have a limited sample size that therefore led to the lack of reliable data such as self-reported data. Lack of data necessitated will limit the scope of the research.

1.10 Definition of Key Terms

Museum: A museum is an institution that houses national collective and cultural objects and memories of the past through artefacts for both future and present generation to learn, interact, enjoy, and contemplate. It is an institution that documents, collects, exhibits and interprets material evidence and associated information for the public benefit, people can expel, interact, contemplate, get inspiration, learn and enjoy.

Technology: This is a discipline which deals with the science of applying scientific knowledge to practical problems.

Communication: Communication refers to the process in which messages are formulated, exchanged and interpreted (Hearth and Bryant 1992). It can also be defined as the act of conveying information for the purpose of creating a shared understanding between two or more parties.

Chapter Outline

The dissertation is going to consist of 5 different chapters. Chapter one will consist of background of the study, assumption of the study, significant of the study, delimitations and limitations of the study. Chapter two will consist of literature review and theoretical framework. It will include and provide identification of major literature that supports and validates the topic. This chapter is important because it shows what previous researchers have discovered and recommended to future researchers. Chapter 3 will also look at design and methodology, it will describe basic research plan. Chapter 4 it will consist of data presentation, analysis and discussion of findings. chapter 5 it will consist of summary, conclusions, recommendations and areas for further research.

CHAPTER TWO

2.0 THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Introduction

The chapter will review relevant literature to this study. It is of paramount importance to acknowledge that different academic researchers have written about the use of information technology in museums (McTavish 2006, Bailey 2010). The review of the literature was not focused on the case study only but it also covered different parts of the world. The chapter discusses the use of information technology for information dissemination and exhibitions in Zimbabwean museums as shown in the literature that have been consulted. This literature review sheds insight into how museum professionals such as curators, exhibits managers, tour guides and researchers contributed to the understanding of this study area. The following section will present the history of the use of information technology for information dissemination and exhibitions in museums. Thus, this chapter presents the knowledge that this research is seeking to address.

2.2 Theoretical Frameworks

Theoretical and conceptual framework, is the foundation for establishing research credibility, acceptance, and generalizability in academic research Adom, and Agyem (2018). Shea, McGaghie, and Bordage, (2001) pointed out that theoretical and conceptual framework are the basis of all academic research. Both frameworks provide the basis in which academic research problem, objectives, purpose and enquiry are formed. It is thereby important to note that there are many scholarly argumentation about conceptual frameworks and conceptual frameworks and researchers are unsure how to distinguish between the two (Ngulube, Mathipa & Gumbo, 2015). Some scholars if not all boldly argue that conceptual framework and theoretical framework are intertwined, they

are the same, therefore they refer to the same methodological category, a researcher uses a problem under study (Cline 2002, Denzin 1978, Imenda 2014 Grant and Osanloo, 2014, Schwandt 2000). Therefore, against this background the researcher chooses to utilize theoretical framework rather than conceptual framework in this research. The researcher therefore used a modified communication model by Greenhill (1994) as the theory of this study. The researcher chose to use the theory in this study because the theory is linked to the research problem being studied therefore it serve as the primary focus of the study thereby guiding the sampling and adoption of the analysis of data and research design strategy.



Figure 1: modified communication model Greenhill (1994)

2.3 Global View and History of Museum

Museums were formed out of the Therefore, desire by humans to interpret and collect historical artifacts for pleasure and for education purposes and these were kept in what is known as the cabinet of curiosities before the modern era (Lewis, 1992). Lewis (1992). World over museums is categorized in different phases. The first phase is pre-modern museum development, this stage includes private collections in the medieval and ancient periods and the second phase it is when the modern public museums developed from the renaissance period to the present.

2.3.1 Overview of Museums in Africa

Museums were introduced in Africa by the colonial masters, during colonization period. According to Msemwa, (2005) the colonization brings the idea of museums in Africa and it have its roots in the twentieth century. These include museums in the Central and Southern Africa, for example Zimbabwe's national museums which are located in the two major cities Bulawayo and Harare were founded in 1901. Lewis, (1992) stipulates that in South Africa, museums developed slowly in different provinces, these include museums in Durban in 1887, Grahams town in 1837, Bloemfontein in 1877, Pietermaritzburg in 1903 just to mention a few. In Kenya the National Museum was formed and established in 1909. The Dr Alvaro de Castro Museum in Mozambique, in the city of Maputo was formed in the year 1913. In addition, the Egyptian Museum located in north Africa Cairo was established in 1902 using collections from the Museum the Coptic also the Isiah Museum. Kayombo, (2005) pointed out that the introduction of museums in Africa during the colonial era laid the foundation of today's museums which are currently known as development, edutainment, research institutions and knowledge centers. Furthermore, he states that the modern museums are currently information centers, they are used by members of the public which includes students and researchers. Museum functions now include restoration, acquisition, conservation, documentation, and exhibition of information and different cultural objects (Masao, 2010).

Africa has different varieties of information communication technology such as the Internet through Fibre Optic Cable, satellite-based telephone, Vsats cable, mobile cellphone services and many more (Chisenga and Van Brakel 2003). Butcher (2003) pointed out that compared to other parts of the world like Europe, Africa is still backward in terms of in terms of using ICT for human development. There is a very huge gap in the use of ICT between African countries and the rest of

other countries in the world. Butcher (2003) postulates that many African countries are developing countries therefore they have very poor and, in some places, they don't even have electricity supplies and it also experience lack of skills on ICTs. The lack of skills in ICT and economic hardships causes many African museums to partially implement the use of ICTs in the information dissemination.

