Midlands State University

Established 2000

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF LOCAL GOVERNANCE STUDIES

ICT A MEANS OF IMPROVING PUBLIC SECTOR MANAGEMENT SYSTEMS A CASE OF BINDUR MUNICIPALITY.

BY

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DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN LOCAL GOVERNANCE STUDIES.

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DECLARATION

I Lisa Blessing Chitete declare that this study is my creative work that has not been surrendered to any other University. The sources I used have been acknowledged.

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DEDICATION

The study is dedicated to my parents and God for giving me strength and courage to endure even the most difficult phases of this study.

ABSTRACT

This research sought to analyse if the use of ICT improves the public sector management systems using Bindura Municipality as a case study The research objectives were provided and these includes to assess the role of ICT in management systems, to assess the extent to which BM is using ICT, to analyse the effectiveness of ICT in improving BM management systems, to identify challenges faced in the use of ICT, opportunities and to recommend solutions that can improve the use of ICT in management systems. There are lot of challenges being faced by Bindura Municipality in the management systems such as lack of transparency, accountability, corruption and poor communication skills. The use of ICT came a new public management to improve the challenges faced in the public sectors, this influenced the researcher to analyse if the use of ICT improves the management systems in public sector. Chapter two revealed other scholars views and aspects in the use of ICT. It provides different forms of ICT their merits and demerits such as computers, internet, mobile phones, telephones, printers and fax. The benefits of ICT were also revealed basing on different views from scholars and these includes it increase accountability and transparency, it reduces corruption, it improves the provision of services and it increase efficiency and effectiveness. The challenges faced in the use of ICT were also discussed such as lack of ICT skills, lack of ICT infrastructures, virus and power cuts. Chapter three outlines the research methods that were used in the research. The research used both qualitative and quantitative method for better analysis of the findings. The targeted population were councillors, other council employees and heads of departments, the sample size was 86 people. Different sampling techniques were used such as simple random sampling and judgemental sampling. Data collection instrument which were used are interviews, questionnaires and observations. The study revealed that the most forms of ICT being used by Bindura Municipality are computers, telephones and internet. It also revealed that use of ICT improves the management systems through the roles of ICT such as it increase accuracy, transparency and accountability, it reduces corruption, and it improves participation and decision making. The municipality is facing challenges in the use of ICT and these incudes inadequate ICT trainings, and ICT infrastructures, lack of ICT skills, experts and poor electricity supply. There are opportunities that the municipality can use to improve the use of ICT such as the availability of three universities in Bindura town that the municipality can acquire ICT skills and ICT experts, availability of labour from University student in the use of ICT and the municipality is near capital city that it can be easy to excess ICT resources Therefore various conclusions were provided such as there is no separate ICT department at Bindura Municipality, there are lot of benefits being noted through the use of ICT. Inadequate ICT infrastructures, inadequate ICT training, lack of ICT skills and experts are the major challenges faced by Bindura Municipality in the use of ICT. Recommendations where provided to improve the use of ICT in public sector management systems. These includes infrastructure development, frequent ICT training, public-private partnerships, formulating ICT policies, employing ICT experts, establishment of ICT department and prioritisation of ICT in annual budgets.

ACKNOWLEDGEMENTS

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ACRONYMS

BM   -Bindura Municipality

I T   -Information technology

ICT   -Information and Communication Technology

IS   -Information System

LA   -Local Authority

MICT   -Ministry of Information and Communication Technology

NGOs   -Non Governmental Organisations

ZIM ASSET   -Zimbabwe Agenda for Suistanable Social-Economic Transformation

<center>**CHAPTER I**</center>

<center>**INTRODUCTION**</center>

1.0 INTRODUCTION

This research will analyse the importance of Information and Communication Technology (ICT) and the effectiveness of ICT in improving public sector management systems using Bindura Municipality as a case study. The chapter will clarifies the research objectives, the research questions, limitations, and delimitations, background of the study, area as well as the significance of the study.

1.1 BACKGROUND OF THE STUDY

Bindura is the main urban area in the province of Mashonaland Central, Zimbabwe. It is situated in the Mazowe Valley about 89k north-east of Harare. It has a solid industrial base and is the commercial hub of the province. Business in Bindura is buoyed by clientele from across the width and breath of the province. According to Bindura Municipality Strategic Plan (2013-2018:10-11), in 1890 Kimberly Reef and Royal Australian Navy (RAN Mine) was established and this led to the establishment of Kimbini (RAN Mine) primary school for the blacks in 1892. The settlement which was formed in 1913 around Chipindura hills caused the establishment of Bindura because of the settlers who failed to express Pindura. In 1965 Chipadze was established as the first township. It graduated as rural council in 1967 and changed into town council in 1990. In 1999 it was rendered the municipality status. The town continues to grow and it has three universities such as Bindura University of Science and Education, Zimbabwe Open University and Zimbabwe Ezekiel Guti University.

Information and Communication Technology (ICT) has been around for a long time because there were always communications through technology available at that time. The first revolution of ICT was of radios, television and firms the next was of using computers and calculators in mathematics. It was followed by information technology in institutions and the fourth revolution which is a modern trend and it is called Information Communication Technology (ICT). According to Mlitwa, (2004) ICT increases the flow of information and it is now easy to transmit messages and information without considering the geographical boundaries. Tinio (2003) asserts that the technological changes world-wide have influenced the creation of new economy fuelled by information and technology. It is important to note that due to the new changes in globalization it brings about new changes in technologies which influenced the use of ICT in public sectors. According to Haque et al (2012) the advanced ICT in private institutions has influenced the use of ICT in the public sectors. This revealing that due to the effective use of ICT from private sector organisation which were producing effective and efficient services this caused the public sector globally to consider the use of ICT in their day to day operations.

Dzidonu (2002), states that governments worldwide recognise the importance of ICT in assisting and increasing socio-economic development. Developed and developing countries are formulating policies and strategic plans that will assist them to change their economies into information and technology base economies (ibid). Globally ICTs are going to the dynamic change especially in the public sector due to its structures and the use of ICTs is being viewed as important to ensure effective and efficiency in public sector performance and more influence is being put in place to use ICT in public sector .Malaysia's vision 2020 encourages the use of ICT in public sectors and those public sectors should be improved through ICT by 2020 and Singapore's vision of changing the country into an 'intelligent island' see ICT as the main engine for promoting accelerating development and growth. ICT in developed countries is

growing faster in public sector than in developing countries. In India and China ICT in their public sectors has developed and they view it as an engine for economic growth. Changthammakun (2013) asserts that the governments worldwide have now focused on ICT to facilitate and reengineer the internal and external government processes to improve their performance to be efficient in the exchange of information, improves provision of services and to improve government operations through efficiency and effectiveness. The changes brought by the use of ICT associated with transparency and accountability through openness, effective communication and democratization of government.

Developing countries are using ICT to build their economies in achieving sustainable economic growth and social transformation (UNCTD, 2003 and UNDP, 2004). Fairlie et al (2006) assert that computer and Internet use, mainly in developing countries has expanded rapidly in recent years. Even there is development in technology and adoption rates, there is different in which ICT is penetrating in developed countries and developing countries. Meso et al, (2005) noted that many countries in sub-Saharan Africa is underdeveloped and this affect the use of ICT because there is poor power supply, network problems and poor infrastructures. ICT in African countries is viewed as important and significant to reduce problems and poverty in Africa. In WSIS (2003) governments world-wide noted that one of the crucial strategies was to create e-mail addresses and websites in all government departments. African governments are promoting the use of ICT in their government although some of them are still facing challenges in implementing ICT.