Baca (2003), argued that majority of Africans have access to ICT but it is very expensive to use. Therefore, people in Africa finds it very hard to apply it and to see its value. Yonazi, (2010) argued that although Africa have a lot of challenges in the implementation and use of ICTs in museums it is slowly catching up with the rest of the world. The use of ICT has increased due to the growth and introduction of the internet. William et al (2011) states that ICT infrastructure in Africa is increasing in Africa and they house different interconnected networks therefore increase the use of ICTs in information dissemination in museums. ICT in museums is used for information system to upgrade the dissemination of information storage, and acquisition (Ambrose & Paine, 2012).

2.3.2 Museums in Zimbabwe

Most of the museums in Zimbabwe were found and formed by the colonial masters during the colonial era. Museums in Zimbabwe are managed by National Museums and monuments of Zimbabwe. According to Chaterera & Nyawo (2013) museums in Zimbabwe, were introduced as part of the process of colonialism therefore they are largely viewed by citizens as institutions of colonial masters and as irrelevant. The Zimbabwean museums have been affected by the prolonged worsening economic challenges which includes high inflation from 1980s up to the present day resulting to the lack of funds for development, in the museum sector of Zimbabwe (British Council of Zimbabwe report 2016)

In addition, Chisedzi et al (2016) pointed out that most museums in Zimbabwe if not all were established according to colonial influences. He further state that the role of Zimbabwean Museums is to present, collect and interpret objects that relate with their audience, in order to create a sense of identity and ownership since they protect national cultural heritage. Zimbabwean museums offer an opportunity for the projection and creation of national identity through their exhibitions as a way of representing the societies they serve.

2.3.3 Museums in the Information Age

Museums have undergone a serious important transformation in the information age, in order to adapt to the changing expectations and need of their patrons (Yonazi, 2010). One of the key characteristics of museums in this era is the use of technology in order to make the museum visitors have a better experience. According to Parry and Sawyer (2005) virtual reality, digital displays and interactive exhibitions are some of the examples of how museums are using technology to educate and engage museum patrons in a way that is very exciting. They further stated that Museums are working very hard every day to make their exhibitions and collections to be available and accessible to almost everyone through social media platforms and other digital platforms. Online databases such as mobile applications and virtual tours provide people with an opportunity to learn and to know more about the different services being offered by the museum from the comfort of their homes.

Furthermore, in the information age museums are appreciating and embracing the concept of participation and co-creation, moving away from the traditional way of operating (McTavish 2006). Museums are now adopting a more collaborative and interactive approach and this will allow visitors to interact and engage with the museum exhibits, give advice to the creation of new content and to share their own perspectives and stories. Ambrose and Paine (2012), argued that

the participation of patron's experience in the museum provides a sense of belonging and connection with the museum. Museums in the information age are also making use of different ICT data analysis tools in order to gain insights into visitor demographics, behavior and preferences which helps to design and set programs and exhibitions to better meet the interests and needs of their visitors therefore continuously stay relevant (Bailey 2010). It is very important to also note that museums are no longer used as storerooms for artifacts but as storehouses of knowledge and objects (Greenhill 1992, Cannon-Brookes 1992). If visitors do not have access to information, it will be very difficult for them to understand museum objects and they will not connect or have a sense of belonging to the objects. Communication is therefore the key to the understanding of the museum object. Museums should therefore try all possible means to reach out to a diverse audience all over the world in order for them to reach their goal as information providers. It is through this that this research emphasizes on the use of ICT for information dissemination and exhibitions in museums at ZMHS since there is very limited research and literature on this subject matter.

2.4 APPLICATION OF ICT FOR INFORMATION DISSEMINATION AND EXHIBITIONS IN MUSEUMS

2.4.1 Global Perspective

The development and evolution of technology has led to the changes in the day to day running of museums. Poole, (2007) asserts that information communication and technology give museums a variety set of important instruments used in the collection management and also for reaching out to the museum patrons, mostly in a new, creative and interesting way. ICT's have also led to the introduction of electronic museums and also opened opportunities for the members of the public and the museum staff to engage with collections (Calderon 1990). He also went on to say that

information and communication technology tools provide the museums with various ways to reach out and interact with the public through social media platforms and blogs. It allows people to visit the museum remotely. McTavish, (2006) argues that museum patrons can access information any time of the day in the comfort of their homes even after the museum closes for the day. According to Baca et al (2008) access to most of museum information and resources online will help people to know about the museum through downloading crucial information like the museum collection list.

Furthermore, ICT have turned museums into museums without borders, allowing them to get to a bigger audience quickly (Masao 2010, Ambrose & Paine, 2012). Gilmore & Rentschler, (2002) pointed out that ICT allows the museum to easily educate the members of the public on the services, resources, exhibitions and collections housed at the museum therefore strengthening relationship between staff and users. ICTs

2.4.2 Use of ICTs in Zimbabwean Museums

Since 1980, when Zimbabwe received its independence there has been an increase in the amount of literature on museum management and governance but only few research has been one on the use of information technology for information dissemination and exhibition in Zimbabwean museums. According to Chitima and Mmakola (2023) the public museums in Zimbabwe are not active in the use of social media for information dissemination and communication. They further pointed out that only one Zimbabwean museum is making use of social media and other platforms and that is Zimbabwe museums of natural and human sciences but their social media handles are rarely updated. The National Museums and Monuments of Zimbabwe (NMMZ), which is the organization responsible for running all public museums in Zimbabwe, it runs a website that communicates and hosts information about all the public museums located in the five provinces

of Zimbabwe. Although the above-mentioned scholars carried out an investigation on the use of ICT IN Zimbabwe museums it is therefore very prudent to note that, their research was not focused on the use of ICT for information dissemination and exhibitions at Zimbabwe museum of human Sciences, which is the gape in knowledge that this study will try to fulfill.

Mawere and Mubaya (2017) is yet another scholar who have investigated and wrote on the use of ICT for information dissemination and exhibition in Zimbabwean museums. They further mentioned that ICT have the ability to make the museums services to be very much accessible to a big audience from all the walks of life. Mawere and Dube (2020) also conducted research on the use of ICT in Zimbabwe by cultural institutions like museums and arts craft centers and concluded that online platforms like social media give those institutions an opportunity to raise funds through fundraisings like online contributions and crowd funding campaigns. Chikowore and Mawere (2018) researched on how social media platforms are used in the dissemination of cultural traditions in Zimbabwe and their study pointed out that institutions like museums and art centers utilize social media sites to spread information about what they offer. While the above-mentioned academic researches demonstrated on the important of ICT in the daily management and operation of cultural institutions it is unfortunate that the studies did not address the use of ICT in information dissemination and exhibition in Zimbabwean museums particularly the Zimbabwe Museum of Human Sciences. This gap in knowledge is what this study aims to address.

2.5 Ethical issues on the use of ICTs in Museums

Ethical issues on the use of ICT in museum, deals with the way museum staff should make decisions on social and professional conduct. It is also known as information communications

technology ethics, cyber ethics, information ethics, global information ethics and internet ethics (Jamal 2014). According to Herold (2014) information and technology ethics is a brain child of Wiener who came up with the idea in the early 1940s. The use of ICT in museums provides a whole new set of ethical challenges. Computer networks can be hacked. The use of ICT can also cause the organization information and secrets to be easily accessed and stolen by employees. According to Relkin (2014) many museums have ICT ethics, but not many yet have relevant experience. Ethics in the use of ICT in museums include personal data protection of users, compliance of data processing, keep the register of data filing systems, monitoring of ICT staff online behavior through means of UTM and use of NAS backup software's just to mention a few.

2.6 Application of ICT in the heritage sector

According to Jacobs (2010) ICT can help in the documentation and raising awareness on heritage as well as help conservators in conserving and managing them. Further more he went on to state that ICT can be used in the conservation of different types of heritage. Cultural and heritage materials are catalogued, collected, preserved, classified, displayed and made available for use through ICT tools and platforms for the purpose of research and reference. Brown (2014) also postulated that cultural heritage events like heritage festivals are documented using multimedia technology and preserved for the future experience. ICT can maintain virtual replicas of everything of current or past with their environments.

According to Chipangura and Chiwara (2018) the use of information technology is very important in the cultural heritage sector because it can be used to document forgotten or receding cultural heritage practice. It is also used to preserve cultural heritage which includes the tangible and intangible from generation to the other. ICT have also been used to design better cultural heritage exhibitions which helps the public to easily understand their cultural heritage, since it uses

summarized texts and labels. Macdonald (2005) pointed out that the use of information technology in the heritage sector enhances an increased access to information about cultural heritage property. It allows the public more access to information about their heritage and to interpreting information for themselves rather than being presented with an interpretation.

2.7 Chapter summary

The chapter reviewed literature related to the research topic, it can be noted that the use of ICT has gone a long way in information dissemination and exhibitions in museums. However, there is need to contextualize this development within the Zimbabwe and African context. Therefore, prior research works are important to this research in as much as they provide a background for future researches. Apart from that, while it is true different researchers have conducted research on the use of ICT in information dissemination and exhibitions in museums most of the findings of the studied literature relate to developed countries and just a few to Africa. There is no much research work concerning the topic under study has been carried out in Zimbabwe let alone the museum of human Sciences. Apart from the reviewed literature it justifies a platform for a study like this to be carried out as there are many loop holes to be filled about the use of ICT for information dissemination and exhibitions in museums. The fact that knowledge is not static but is dynamic calls for a continued review and study of the research findings in order to indefinitely update the knowledge community on this particular study.

CHAPTER 3

3.0 RESEARCH METHODS AND METHODOLOGY

3.1 Introduction

This chapter focuses on data acquisition research methods which includes research design and research instruments employed by the researcher in this research. The appropriateness and steps of the research procedures which have been used and followed by the research in this study are outlined and also the data collected by each instrument. The chapter also showcases how data from the field have been analyzed.

3.2 Research Design

A research design is a structure and plan used to get data in research therefore providing evidence to answer research questions. Research design includes different forms used in order to get answers which are related to the research questions (Borg and Gall 1983). The researcher made use of triangulation to gather data. Triangulation refers to the use of quantitative and qualitative research method in single research.

The researcher adopted this method in this research because it is very effective to use in order to get descriptive and statistical data from the field therefore production of quality results. Triangulation as a way used to deeply explain the richness of human behavior through studying it from more than one standpoint (Cohen and Manion 1986). The merits of using triangulation in academic researches is that it leads to a clear understanding of the research, increasing confidence in research data, and providing a better understanding to the problem under study (Jick 1979). Qualitative research method was mainly used in this study since the study aimed at interrogating the use of information technology for information dissemination and exhibition in Zimbabwean museums to get information from different respondents concerning the subject under study. Qualitative data was important in interviewing NMMZ officials stationed at ZMHS and other stakeholders about the use of information technology for information dissemination and exhibition in Zimbabwean museums. The researcher employed quantitative data in order to get statistics on response rate and despondences demographic stratification. The use of more than 2 research methods in single research is very important as it leads to the production of valid and reliable data.