According to Gillwald et al (2012) ICT in public sectors continues to grow yearly and greater improvements in service delivery is noted in South Africa. In countries, such as Mozambique and Uganda their governments are being facilitated by NGOs for the development of ICTs and more effort is being put in place in order to improve the public sectors operations through ICT. In the post note of Parliamentary offices of Science and Technology (2006) the Ministry of

ICT in Egypt facilitated the development of ICT through partnering with private organisations. According to them there is a great improvement in the government of Egypt through the use of ICT although the government is still facing some challenges to implement ICTs in all sectors of government. The Ethiopian government in 2006 was amongst the lowest in Africa in development of ICTs in public sector. The changes brought by ICTs globally caused the government of Ethiopia to put more effort to encourage the use of ICTs in all levels of government although it is still facing some challenges in developing infrastructures. In some parts of the developing countries ICT is contributing positively to everyday changes in management systems. According to Diamond and Khemani (2005) in most developing African countries the implementation of budgets and accounting methods were manual and some are still using manual or maintained by very old and ineffective software applications. Some improvements have been achieved through certain forms of ICT such as increase use of mobile phones and formulation of national ICT strategies in Africa. It is important to note that there still areas that African countries need to improve in order for them to fully take advantages of the benefits of ICT.

According to Ministry of Information and Communication Technology (MICT) strategic plan (2010-2014:7) in Zimbabwe the government started to appreciate and encouraging the use of ICT in 1972 during the foundation of central computing services. It was under finance ministry and its obligation was to assist and provide computers in all government institutions and departments. Then it facilitated the circulation of the use of ICT in ministries and was regarded as a strategy in national development policy for example science and Technology policy in 2002.This shows that the government of Zimbabwe has noticed the importance of ICT for a long time but there is need to improve on ICT infrastructures in order to fully implement it in all government institutions. Chamisa (2014) asserts that the MICT is increasing ICT infrastructures in most areas in Zimbabwe in order to assist everyone in the use of ICT. For the

past year (2013) Chamisa (2014) said that the MICT developed ICT infrastructures such as cables which connect Zimbabwe world- wide through other countries in Africa like South Africa and Botswana. The ministry is supporting and facilitating different government sectors in the use ICT and in the development of ICT infrastructures. Tsokota and Solms (2013:1) assert that the benefits of ICT produce positive results in eradication of extreme poverty in most African countries through employment creation. They also noted that ICT can assist countries worldwide to reduce poor development and unproductivity. In most public sectors in Zimbabwe ICT is still an ongoing process, it started in private sectors and later public sectors started to use it due to challenges in local authorities such as outdated machines and software poor valuation roles, poor management of resources and use of new technologies which led to poor transparency, accountability and rapid corruption. This caused the government of Zimbabwe to introduce e-government in all public sectors. In Zimbabwe the use of ICT has not yet fully implemented as some of the services are being provided manually in most government institutions. This shows the poor rate in which the country is using ICT in some public sectors.

A Local Authority (LA) is a government at lower level, which is responsible for the provision of services of that particular city or town. According to Machingauta (2010:156) in De Visser et al 2010 the hierarchical nature of the relationship between central and local government allows central government to supervise local government with a view to bringing it into harmony with national policies. This kind of supervision is intended to enable the supervising authorities to prevent the unlawful use of the funds and other property of local authorities, to prevent corruption, or to improve the performance of local authorities, among other things. In this view it is noted that the government of Zimbabwe is influencing and encouraging ICT in LA and the establishment of e-government is being viewed as essential. Thus it influenced the researcher to assess on how ICT in local authorities can improve management systems.

According to Sherpherd (2008) ICT is useful in decision making, foster development and empowerment and accelerate the flow of information in local government. This concurs with what has been said by Solomon Mhlanga in Newsday (11 March 2013), he supported and appreciate the use of ICT by local and central government as positive branding that can assist the government in the implementation of the Results Based Management program.

ICT skills may support national development priorities such as the United Nations Millennium Development goals MDG (8) ICT and partnerships. The eighth goal is ensuring that the positive effects of ICT improve development in all nations. The use of ICTs in all nations is vital in order for the achievements of national goals and it increases transparency and accountability. The National development plan document (ZIM ASSET) for the period (2013 – 2018:102) is also referring to the use of ICTs as the key enabler that can ensure successful of some of the clusters. ICTs are seen as an important tool which can help the government to achieve its goals. The achievements of those goals need effective management systems in all levels of the government.

 It is through this background that the researcher is interested to analyse and to evaluate the role of ICT in improving the public sector management systems using Bindura Municipality as a case study. Ndou, (2004) asserts that the opportunities brought by ICT such as improving service provision and increasing transparency and accountability led to introduction of ICT in public institutions. Danziger and Andersen (2002) also assert that public administrations have noted the positive effects of information technology through improving government performance, efficiency and productivity. Zimbabwe local authorities are putting efforts to ensure effective use of ICT in order to reduce challenges being faced.

1.2 STATEMENT OF THE PROBLEM

Bindura Municipality has adopted ICT in its operations and it is now used by most local authorities in Zimbabwe. The Municipality is still facing challenges in the management systems, there is lack of transparency, accountability, poor communication skills and corruption is increasing. The management system is still poor, some managers and other employees are facing challenges to ensure effective communication; some do not have adequate skills especially on the use of ICT. The use of computers in the organisation is limited to typing of documents, receiving and sending emails, the municipality has no website. The Municipality is still using manual in some of the systems for example in personnel section and the services that they are providing are poor. The government is putting more emphasis and effort to ensure effective use of ICT in local authorities. This research will analysis how the use of ICT in Bindura Municipality will improve those challenges faced in management systems.

1.3 OBJECTIVES

- To assess the role of ICT in management systems at Bindura Municipality.
- To assess the extent to which Bindura Municipality is using ICT in its management systems.
- To analyse the effectiveness of ICT in improving Bindura Municipality management systems.
- To examine the opportunities that can be used by Bindura Municipality in the use of ICT in management systems.
- To identify challenges faced by Bindura Municipality management systems in ICT.

- To recommend possible solutions that can enhance effective management systems through ICT at Bindura Municipality.

1.4 RESEARCH QUESTIONS

- What is the role of ICT in Bindura Municipality management systems?

- To what extent is Bindura Municipality using ICT in its management systems?

- How effective is ICT in improving Bindura Municipality management systems?

- What are the opportunities that can be used by Bindura Municipality in the use of ICT in their management system?

- What are the challenges faced by Bindura Municipality management systems in ICT?

- What are the recommendations that can enhance effective management systems through ICT at Bindura Municipality?

1.5 SIGNIFICANCE OF THE STUDY

The use of ICT has become important in public sectors. The study is significant to Midlands State University, Bindura Municipality, and other students as well as to the researcher. The study will create awareness to the public sector on the significance of the use of ICT and it will provide better ways and measures in the use of ICT in Municipalities. It will also provide the importance of ICT in management systems and identify ways of improving management systems through the use of ICT. It will suggest possible ways of handling challenges of ICT in management systems. The study will be important to the Midlands State University as they can use it as a reference in the study of ICT and help other students who will want to research on the same field and it can increase their knowledge. As a student studying BSc in Local Governance Studies Honours Degree the research will improve the researcher's practical knowledge pertaining the use of ICT. The researcher will mark a step forward towards the

fulfilment and achievement of the Bachelor of Science Honours degree in Local Governance studies.

1.6 LIMITATIONS

- The researcher will only focus on one local authority and it can be difficult to give an effective analysis of the study. Therefore the researcher will try to give an effective analysis basing on the situation in the use of ICT at Bindura Municipality.
- It can be difficult for the researcher to be able to communicate with all the important employees and councillors and some will not be willing to provide the researcher with enough information. Hence the research will try to find the right time where managers and other employees will be available so that it will not be difficult to meet all the important employees. Furthermore the researcher will explain to them that the information that they will give to the researcher will be private and confidential, making them feel comfortable and free to communicate with the researcher.
- Lack of enough money to travel to Bindura every now and then will be a problem to the researcher since she is not a resident of Bindura. The researcher will try to budget the limited money available and will get financial help from family members in order to travel to Bindura for more information.