3.3 Research Methodology

The researcher will make use of qualitative research method. Savenye and Robinson, (2003) states that qualitative research is research focuses on understanding and developing human systems, which includes large and small groups. Its aim is to understand research problem of the local population it involves Mack et al (2005). Qualitative research methodology helps in analyzing stake-holder perceptions and their implications to the use of information technology for information dissemination and exhibition in Zimbabwean museums because it helps people to understand their social worlds. Qualitative research is mostly defined as the concept that is realistic since it includes interpretation and observation of reality. It always leads to openness therefore

encourage respondents to broaden their reactions, thus leading to the discovery of new study areas surrounding the area under study not initially considered but quite essential. Qualitative research methods were adopted in this research study because it is easy to assess for quality and severity it includes a description of opinions and behaviors of the respondents. In this context qualitative research will be used in the analysis and interpretation of the data that have been gathered. The qualitative research technique yields a well-elaborated depiction of dependences' ideas, emotions, and experiences, resulting in a better comprehension of their behaviors (Denzin 1989). The interviews allow the researcher to study the attitudes and behavior of interviewed which is very important in coming up with tangible findings to the research. Qualitative research helps in interrogating the use of information technology for information dissemination and exhibition in Zimbabwean museums.

3.4 Area of Study

The research was carried out at Zimbabwe Museum of Human Sciences in Harare, formerly Queen Victoria Museum. The museum is located in the Northern Region which is one of the five NMMZ administrative regions. It focuses on archaeology, history, art, ethnography and human evolution. The museum was established by the colonial masters and then it was handed over to National Museums and Monuments of Zimbabwe after independence.

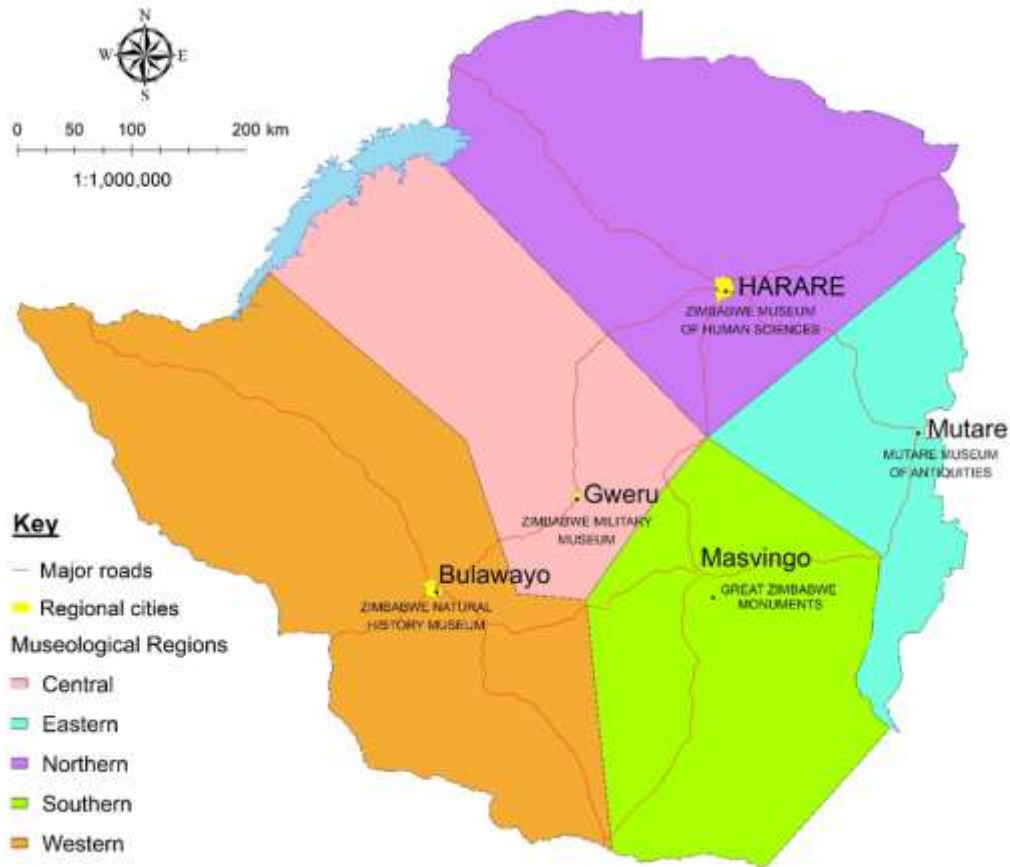


Figure 2: shows 5 administrative regions under NMMZ administrative and the position of Northern Region

3.5 Population of Study

According to Parahoo (2006) a population is defined as the number of people from which data is collected. According to Best and Kahn (1993, Barr 1960, and Nhandara et al 1997) a population is any group of human beings who have general similar characteristics which concerns the researcher. The targeted population in this study was the NMMZ officials, staff at Zimbabwe museum of human sciences, and bandura university culture and heritage staff and students.

3.6 Sampled population

According to Bell (1993) a population sample is a subset of the population under study. The researcher employed non-probability sampling technique for this study. In non-probability sampling, samples are made in a way that does not provide all the people in the population the chance to be selected (Trochim 2006). In this technique, population samples are chosen due to the researcher's personal judgment and their availability. The researcher employed purposive sampling method because it allows him to select participants who were needed in the study. Purposive or judgmental sampling as a type of non-probability sampling was chosen for the selection of a sample for this study. It was chosen because the selection of participants was based on the purpose or goal of the research hence the researcher had to choose a population that was most likely to yield the required data. Purposive sampling is also known as judgmental sampling and it is based on the population, the purpose and knowledge of the study (Crossman 2013).

3.7 SAMPLING METHODS

3.7.1 Purposive Sampling

Purposive sampling is also known as judgmental sampling and it is based on the population, the purpose and knowledge of the study. It is the process of choosing research participant's and the sources of data based on their expected relevance and richness of information that is comparable to research questions. It is mostly used in qualitative research in the selection and identification of useful information (Gentiles, Charles, Ploeg and Mackibbon 2015). In this research it has been used to interview NMMZ officials, ZMHS staff and other stakeholders.

3.7.2 Snowball Sampling

Snowball/chain sampling method is a research method which is non-probability and is used in qualitative research in which one interviewee gives the researcher the name of at least one more

potential interviewee (Geddes, Scott & Parker, 2018). This technique is mostly used in hidden populations which researchers cannot easily access. The researcher made use of this method due to the fact that in most cases people are not interested to take part in academic research studies therefore this sampling method helps as it allows the researcher to ask to be referred to additional persons who might be interested in the study and who have knowledge about the research under study.

3.8 RESEARCH INSTRUMENTS

3.8.1 Desk top surveys

This formed the initial basis of this research in defining the positive and negative effects on the use of information technology for information dissemination and exhibition in Zimbabwean museums. It also provided comprehensive definitions for terms such as information technology and information dissemination. The researcher consulted published and unpublished literature in order to get information on the subject under study. Online sources were also used. This information constituted an important part of literature review.

3.8.2 Questionnaires

The research made use of open ended and closed questionnaires in gathering data from different stakeholders that partake and also have knowledge about the use of information and technology for information dissemination and exhibition in Zimbabwean museums. The questionnaires were distributed systematically among the respondents. The respondents that received the questionnaires includes lower ranking staff at ZMHS and at NMMZ. The sample was collected depending on the considerations made by the researcher on the possible data that each sample would produce.

3.8.4 Semi-structured Interviews

The researcher relied on semi-structured interviews to collect data related to the study. A semi-structured interview, gives the interviewer the right to get more information on a particular topics or responses while still answering an already set of open questions. According to Magaldi and Berler (2020), semi-structured interview is an exploratory interview. His further state that a semi-structured interview uses a guide and paying particular attention to the main topic therefore providing a general pattern. Semi-structured, interviews, are very flexible and allows the researcher to be in control of the whole interview session.

3.9 Data Analysis Plan

The data was collected using the above-mentioned tools for data collection and it was analyzed using both qualitative and quantitative methods. Data was analyzed according to the way it was collected in relation to the research questions outlined. The data that have been collected in this research was both qualitative and quantitative in nature therefore it was analyzed differently too. For qualitative data gathered from the research tools used in this research included questioners, observation interviews, desktop survey and focus group discussion. The data analysis was casual and descriptive in nature. This means the data was explained and described against the objectives outlined in this research. Findings were synthesized after a categorical analysis in order to come up with a summary of the results of the enquiry.

3.10 Ethical considerations

Good and bad behavior in research is defined by ethics. Informed permission, secrecy, privacy protection, protection from damage, and identity protection are all part of research ethics, according to Kaiser (2009). Ethical considerations for this study on the the use of information technology for information dissemination and exhibition in Zimbabwean museums are of

paramount importance. The research will adhere to ethical principles and guidelines, including informed consent from all research participants, making sure that they know and understand about the procedures, purpose of the study, behaviors and and their right to withdraw from the study at any stage without consequences. Confidentiality will be maintained by not mentioning the identities of participant in reporting and securing of all data. Additionally, respect for cultural sensitivity will be a priority, acknowledging the potential impact of discussing about the use of information technology for information dissemination and exhibition in Zimbabwean museums. The study will seek ethical approval from relevant institutional review boards, local authorities, demonstrating a commitment to the well-being and rights of the participants. Transparent communication, voluntary participation, confidentiality, and cultural sensitivity will be integral components of the ethical framework, safeguarding the dignity, privacy, and rights of all stakeholders involved in the research.

3.11 Chapter Summary

The chapter discussed the research techniques used in data collection from the field. The chapter also explained the research design that largely relies on a case study approach. Demographics and other details of the research participants are also presented in this chapter. However, the information must be presented and processed in order for it to be useful which the core of the next chapter.

CHAPTER FOUR

4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This chapter will look, presents and discuss the findings of the research under study. The presented data have been collected from the field using research methodologies such as field observations, questionnaires, information gathered through desktop survey and interviews. NMMZ employees and former employees stationed at ZMHS were consulted on the use of information technology for information dissemination and exhibitions at ZMHS. The Modified communication model by Greenhill (1994) were used to analyze the research findings.

4.2 DATA PRESENTATION

The data presentation, presented in this chapter is structured and informed by the qualitative research methodological approach adopted for this study.

4.2.1 DEMOGRAPHIC INFORMATION OF RESPONDENTS

The people who were interviewed in this research study were distinguished by age, gender and level of education. It was of paramount importance to gather this information since it has a great impact on the responses provided by respondents. For example, education level affects how one views and address certain issues.

Table 1: Shows Demographic Data Response by level of education

Level of education	Number of participants
Tertiary education	5
Advanced level	3
Ordinary level	5

4.3 Research Findings

These are discussions and findings of the data which was collected from the field concerning the use of information technology for information dissemination and exhibitions at ZMHS.

4.3.1 Do you have ICT department here at ZMHS

The participants interviewed for the purpose of this study includes curators, tour guides, heritage education officers and archeologist all agreed that there is no ICT department at ZMHS. Some of the views of respondents are presented below. After being asked if there is an ICT department at ZMHS, Responded X had this to say

We do have an ICT department here at the museum, the department is centralized we use the one at the NMMZ headquarters. Everything that have to do with ICT we ask for help from the headquarters and they will do it for us.

Responded B who is a curator at the museum also agreed with responded X, he pointed out that

Most if not all, of the museums that are under NMMZ doesn't have an ICT department and here at ZNMHS we are no exception. Everything that requires ICT expertise here at the museums is done by the team from the headquarters. The challenge of relying with the ICT department from the headquarters is that sometimes we don't get help/the services that we require in time, because they will be probably attending to other requests by another museum in Zimbabwe.

Another Responded echoed saying

The Zimbabwe museum and heritage sector is faced by skills gaps and shortages and also lack of funds to modernize its operations. Therefore because of this and other reasons here at ZMHS we don't have an ICT department but that does not mean we don't use ICT in the dissemination of information and exhibition design, we do but on a very small scale because of the lack of expertise.