1.7 DELIMITATIONS OF THE STUDY

The study will focus on Bindura urban, the area has 12 wards and each ward is represented by a councillor .Bindura urban is bounded by the Ruya river to the north, Audrey A to the north-east Mufurudza river to the east Mazowe and Pote rivers to the west. The study will focus on Bindura Municipality management systems from the Town Clerk, head of departments, other employees and councillors. It will be looking at three hundred and thirty five council employees

and 12 Councillors. The research will not focus on Bindura Town as a whole and residents of Bindura. The study will be concerned with the use of ICT in Bindura Municipality to improve the management systems. It will also focusing on ICT and its use in the following ways emails for communication, use of ecocash in the payment of bills, emergency toll free calls etc. and how these will improve the management systems of Bindura Municipality. It will encourage the implementation of ICT in all departments within the Bindura Municipality which include the housing, finance, health, works and the administration department. The research will also be interested on the extent in which Bindura Municipality management systems is using ICT, role of ICT in those management systems and the effectiveness of ICT in improving Bindura Municipality management systems.

1.8 ASSUMPTIONS OF THE STUDY

- ➢ ICT can improve Bindura Municipality management systems.
- ➢ There are challenges and limitations of ICT in Bindura Municipality.
- ➢ There are changes and benefits brought by ICT in Bindura Municipality management systems.

1.9 DEFINITIONS OF TERMS

Information and Communication Technology (ICT) – according to the World Bank ICT is "the set of activities which facilitate by electronic means the processing, transmission and display of information" (Rodriguez and Wilson, 2000). It refers to all communication devices such as cell phones, radios, television, computers, printers, internet and different software.

Public sector- According to Gortner et al (2007) "a public organization is an organization whose primary goal and mission is to provide goods or services that benefit members of the public and stakeholders and owners of the organization. Also are fundamentally unlike private

organizations in their legal, economic, political nature, and roles. Public organizations exist for different purposes than private organizations. They are controlled and funded directly by the government. Their determinant for success is not simply profit, but they are held accountable to constituencies"

Management system- is the guidance and control of action or actions, it is a set of components interconnected for a purpose. It can also be defined as a set of interrelated or interacting elements to establish those policy and objectives and to achieve those objectives (Fraser 2002).

1.10 SUMMARY

Chapter one is a very important chapter as it give the researcher a guideline on the research topic and it highlights what the study is all about. It introduced the research topic, the background of the study, statement of the problem, research objectives, research questions, significance of the study. This chapter also mentioned delimitations of the study as well as limitations of the study. The following chapter will focus on the literature review of the study which outlines the views of other scholars relating to the importance of ICT in improving public sector management systems.

CHAPTER II

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter will focus on theoretical constructs and views from various individuals and scholars on the use of Information and Communication Technology (ICT) in public sector. At the same time problems associated with existing management systems and how they can be addressed by this research will further be discussed. There will be deliberation of information specific to ICT and this will assist the researcher to understand the research more and provide a clear roadmap to follow in achieving the objectives. It will also include definition of ICT, ICT in developing and developed countries, the various forms of ICT and their merits and demerits.

2.1 LITERATURE REVIEW

Literature review has been defined by Copper (2005) as a number of text that aims to analyse crucial points of the current information on a specific topic from other scholars and individuals. Creswell (2007) assert that literature review is the summary of the information published by other scholars and individuals in journal, articles, books and other documents on a specific study. Literature review also refers to the process of reading, analysing, evaluating and summarising scholarly materials about a specific topic (Nardquist (2010:2). This shows that literature review involves an analysis and evaluation of what has been published by different scholars on a proposed study. The researcher will analyse and acknowledge what other publishers said on the use of ICT in developed and developing countries, different forms of ICT, challenges and the benefits of ICT

2.2 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

ICT involves a lot of modern communication devices. Marcelle, (2000) asserts that information and Communication Technology is a combination of goods, software and services used to transmit information such as Television, computers, cameras, printers, radios and other electronic gadgets. It has been noticed that ICT is being involved in all aspects of organisations profit and non-profit organisations. ICT is one of the strategies that most countries in developed and developing countries are implementing to improve their economy. Mansell (2010) noted that Information and Communication Technology provide platform for national and regional changes in their systems. It has the ability to increase the economic growth, markets, different applicants and problem solving skills. Information and Communication Technology has the potential to increase motivation to employees and it create an interesting working environment (Sibiya, 2003). ICT is one of the principles of new public management that aims to improve public sector operations. There is evidence that ICT is vital in both nations in the issues of development especially in some aspects such as economic, education, social, cultural and politics (Emmanuel and Sife 2008).

2.3 ICT IN DEVELOPED COUNTRIES

ICT in developed countries has increased and some benefits of using ICT in different organisations have been noticed. Developed countries have resources and their countries have developed far much better than developing countries thus ICT infrastructures and policies are well established. Ochieng and Gichoya (2013) assert that local authorities in the developed world have recorded substantial progress in using ICT in governance and service delivery whereas their counterparts in the less developed world have not. It is through this research that the researcher need to analyse if ICT improves the public sector management systems in Zimbabwe using Bindura Municipality as a case study. According to Thioune (2003) from the

past years most developed governments have recognized the important benefits of ICT. For example the United Kingdom public sectors in 2001 were providing 25% of the services online but in 2009 there were reached 94% online services and they have witnessed a lot of improvements in the provision of services. The changes brought by ICT have been witnessed in communication, social, political and other aspects. Repkine (2008) asserts that it is noted that any additional dollar invested into the purchases of ICT capital per individual in Latin America, developing Asian or African countries increases efficiency and consequently service delivery by almost ten times. This picture is replicated in the developed countries with every one dollar of broadband investment in the US yielding up to ten times while faster deployment of broadband in Europe is expected to create over one million jobs in Europe by 2015(WEF, 2009). The federal architecture program management office of the United State of America FAPM (2003) asserts that through the use of ICT in developed countries e-government is one of key element of George Bush in management agenda of 2001 and the main objective was to provide the effective use of ICT in business, politics and government to reduce lot of paperwork. This can be noted that the use of ICT in the developed world has been regarded as essential for the successful of governments.

2.4 ICT IN DEVELOPING COUNTRIES

ICT in developing countries is important different scholars and individuals are regarded the use of ICT as important in proving the development in the developing countries. Kroes (2011) asserts that the use of ICT is already an important tool in developed countries and developing countries are now appreciating and specialising on ICT in their economy and the improvements of domestic demand. The use of mobile phones and network was very poor in most developing countries and it was only 1% who were using wireless network in ten years back, now it has reached about 65% in countries like Kenya. Thioune (2003) noted that some efforts are being

done to assist African countries in ICT infrastructure development in order to improve their economy and sustainable development.

Avgerou (2000) concurs that ICT is influencing economic development in developing countries through increasing productivity, competitiveness and reduces cost. Developing countries simply do not have the resources to make investments along the incremental stages (Ensley 2005). Some improvement is being noticed in developing countries in the use of ICT but the countries are still facing some challenges. Halmner and Brite (2011) assert that many developing countries have inadequate ICT infrastructures and they lacks resources which are important for economic development through I.T. Bhero (2012:10) also asserts that despite its abundant natural resources the developing continent has largely remained poor and thus some countries fail to adequately invest in ICT infrastructure.

2.5 ICT IN ZIMBABWE

In Zimbabwe the private sector experienced the increase in the use of internet and electronics in late 90s. This created a serious problem in the government as people started demanding better services from their government. The pressure to the public sector to assist people through electronics had forced the government to implement ICT based system in several departments and ministries (Maumbe et al 2008:2). The government of Zimbabwe is putting some effort to improve the use of ICT in all aspects. In the International Telecommunication Union survey (2012) Zimbabwe's success in the Information Communication Technology (ICT) sector and it was ranked second as the fastest developing ICT nation after Ghana. Ruzivo Trust (2013) asserts that Zimbabwe has committed to national ICT policy adopted in 2005 and that creates major references in the assisting of ICT in all parts of the economy. Jeong (2007), postulates that ICT promote e-government through the use of different forms of ICT such computers,

internet and printers to facilitate the provision of quality services to the citizens from public sector. The following are the ICT initiative policies formulated by government of Zimbabwe:

- ICT Strategic Plan 2010-2014

- National ICT Policy Framework 2007

- Single Government- wide Web Portal 2005

- National e-Readiness Survey 2005

- Zimbabwe Millennium Development Goals (MDGs) 2005

- National Economic Recovery Programme (NERP) 2004-2006

- Industrialisation Policy 2004

- The Science and Technology Policy of 2002

- Nziramasanga Education Commission Report 1999.