In relation to the above and many other responses by the respondents, it is clear that ZMHS doesn't have an ICT department, they rely on NMMZ headquarters in carrying out ICT related tasks. The researcher observed that ZMHS use ICT in exhibition design and dissemination of information through NMMZ. The dissemination of information using ICT is centralized.

Another responded lamented that:

We don't have an ICT department here because it requires us to have accessories like smart phone, Internet accessories, and computer that have Internet connectivity and these are very expensive. The museum is a nonprofit organization and the government does not allocate adequate funds for development in museums. It is therefore difficult for us to

acquire ICT accessories or facilities. Sometimes we get funds from external funders but they are not enough for us to develop in terms of ICT and so on.

The above responses shows that museum does not have an ICT department and this is most attributed to lack of finances. The biggest challenge that the museum is facing is finances to buy ICT equipment, services and labor. The Museum is financially supported by the government to run its activities; however, the government is not allocating enough funds to the museum therefore crippling its operations and development.

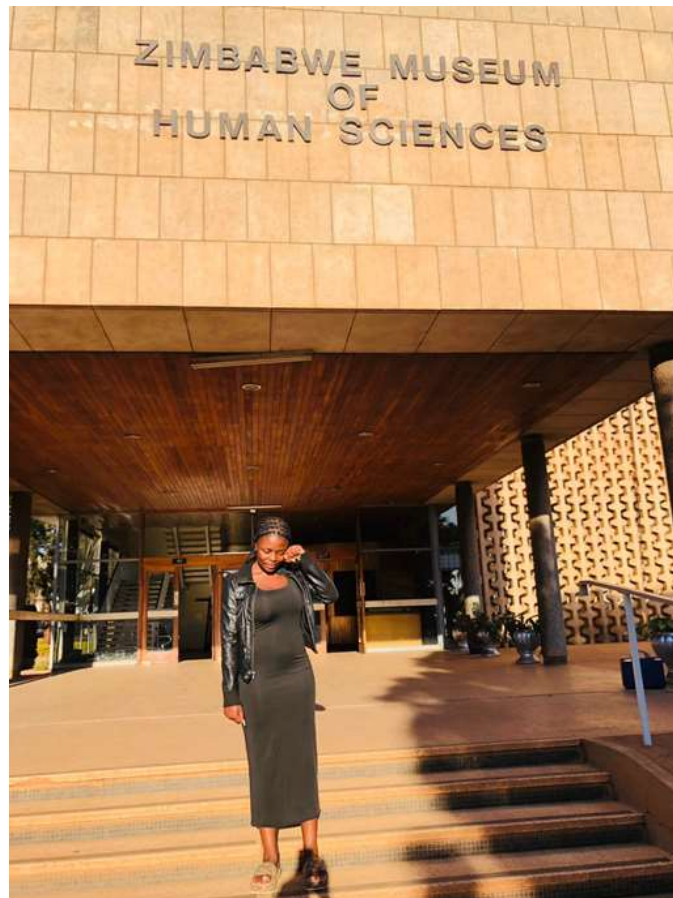


Figure 3: shows the researcher standing at ZMHS front door after an interview

4.3.2 To what extent in is information and technology being used in exhibition and information dissemination at the Zimbabwe Museum of Human Sciences.

In answering the question about the extent in which information and technology is being used in the exhibition and information dissemination at the Zimbabwe Museum of Human Sciences, responded E said

Here at ZMHS we are still backward in terms of using ICT in exhibition design and dissemination of information. As you note we are only having one social media platform that is Facebook but other social media accounts like tick tock, and Instagram we don't have any accounts of which we are in a technology era were the use of social media for information dissemination is the order of the day. It is also important to note that our Facebook page our Facebook page does not post frequently so it will be a fallacy if I say that ICT is used to a greater extent in the dissemination of information at ZMHS.

The museum only has one social media account which it uses to disseminate information to the public about the artefacts and exhibitions found in the museum. The museum does not post frequently on their Facebook account.

Responded Q also had this to say

We use ICT to inform and educate the public about the Museum for example there is a program that we air twice on ZBC TV titled heritage and focus. The program informs and teaches the public about the exhibitions and artifacts found at the museum. We also use software's like Auto-card and Q-GIS to design exhibitions. If you look closely, you will notice there are cameras mounted in exhibition displays, we use them to monitor our exhibitions.

The museums in Zimbabwe uses ICT to educate and also to provide different entertainment experiences to the public. The museum also uses different software's in executing its duties as an institution.

Another responded had this to say

As an institution that is operating in a country experiencing phases of economic difficulties, western sanctions, I can say information and technology is being used in exhibition and information dissemination at the Zimbabwe Museum of Human Sciences to a larger extent. We are trying our best as an institution it's just that we are limited by factors like national policies and economy. We are visible on some social medial platforms and we have some few exhibitions and exhibition projects we did using ICT.

The museum is affected by organizational, national and international policies in the implementation of ICT in information dissemination and exhibition design. The museum is operating with no technical staff who are very capable of using ICT in the day-to-day management of the museum. The use of ICTs requires museum staff to have basic knowledge of ICTs. The Museum is financially supported by the government to run its activities; however, the government is not allocating enough funds to the museum therefore crippling its operations and development.



Figure 4: Shows the researcher standing in front an exhibition display in the display in the museum after her research

4.3.3 Which ICT tools are being used at the Zimbabwe Museum of Human Sciences for information dissemination and exhibition in Zimbabwean Museums

In Africa the use of information communication and technology is developing each and everyday

Here we have different ICT tools like, which consists of hardware's these are computers, printers, projectors and smartphones. On networking we have Wi-Fi access routes and network cables. Communication we have emails, video conferencing tools like zoom, Google meet and instant messaging such as WhatsApp. Then on multimedia we have digital

cameras, DVDs and smart Televisions. These are some if not all of the tools that we use here even though they are very few and not modern ones.

Another responded had this to say

We do have different ICT tools that we use but only a few since we do not have ICT department here. The museum digital footprint is weak for example we don't use emails frequently and we don't have any website of our own.

The researcher observed that ZMHS has various types of ICT tools which consists of hardware, software, network and multimedia but most of these are not advanced. The above response by the responded is in support with what Bucher (2003) pointed out that African countries still lag behind in many different areas of ICT. African institutions like have no to less advanced ICT equipment and this affects the dissemination of information and exhibition designs.

Another responded also said

We use ICT tools like Facebook which is managed by our marketing team. However, we don't post frequently on the page. We also don't own modern ICT equipment like visual realities and we don't have any online exhibitions but it is in the pipeline.

There are ICT tools that are used at ZMHS but to a very larger extent because the institution doesn't have an independent ICTs department. ICT is mainly used for marketing purposes and for other things other than dissemination of information and exhibition designing.



Figure 5: shows some of the ICT tools used at ZMHS

Table 2: ICT tools at Zimbabwe Museum of Human Sciences

ICT tool	Quantity
Printers	3
Computers	5
Projectors	2
Digital camera	3
Social media accounts	1 (Facebook)

The data on the above table shows that the museum have ICT tools they use in the dissemination of information and in exhibit design. The data also shows that the information communication and technology, tools at the museum are very inadequate which therefore can affect the day-to-day smooth flow of operation and duties that require ICT.

4.4 Conclusion

The chapter focused on shedding lighter on the analysis of the findings of the research and bring out the interpretation of academic findings on the use of ICT in information dissemination and exhibit design in Zimbabwean Museums. The information acquired from respondents was sometimes contradictory, but it was still feasible to confirm the accuracy of the data. From the interviews that she conducted the researcher noted that, interviewees pointed out that the ZMHS plays a very important role of providing edutainment to the general public.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter is a summary of the whole research. It focuses on the main issues of the research that is research methods, reviewed literature and research findings on the uses of information communication and technology for information dissemination in exhibition in Zimbabwean Museums. Therefore, the recommendations, suggestions and findings of the research will be explained in this chapter.

5.2 Research Summary

The research focused on exploring the uses of information communication and technology for information dissemination and exhibition in Zimbabwean Museums. Zimbabwe museum of human sciences (ZMHS) formerly known as Queen Victoria Museum was used as a case study.

The literature reviewed the history and also the advantages and disadvantages of using ICT in museums. In order to clearly articulate on the uses of information communication and technology for information dissemination and exhibition in Zimbabwean Museums the researcher employed modified communication model by Greenhill (1994) which serve as the primary focus of the study. Qualitative and quantitative research methods were adopted in this research to make inquiries and research design in order to collect quality data. The data collected from the field was presented

thematically in chapter five and other presentation methods like descriptive and narrative were also used.

Case study approach was used in this research study in order to get firsthand information about the uses of information communication and technology for information dissemination and exhibition in Zimbabwean Museums. The researcher made use of interviews, questioners and desktop surveys in the collection of data from the field. The sampling methods that were used to select the research participants for questioners and interviews are purposive and snowball sampling. Thematic analysis was used in the processing and presentation of research findings.

5.3 Conclusion

Museums in Zimbabwe have the mandate to conserve, display, conduct, collect and research on all cultural and historic material which are related to national heritage. The museums play a very important role of providing edutainment through exhibitions, festivals, publications and other media as stated by (Masao, 2010). Apart from the above one of the important roles of museums is the disseminating information to users about museum collection and also to design exhibitions. The above-mentioned roles of museums in Zimbabwe can be made easy through the use of information communication and technology (ICT). Therefore, it is important to note that in this modern world ICTs are very important in the successful day to day running of museums.

The data acquired from the field by the researcher on the uses of information communication and technology at Zimbabwe museum of human science for information dissemination made the researcher to reach to a conclusion that. The Zimbabwe Museum of Human Sciences (ZMHS) is still lagging behind in terms of the use of information communication and technology (ICT) in the dissemination of information and exhibition designs. The responses given by interviewees proved

that the museum is partially using ICT in the dissemination of information and exhibition design. The ICT tools that are used at the museum are not advanced and are mainly used for office work.

The researcher also noted that the Museum doesn't have any ICT department, the department is found at the National Museum and Monuments of Zimbabwe headquarters which therefore proves that the museum and other stakeholders involved in the day to day running of the museum they are not prioritizing the use of ICT. Many respondents pointed out that the lack of ICT department at the museum is due to lack of funds for ICT equipment, expertise and services. The Museum is financially supported by the government to run its activities; however, the government is not allocating enough funds to the museum therefore crippling its operations and development in terms of ICT. The researcher also noted that there is no online exhibition at the museum and they are not making use of ICT when designing exhibitions due to lack of advanced ICT tools and expertise. The data from the field also indicate that the museum functions without staff who had knowledge of ICT and how to use it in their daily duties.

The researcher also arrived at the conclusion that technology has, brought changes in general operations of museum. ICTs provide very significant set of equipment to museums for their day-to-day collection management and reaching out to visitors in new and interesting ways. Further more it gives the museum access to global audience. The researcher noted that Zimbabwe Museum of Human Sciences mostly use ICT for marketing the museum. Marketing is done on the ZMHS Facebook page which is run by the marketing team. The museum has very few targets and tools to use for ICT purposes which therefore affects the development in the use of ICT for information dissemination and exhibition designing.