These policies and plans shows some evidence that the government is putting some effort to improve the country through the use of ICT different policies and plans are crafted in order to improve the ICT of the country. The National ICT Policy Framework would enable Zimbabwe to coordinate with various initiatives in the public and private sectors and other stakeholders within and outside Zimbabwe in order to optimise the allocation and utilisation of resources in the development and better ICT across all aspects of the economy (National ICT Policy Framework, 2007: 11). President of Zimbabwe Robert Mugabe asserts that ICT can be a vital tool in creating economic growth and employment creation, improving productivity and quality of life for all people (World Summit of the Information Society Conference (WSIS) Tunis, 2005). According to Tsokota and Solms (2012:2) the Government of Zimbabwe (2012) has recognised ICT as an important strategy to improve economic development. The Ministry of

Information and Communication Technology has improved ICT infrastructures in the country especially in rural areas. Biti (2012) assert that the tele- density rate was 68% in 2011 and it was expected to be around 79% in 2012. The use of internet was 13% in 2011 and it was also expected to reach 19% in 2012. This shows that the usage of ICT in Zimbabwe continues to grow and it is improving every year. According to (POTRAZ) (2014) the increase use of mobile phones is now 97% up from 85% 2012, Zimbabwe tele- density now reaches 100% in 2014 and internet users as of January 2014 it has reached 40% approximately 5.2million of Zimbabwe population are now internet users. This can be noted that there is some improvement in the use of ICT in Zimbabwe. The figure below indicates the changes in the use of mobile phones and fixed telephones from 2006-2012 in Zimbabwe.

Figure 1: Mobile cellular and fixed telephone subscriber
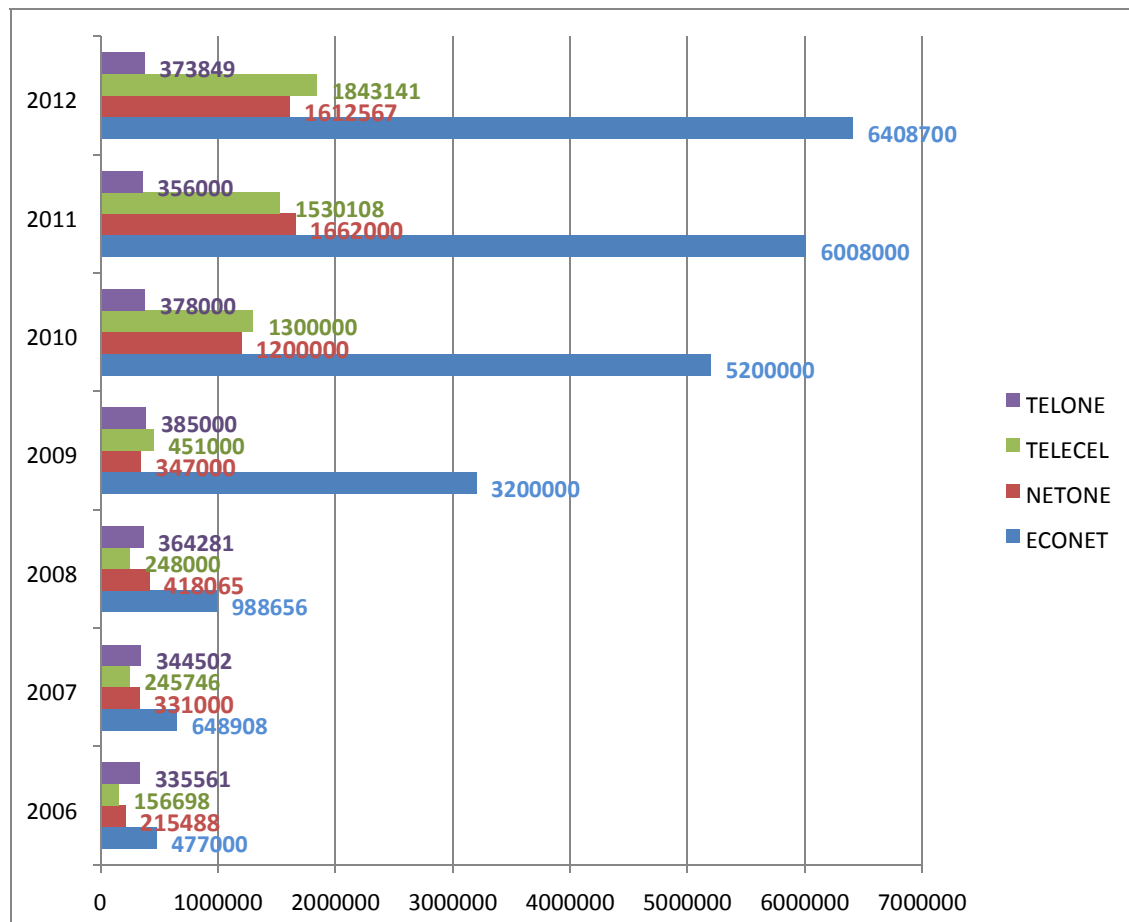
Source for Figure 1: Source POTRAZ telecommunications indicators database (2012)

The figure above reveals the increase in the mobile cellular and fixed telephones subscriber for netone, telone, econet and telecel. The econet has the highest increase from 477000 to 6408700 and telone had a slit increase from 33556 to 373849 subscribers in 2006 to 2012. This indicates that in 6 years econet managed to increase with 5931700 subscribers of mobile cellular and telephones which shows some improvements in which the country is using ICT. It becomes one of the effective mode of communication that the country is using in different areas and locations and Econet company had gain a competitive advantages because of the better facilities they are offering to the subscribers and it becomes one of the organisations which is

improving the use of different forms of ICT and makes it accessible to everyone. The figure

below also shows some improvements in the mobile internet services from 2006 to 2012.

Figure 2: Mobile internet subscribers
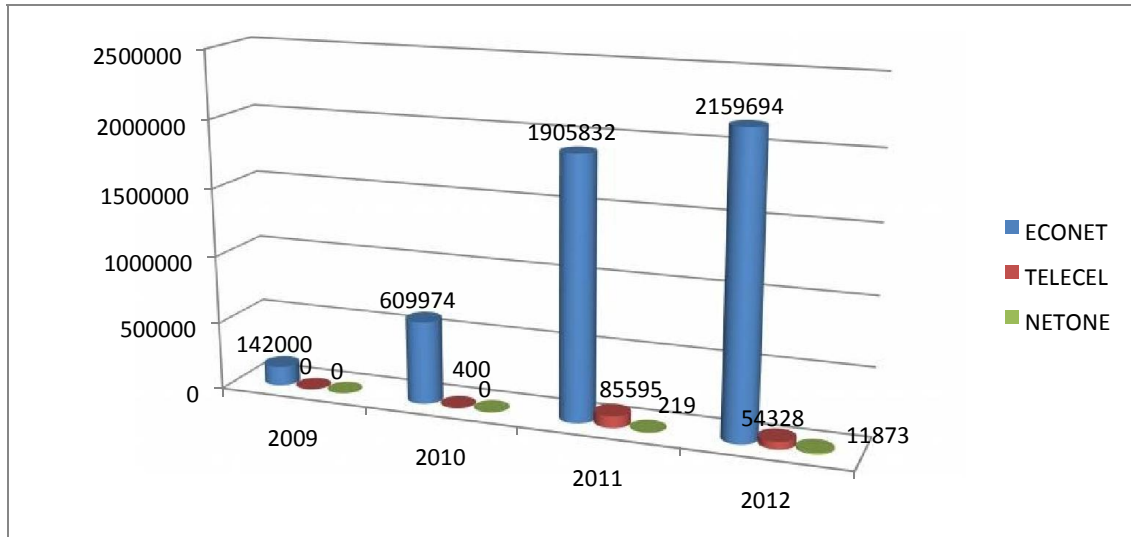
Source for Figure 2: Source: POTRAZ telecommunications indicators database (2012)