5.4 Recommendations

The researcher has few recommendations to Zimbabwe Museum of Human Science and the National Museums and monuments of Zimbabwe which is the board that oversee the all-National Museums in Zimbabwe. The recommendations emanate from the research finding in relation to the uses of information communication and technology for information dissemination and exhibition in Zimbabwean Museums. Therefore, these recommendations are made in order to address the problems affecting the uses of information communication and technology for information dissemination and exhibition design in Zimbabwean Museums.

- The cultural heritage and home affairs which is the responsible ministry that oversee heritage institutions in the country should support heritage institutions like museums with funds to buy ICT tools.
- Every museum under National Museums and Monuments of Zimbabwe (NMMZ) must have its own ICT department.
- National Museums and Monuments of Zimbabwe (NMMZ) must hire ICT experts and deploy them at museums.
- NMMZ should partner with local and international museums that are in the ICT sector in order to improve on the use of ICT. The partnership will help in the raising of funds to support development of ICT projects at the museum.
- The NMMZ should adopt virtual museums.

5.5 Directions for Future Research

The researcher encountered few challenges in this study which include lack of literature on the topic under study. Unwillingness of some key informants to participate in in the research. Lack of access to some of the critical files/ literature on the topic under study. In future a study can be carried out to find out the uses of ICT in other museums around the country. It is the researcher's hope that future researchers will research further about uses of information communication and technology for information dissemination in exhibition in Zimbabwean Museums.

REFERENCES

- Arminger, B. (1997). "Ethics in Nursing Research: Profile, principles, perspective". *NursingResearch*. 26 (5):330-333.
- Adom, D., Hussein, E. K., & Agyem, J. A. (2018). Theoretical and conceptual framework: Mandatory ingredients of a quality research. *International Journal of Scientific Research*, 7(1), 438-441.
- Ajayi, O. O. (2009). E-learning: A Shorter, Safer, and Surer Route to Reaching the Education for All Destination. *Journal of Science and Technical Education (JSTE)*, Akungba. ISSN: 978-978-49161-9-6, Vol.1, No.1, pgs. 138-145
- Ambrose, T. & Paine, C. (2012), *Museum basics*, 3 rd edition. London: Routledge
- Butcher, N. (2003). *Technological Infrastructure and Use of ICT in Education in Africa*. Paris: Association for the Development of Education in Africa
- Bailey, G., Baillarger, T., Garragreed, D. C., Elliott, L., & Doswell, R. (2010). *Handbook on developing curriculum materials for teachers: Lesson from museum education partnership*. United States of America: Information Age Publishing Inc
- Black, G. 2012. *Transforming Museums in the Twenty-First Century*. London: Routledge.
- Bonython, E., and A. Burton. 2003. *The Great Exhibitor. The Life and Work of Henry Cole*. London: V & A Publications.
- Botte, J., A. Doyen, and L. Uzlyte. 2017. "Ceci n'est pas un mus ee: panorama g eographique et historique des d efinitions du mus ee." In *D efinir le mus ee du XXIe si ecle. Mat eriaux pour une discussion*, edited by F. Mairesse, 17–38. Paris: ICOFOM.

Black, G. 2005. The Engaging Museum: Developing Museums for Visitor Involvement, Routledge.

Boiko A.G. 2011. Sozdaniye sistemi muzeinogo ditsantsionnogo obucheniya: spetsifi ka, Analizing prakti ki, recommendation [Creating a Museum Distance Learning Systems: Nuances, Case Studies and Recommendati ons]. Saint Petersburg, GRM. (In Russian)

Bell, J. 1993. Doing your research project. 2nd ed. Buckingham: Open University Press.

Burns, N. Grove S., K. (2003) Understanding Nursing Research, Philadelphia; Saunders Company.

Cohen, L and Manion, L. 2000. Research methods in education, Routledge (5th edition)

Eslamian, A., Feizoleslam, A., Rajabion, L., Tofighi, B., Khalili, A. H. (2019). A new model for assessing the impact of new IT-based services on students' productivity. International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2019, vol. 15, no. 3, pp. 4-21.

Hughes, S., Davis, T. E., & Imenda, S. N. (2019). Demystifying theoretical and conceptual frameworks: a guide for students and advisors of educational research. J Soc Sci, 58(1-3), 24-35.

Imenda, S. (2014). Is There a Conceptual Difference Between Conceptual and Theoretical Frameworks? Journal of Social Science, 38(2):185-195.

Jick, T.D. 1979. Mixing qualitative and quantitative methods: Triangulation in action, Administrative Science Quarterly, 24, 602-611

Kaiser, K (2009). Protecting respondent confidentiality in qualitative research. Qualitative Health Research, 19(11), 1632-1641.

Kayombo, A. N. (2005). General guideline for establishment and management of museums in Tanzania. Dar es Salaam: Dar es Salaam University Press.

Lewis, G. (1992). Museum and their precursors: a brief world survey. In: Thompson, M. A. (Ed.) Manual of Curatorship. Oxford: Butterworth-Heinemann

Mugenda, O.M. and Mugenda, A.G. (2003) Research Methods, Quantitative and Qualitative Approaches.vol 3, 11. ACT, Nairobi.

Masao, T. F. (2010), Museology and museum studies: A handbook of theory and practice of museum. Dar es Salaam: University of Dar es Salaam Press.

Mawere, L., & Mubaya, T. R. (2017). African Studies in the Academy: The Cornucopia of Theory, Praxis and Transformation in Africa?

McTavish, L. (2006). Visiting the virtual museum: Art and experiences online. In: Marstine, J. (Ed.) New Museum Theory and Practice: An Introduction. Oxford: Blackwell Publishing

Mawere, M., & Dube, B. (2020). The Role of Social Media in Promoting and Preserving Zimbabwean Cultural Heritage. In Handbook of Research on the Preservation and Dissemination of African Cultural Heritage (pp. 1-10). IGI Global.

Poole, N. (2007). ICT for museums. United Kingdom: Association of Independent Museums