Figure 2 shows that development have been realised in the mobile internet subscription. Econet

started mobile internet in 2009 and Telecel and Netone in 2010 as shown in figure 2.Some

changes in the use of mobile internet revealed that Zimbabwe is improving in the use of ICT

yearly and people in Zimbabwe are noticing the importance of using internet and appreciating

the benefits. The figure below also shows improvements in internet subscribers from 2010-

2011

Figure 3: Internet subscribers

Figure 3 gives information on the internet subscribers, with bars showing values for TELCO (776, 912), BLUESAT (0, 0), APTICS (114, 447), POWERTEL (4912, 6288), LIQUID (710, 600), SPIRITAGE (341, 614), TEL ONE (12049, 14073), DANDEMUTANDE (356, 397), AFRICOM (21200, 22600) for 2010 and 2011.
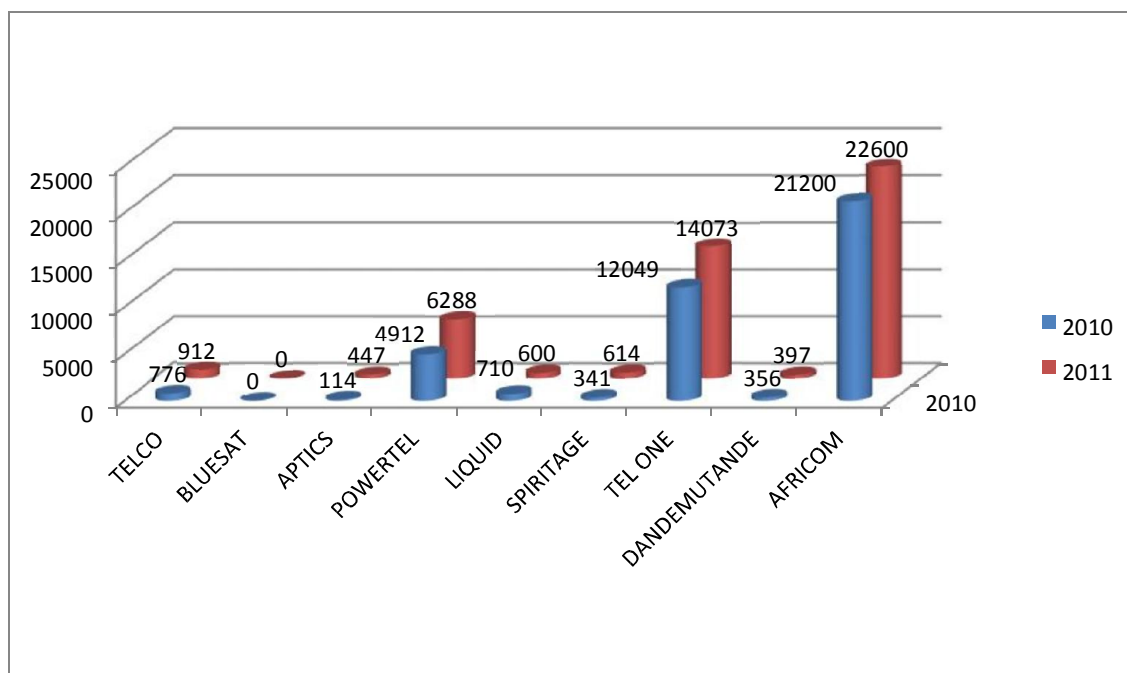
Source for Figure 3: Source: POTRAZ telecommunications indicators database (2012)

Figure 3 gives information on the internet subscribers from 2010 to 2011. For these past two years internet subscribers have been increased from 21200 to 22600, this indicates that the use of ICT in Zimbabwe is improving and people are realising the importance and the benefits of using ICT although the ICT gadgets are expensive people are managed to use internet which foster the full implementation of ICT in the country.

2.6 ICT CHALLENGES IN ZIMBABWE

Zimbabwe is facing a lot of challenges that is hindering the effective use of ICT to the people and to the government. There is no effective mechanisms and guidelines in the implementation of ICT and how it improve economic strategies (Mhlanga, 2006).

Tsokota and Solms (2013) indicated that there is no effective use of hardware and software since some of the public organisation are still using the traditional ways in the provision of services in Zimbabwe.

The use of computers and internet is growing   in Zimbabwe such as the use of Telecash and Ecocash through internet in cell phones but it is still facing challenges of cost and unavailability (Mupemhi et al 2011).Ndlovu (2012:2) also asserts that there is still poor accessibility of internet in Zimbabwe most of the people who are effective in using internet are in colleges, universities others they access it at work place and cyber cafes and the main challenges is the cost of ICT infrastructures and availability. In some areas network coverage is poor especially farms, rural areas and other outskirt areas.

Due to the finance problems the country is failing to hire and to retain ICT experts that can assist the country in the effective use of ICT. Maumbe et al (2008:8) noted that there is limited public –private partnership in implementation of ICT in Zimbabwe. Minister of ICT Shamu asserts that in ICT Conference (31July 2014) there is need for public –private partnership in the implementation of ICT in Zimbabwe. He also said that ICT is a potential driver for economic development in the country.

2.7 ICT IN THE PUBLIC SECTOR

Gortner et al (2007) defines public organizations as different from public organizations in the environment they operate such as their rules and regulations, economic, their roles and public sectors are mainly involved in the issues of politics. ICT in the public sector started around 1980s and the demand for online public services and the change in globalization lead to the development and the need for ICT in the public sector. (ICT) has long been central to modernization in the public sector. Socio-political factors within which the technology is

developed and used plays significant role in informing the design of the technology, and determine how it is used in public sector organizations (Chongthammakun 2013). Ward (2004) describes the revolution of information systems by delineating ICT into three eras, in 1960 – 1970 there was data processing, management of I S (information systems) in 1970 – 1980, and Strategic Information Systems 1980 – 1990s. The introduction of e- government in most countries the use of ICT becomes important. Reilly et al (2003) asserts that ICT infrastructures are needed to develop and implement the effective use of ICT in L As. Local authorities in the developed world have embraced ICT to improves the provision of services to the people. As noted by E-Government Trends (2013) the positive impacts of ICT resulted in less corruption, better collection of revenues, it reduces cost and increase transparency and accountability

ICT in local government and national government provide better performance in the provision of services. In some countries like South Africa ICT creates an opportunity for better transparency and accountability through citizens participation. Also in the formulating of strategic planning and other development policies it strengthen the establishment of strategies and skills for efficient and effectiveness. It improves the flow of information and communication through using different forms of ICT (Guchteneire and Mlikota, 2008). Public sectors worldwide are establishing policies and plans basing on the use of different information technologies. Ramaswamy and Selian (2007) noted that currently public organizations are being assisted in the use of ICT in their operations by other private organizations. Public sectors are facing lot of problems in the adoption of ICT to improve their performance (Haque et al 2012). Technology is a vital tool that most government are using but because of the inadequate infrastructures some governments are failing to recognize the benefits of ICT in their day to day (Ghayur, 2006).

ICT in public sectors is improving provision of services, exchange of information, creating clear database, it create and promote democratization of government. It can be also useful in

the payment of taxes, bills, budget processes and in human resource management. The issue of over staffing can be reduced because some of the work will be done by different forms of ICT ,thus it reduce cost most public sectors especially in developing countries are over staffed and it is increasing the cost to the organisation. Through effective communication ICT assist different organisations to work together this concurs with Haques (2012) who asserts that through the use of ICT different sub national governments are able to share solutions and to assist each other. Some governments departments now have websites in Zimbabwe like Bulawayo city Council and Mutare City Council have websites in United Kingdom the public sector institutions have websites which is contributed to the growth and citizen's participation. For example the department of works and pensions they have changed their operations through the use of ICT.

2.8 FORMS OF ICT

2.8.1 COMPUTER

Computers started to be used in the developed world in the private sectors. Madu (2000) asserts that computers can be used to write letters, reports, printing newspapers, magazines, books drawing pictures, different diagrams, updating financial statements, playing music, videos and sending and receiving messages from different places in the world.

2.8.1.1 Advantages of computers

Computers are very easy to use and they can store a lot of information. It also avoids pilling of files and papers in the offices since a one machine can store a lot of information. Marcelle (2000) asserts that computers are easy to use and they are fast in storing information a lot of information can be stored in a single computer which can replace a bunch of files in an office.

Madu, 2000 also noted that the use of computers reduces cost that it can do a lot of work that can be done by number of employees in an organisation.

2.8.1.2 Disadvantages of computers

Computers can be affected by virus thus there can be loss of information which also led to loss of projects since the machine can replace some of the jobs which can be done by human labour. Computers are very expensive to purchase and to maintain. Brittner (2006) asserts that computers need both physical and soft security. Hence, computers need proper security and software such as antivirus.

2.8.2. Mobile Phones

Mobile phones were very expensive to purchase in early 2000 and going down wards only those who were rich are the ones who could afford to purchase a mobile phone and it was regarded as important gadget. As noted by Bittner (2003) mobile phones just like telephone system can be used to spread information and it is easy to use and one can carry it from one place to another. According to Marcelle (2000) the use of mobile phones is improving and shaping structures such as economic, social, legal and cultural. According to Tiemo (2006) the significance of information cannot be overstressed. It also includes telephones and they are installed in houses, offices and in public places for public use.

2.8.2.1 Advantages of Mobile Phones

Mobile phones are one of the modes of communication which are used by many people in the world. It makes the information easy and cheap and it facilitate the decision making processes and plans. Oji-Okoro (2006) concurs that the use of mobile phone by people allow them to

communicate with one another without considering the distances and also it improves the flow of information in business.

2.8.2.2 Disadvantages of Mobile phones

Employees have a tendency of abusing cell phones by getting on social networks like facebook and whatsapp or even making personal calls during official time of duty. This results in them diverting attention from their duties which may lead to mistakes or failing to meet important deadlines. Cukier, 2005 also asserts that some employees especially at the work place can abuse the use of mobile phones ignoring the important things for example sending other employees messages or even calling each other during working hours or in meetings, thus it disturbs the work progress.

2.8.3 The Internet

The internet is an interconnection or a network of millions of computers that works much more like a global postal system. Vosloo (2006) noted that in the United State of America the use of internet was first established in 1969 as a study and protection network. In that period, the use of internet has developed into a better communication systems. The Communication Service Provider in Zimbabwe (2014) asserts that in Zimbabwe internet provider in different systems and in data control was first established in 1994. The PTC (Post and Telecommunication Corporation) established a national internet which provide and sell bandwidth to private internet providers in 1997.

2.8.3.1 Advantages of the Internet

Internet has become very important in all different aspects in the world. It provides information in business, education, government, politics and others it is also regarded as cheap easy to

excess information. Cukier (2005) asserts that it provide different forms of information through emails, websites across the world.

2.8.3.2 Disadvantages of the internet

Internet is very expensive to connect. Ndlovu (2012) asserts that the cost of having internet connection is very expensive. According to Cukier, 2005) the use of ICT requires various ICT skills in order to understand it. (Ndlovu (2012) also noted that all ICT gadget use electricity to function. Due to the problem of power cuts especially in developing countries it is difficult to fully utilize it. Also internet can be easily abused by employees by playing games, downloading movies and music thus stealing organisational time.

2.8.4 The Fax

A fax is an exact copy of a scanned-in printed document which is transmitted by telecommunications links. Curtain (2002) stated that a fax is the normal acronym for double communication. Fax is now used in many organisations because it is fast. Using conventional fax machine it can change the text message into an analogue through telephones line.

2.8.4.1 Advantages of the Fax

Fax provides a more efficient and quicker way of transmission of data. There is an increased length of documents which can be sent that are not possible with SMSs on mobile phones. Fax is easy to install for organisations that already have landlines.

2.8.4.2 Disadvantages of fax

Lengthy files are more expensive to send by fax since there is per minute billing. This is because if a file is long it takes more time to reach its destination thus it also slow.

2.8.5 The Printer

A printer is an external hardware device which is used to print text on paper. A printer produce the information from the computer into a hard copy and it is convenience since due to the problems of power cuts one could be able to excess the document on a hard copy through printers.

2.8.5.1 Advantages of the Printer

It can be useful for the backup of documents during power cuts problems and also it allows everyone to get the information through a printed document to those that do not have computers.

2.8.5.2 Disadvantages of the printer

The choice of the type of printer that produces quality products requires knowledge Cukier, 2003 noted that some printers takes long time to print a single document and some are difficult to use. Also other printers are very expensive to purchase that it caused some organizations to just have few printers for the whole organisations and it reduces the issue of confidentiality of information that is not allowed to be seen by anyone.

2.9 TYPES OF MANAGEMENT SYSTEMS

There are different types of management systems where ICT can be used such as financial management system Information technology system and human resource management system.

2.9.1 Financial management system

Financial management systems are most described in banking, markets, in financial control and in budgets (Fohlin 2000). It involves the control of the available resources. In public sector it deals with issues such the pay roll rates, taxes and valuations.

2.9.2 Use of ICT in Financial Management Systems

ICT in financial management improves the flow of financial information and it can improve efficiency. Bean (2005) asserts that in financial management information systems ICT has created a lot of systems that enables better communication tools, flow of information, improvements of records keeping and cash flow. It can also help the financial budget and reduce the cost. According to Ahiakwa (2002) the use of ICT in financial sector improves the crafting of budget and other information. Parry (2010:2) asserts that financial management system in public sector is crucial in order to improve the provision of quality services and outcomes. It involves the use of funds for the achievements of national prioritise through the availability resources and cost effectiveness. Thus ICT can be used as a strategy to improve the public financial systems. ICT can strengthen the financial institutions, improving risk management governance and eradication of fraud and corruption (Parry2010:3).

2.9.3 Human resource (HR) management systems

HR management systems started since 1980 it involves the issue of payrolls, personal details and maintenance of confidential information (Wachira 2010:7). It involves processes such as recruitment, induction, processing of leave days and handling of disciplinary procedures.

2.9.3.1 Use of ICT in HR management systems

ICT provide the organisation with better facilities to improve services without wasting lot of time or considering the distance or place (Alleyne, 2003). It improves the flow of information to the employee, also it reduces the cost of recruitment and selection process cost of human resource work, time and it improve the quality of service provisions (Martin et. al, 2003).

Wachira (2010:9) also asserts that ICT in HR management helps to redefine employee responsibilities. Ruel et al 2004 noted that due to the new changes through the use of ICT it provide better redistribution of jobs in the public sector which is an human resource function some of the work of Human resource managers is now done by most managers and other employees such as processing trainings, performance appraisals for both employees and managers, the turnover rate, employees motivation and commitment. ICT can provide social networks that can improve the relationship of human resources and other customers and it helps to create vertical and horizontal integration of HRM, employees and the business. (Martin et al 2009).

2.10 BENEFITS OF USING ICT IN LOCAL AUTHORITIES

> **It Improves Transparency and Accountability**

According to United Nations Economic and Social Council, the use of ICT can promote democracy, involvement and participation of the citizens. Ogboma (2009) made an observation in Oshimili North local government in Nigeria that ICT in public sector provide the platform for greater transparency and it improve the relationship between government and citizens through citizens participation

➢ **Enhance Effective Decision Making**

According to Ahmed et al (2006) ICT speed up the spread of information and it improve the decision making. According to Krishana (2008) ICT in LA in Maputo may reform, restructure and increase decision making that can contribute to effectiveness in the local authorities operations.

➢ **It Improves Service Delivery**

According to Alexandra & Laura, (2005) people are as important as technology and the management should consider employee's contributions in the use of ICT in order to improve the provision of services. ICT can be used for council property management, scanning documents, human resource management and in making financial records. The use of ICT saves time that it speedy up the provision of services for example in billing points through the use of computers and printers it is faster to save many people in few minutes. Zwahr et al (2004) concur that the use of ICT improves the service delivery in most of the cities in France there was effectiveness and efficient service provision through the use of ICT.

➢ **It Improves Effectiveness and Efficiency of the current system**

Abubakar (2010) assert that e-government through the use of ICT will increase effectiveness and efficiency through saving money and time. It also creates and facilitates the interaction between the government and business and these includes the relationship between business to business, government contract and other government institutions. Ogbama (2009) also assert that ICT improve accuracy, enhance communication and increase productivity.

> **It reduces cost**

ICT helps to reduce paperwork burdens through the use of electronic systems and very little manpower is needed. It requires the process to operate with few employees thus it reduces cost (Abubakar 2010:17). Also ICT can increase transparency and accountability and through transparency and accountability it reduces corruption. Most of the expenses of service provision are being increased by high rates of corruption through the use of ICT it reduces the cost of service provision.

> **It reduce corruption**

Corruption is one of the challenges being faced in public organisations especially in developing countries. The use of ICT helps the public sectors to fight against corruption through the exchange of information and effective communication which can enhance transparency and accountability; it gave the whistle blowers the power and courage to report any corrupt activities using organizational websites. According to Zvekic (2002) the freedom and integrity of the ICT must be kept intact, as it plays an important role in investigating and exposing corruption. This revealing that through effective use of different forms of ICT such as radio, televisions, newspapers, magazines, computer, use of websites and internet corruption can be reduced.

2.11 LIMITATIONS OF ICT IN LOCAL AUTHORITIES

- **Lack of ICT Skills**

Idowu (2003) states that the major problems in public sectors are lack of ICT skills, poor electricity supply and the cost of the ICT resources. As stated by Ogboma (2009) in Oshimili north case study there is lack of ICT skills in local government administration thus it resulted in poor use of ICT. The use of ICT requires a lot of system skills due to the

lack of those skills it reduces the rate in which the organizations are using ICT in their operations.

- **Viruses**

Forms of ICT are vulnerable to be attacked by malicious programs which tend to destroy vital information. According to Thioune (2003) there are number of activities that can affect the use of technology. This can cause loss of information, some information may not be recoverable since those viruses can affect the whole computer systems. Viruses can destroy the information through hiding data and deleting other files or it can reduce speed in the processing of information. The viruses and the other activities mentioned above tend to destroy important information required by organisations thus resulting in reduction of productivity and destruction of other transactions which require high levels of accuracy.

- **Fraud, Theft and Vandalism of ICT Property**

Ajayi (2007) noted that there is a challenge of cable and facility vandalism in Nigeria. He asserts that Nigeria is one of the African countries where private and public facilities are being vandalised. There is very high risk of fraud and theft in financial management systems, for example an individual can be involved in fraud using computers and internet. Vandalism of property can be a limitation in that the equipment may be vandalised resulting in the internet being down for some time or the telephone lines being offline.

- **Lack of Financial Resources**

Money is one of the main limitation in ICT. This is because ICT equipment is very expensive. The maintenance cost is also very high for example software needs to be continuously upgraded and the licenses for some software are very expensive as well. There is also the limitation of funds for ICT training to the staff. This requires huge amounts of

money. Ajayi (2007) asserts that the effective use of ICT requires a lot of finance which is a barrier in most African countries. This limitation is mainly faced by municipalities in developing countries for example in Zimbabwe where the local authorities are failing to maximise on their source of funds hence they are earning little money.

- **Poor Accessibility**

Some of the local authorities are in rural areas and there is poor accessibility of ICT infrastructures. (Opara and Ituen (2009) assert that the major challenge is that the use of computer, access to internet and other tolls of ICT are limited greatly to urban areas. Ajayi (2007) noted that the people in rural areas are key- board-shy. He maintained that rural dwellers are not yet fully utilize the potentials of the internet. In Zimbabwe the use of internet in some rural areas is still poor even to communicate using mobile phones is still a problem in some places they climb on top of the hills and mountains in order to communicate properly through cell phones.

- **Poor Electricity supply**

Poor electricity supply is also a problem faced in the use of ICT. Most of the ICT gadgets requires the use of electricity such computers, printers, mobile phones, fax and others. Ogboma (2009) noted that the problem of power supply affected the use of ICT especially in developing African countries. The problem of power supply can damages ICT resources that it can increase the cost in the use of ICT.

2.12 CASE STUDIES ON THE USE OF ICT IN PUBLIC SECTOR

Local authorities have the potential to improve their operation through the use of ICT. They interact with the public and the business they also provide services that can affect the quality of life of the public. Local authorities in many African countries have ICT systems but there is no relationship of ICT with the public

2.12.0 Case study: Oshimili North Local Government Area in Nigeria (2009)

Ogboma (2009) stated that the use of ICT in local government administration is very important since it improves the administration of Local government. The objectives of the research were to analyse the effects of ICT in local government area, benefits and the challenges of ICT in local government administration. The study revealed that most forms of ICT which were used in Nigerian local governments are computers telephones and mobile phones. The research noted that the use of ICT in local government administration area in Oshimili North improved participation in governance by 9%, it enhanced communication by 31%, and it also increased productivity by 31.5%. It improved e-government by 8% and it enhanced accuracy by 20.5%. Ahmed et al (2006) noted that ICT systems in local government increase the speed of information services. Ogobomo (2010) observed that the benefits of ICT in local government administration enhanced communication and productivity. He noted that this is in line with Bagozzi (2006) who asserted that ICT helps to enhance communication among administrators and staff and also increases productivity. However, there are some problems which were noted by the study of ICT. The study also revealed ICT challenges such as there was a problem of power supply. Most of the ICT gadget uses electricity and in Nigeria there were power supply problems so it affect the effective use of ICT in local government administration. Another problem was the high cost of ICT. The implementation of ICT requires a lot of money for the development of ICT infrastructures. Oshimili north lacks financial resources in order to develop those ICT infrastructures. Also ICTs illiteracy was a problem in Oshimili north thus

most of the employees in local government lacks ICT literacy. This was causing the poor rate in which ICT was being used in local government administration. Thus this research will assess the role of ICT in public sector management systems, identify challenges and opportunities of ICT in management systems and how ICT improves the management systems using Bindura Municipality as a case study.

2.12.2 Case Study Issy-Les Moulineaux City in France (2004)

The aim of the research was to examine how ICT improve local government governance. The objectives of the study were to assess the extent in which ICT increase citizens participation, improves governance and the role of ICT in decision making. Zwahr et al (2004) assert that in 90s the city of Issy-Les Moulineaux was actively engaging information technologies and at the end of the 20th century, the rapid rise of the use of internet came along with the digitization of public services and the process of linking-up citizens with public administration and government authorities. The study revealed that through the use of ICT the Municipality attract investors and it is still attracting many investors to invest in the city. In 2003 Issy Les Moulineaux Municipality was able to provide the following services online:

- Making a reservation for parking spot in case of relocation

- Paying parking fee using mobile phone

- Getting access to the deliberations of the city council.

The study noted that the Municipality from time to time they asked the citizens for their views in the use of ICT by the municipality, the ICT development needed and the provision of services that need improvements. The research showed that there was improvement in relationship and communication between the municipality and the citizens. There was 650 people who were involved in the citizen panel constitute and those people were consulted by the municipality through the use of ICT systems such as internet and mobile phones in decision

making to matters that affect the local people. The study also revealed that Issy – Les Moulineaux city had improve in online services through ICT citizen participation in budgets and it was become advance in online service delivery compared to other cities. It provides the effective use of ICT to the citizens. Few challenges were noted such as there was need for increase of ICT infrastructures and the use of ICT in decision making. According Zwahr et al (2004) case study through the use of ICT the Issy Les Moulineaux City was playing an important role in public service delivery, policy making and regulation of public affairs and citizens participation. This case study of France shows that in developed countries ICT has penetrated a way back compared to developing countries. This research will analyse the role of ICT in management systems and the extent in which Bindura Municipality is using ICT and the effectiveness of ICT in improving management systems.

2.13 SUMMARY

The purpose of this chapter was to reveal other individuals and scholars views in relation to the use of ICT in public sector. The chapter highlighted development of ICT in developed and developing countries, ICT in public sector, different forms of ICT such as computers, internet, fax mobile phones and printers and also benefits and limitations of ICT was highlighted. This helped the researcher to identify and try to fill the gaps that other scholars left. The chapter also looked at case studies in the use of ICT in local governments in Nigeria and France. This research will address the challenges reviewed by the scholars and improve on the use of ICT in local authorities focussing on Bindura Municipality. The next chapter will look at data research methodology. Its main focus will be on different data gathering techniques highlighting their merits and demerits as well

CHAPTER III

RESEARCH METHODOLOGY

3.0 INTRODUCTION

The chapter will focus on the research methods in which different research techniques are discussed in related to the use of ICT in Bindura Municipality and analyse how it improves the management systems. Methodology is the approach or approaches used by a researcher to examine a particular problem or problems. The chapter will describe different methods of data instruments such as questionnaires, interviews, observation, and its merits and demerits. It will also describe quantitative, qualitative methods, population and sampling techniques.

3.1 RESEARCH METHODOLOGY

Rajasekar et al (2006) defines research method as a way of solving any challenge or problem and it involves a study on how different methods will be used to produce results. O'Leary (2004:85) postulates it as the framework associated with particular set of paradigmatic, these are tools and techniques used in the research process. This shows that research methods are the various procedures, schemes and algorithms used in research. According to Avison (2005) a research methods is any strategy used in the study for data collection in order to achieve the research objectives. Different methods which can be used by the researcher are the research methods. It involves planning, procedures, experiments and statistic approached.

3.2 RESEARCH DESIGN

According to Avison (2005) a research design means all the matters involved in planning of the study and revealing challenges and provide reports and results. Research designs involves

the data collection instruments the targeted population of the study and how the researcher will use those instruments to provide results. According Burns and Grove (2003), a research design is a plan used for conducting a research through avoiding and controlling issues that can affect the validity of the research findings. Tailer (2009) also defines research design as a blue print of the planned method that can enables the research to be completed. The researcher selects the sampling to be used in the study and methods of collecting data that can provide reliable results. The research adopted qualitative and quantitative analysis on the research design. The design involves the use of sampling design and sample size, the targeted population and data collection instruments such as interviews, observations and questionnaires.

Quantitative approach was used in this research because it helps the researcher to provide the summary in numerical results. Quantitative method is also less detailed that it helps the researcher in some of the information that can be missed by qualitative method. On the other hand the researcher used qualitative approach to describe the situation, experiences, feelings and behaviour to give them meaning. The research focus on the use of ICT and how it improves the management systems in BM the qualitative approach was used to analyse the behaviour, situation and experiences of the employees in the use of ICT.

3.2.1 QUANTITATIVE METHODS

According to Anderson (2006:1) quantitative research is about numbers, objective hard data and the large sample size is involved. Bryman (2012) asserts that quantitative method mainly uses numbers and statistics in collection and presenting of data. Quantitative methods are important because it can help the researcher to provide the meaningful results through analysing and evaluation of more qualitative. It is of greater value if the research uses both qualitative and quantitative methods because it allow the researcher to provide the results in numerical terms and involves measuring of amount of data for better understanding.

3.2.2 QUALITATIVE METHODS

Holloway and Wheeler (2002:30) noted that qualitative method involves social issues and it explains the information that cannot be measured such as how people feel, their experiences, situation. Burns and Grove (2003:19) describe a qualitative approach as a systematic subjective approach used to describe life experiences and situations to give them meaning The most data collection instruments which provide qualitative information are observation, interviews, focus groups discussions and in questionnaires these are open ended questions (Hancock et al 2009). Qualitative research is concerned with qualitative phenomenon involving quality. Some characteristics of qualitative research are that it is non-numerical, descriptive, applies reasoning and uses words, the aim is to get the meaning, feeling and describe the situation. Qualitative data cannot be graphed, it is exploratory and it investigates the why and how of decision making (Rajesekar et al 2013). It is collecting, analysing, and interpreting data by observing what people do and say. Anderson (2006) also noted that qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things. It is concerned with developing explanations of social phenomena as stipulated by Hancock et al (2009).

3.3.0 TARGET POPULATION

In research before defining the sample size the researcher need to first identify the targeted population of the study. Burns and Grove (2003) explain the targeted population as all the items involves in the study and the relevant people who can produce the results. Bhattacherjee (2012:66) noted that target population involves the characteristics of all elements that can contribute to the specific study. In this research the targeted population were the heads of departments other council employees and Councillors, they constitute about 335 people.

3.3.1 POPULATION SAMPLING

Holloway and Wheeler (2002:128) assert that sample size does not influence the importance or quality of the study and note that there are no guidelines in determining sample size in qualitative research. There factors that can affect the population sampling such as procedures, sample size and the respondents. Those elements of the study population for which a recruitment attempt is made, the target sample is the union of the study sample, the set of recruitment failures, the set of retention failures, and the set of retained study participants that fail to produce the required data (Rust 2004). The sample size for a survey is calculated by statisticians using formulas to determine how large a sample size will be needed from a given population in order to achieve findings with an acceptable degree of accuracy. The sample must be large so that less the standard error and better it presents the population. In this research the sample size had a population of 86 people in order to produce effective results.

3.4.0 SAMPLING TECHNIQUES

Kothari (2000) defines sampling as the selection of some part of an aggregate or totality on the basis of which a judgement or interference about the aggregate or totality is made. The sample size should be large enough and effective to produce results and the sampling techniques used must be accuracy and cost in order to produce results (Yount, 2006). Sampling techniques are associated with producing the findings there are different types of sampling techniques some are probability sampling and some are non-probability sampling this research used probability sampling and non-probability sampling.

3.4.1 PROBABILITY SAMPLING

According to Informatics Education Limited (2010) a probability sampling scheme is one in which every unit in the population has a chance greater than zero of being selected in the sample, and this probability can be accurately determined. In probability sampling method each element has a probability of being included in the target sample that is strictly greater than zero and strictly less than one and that uses a random procedure to select elements into the target sample according to these probabilities. Different forms of probability sampling are random sampling, stratified sampling and systematic sampling. This research used simple random sampling.

3.4.2 NON PROBABILITY SAMPLING

Non probability sampling is when every unit of the population has no equal probability of being selected. It is different from probability sampling in the sense that every unit has the probability of being selected. Types of non-probability sampling are convenience sampling, purposive and judgemental sampling. The research used judgemental sampling to the heads of departments

3.4.3 SIMPLE RANDOM SAMPLING

 Westfall (2009) noted that in this method, each item in the population has the same probability of being selected as part of the sample as any other item. Du Plooy (2001:102) asserts that every unit has an equal opportunity to be included when using simple random sampling. This study used simple random sampling method with simple random sampling each item in a population has an equal chance of inclusion in the sample subjects in the population are sampled by a random process, using either a random number generator or a random number table, so that each person remaining in the population has the same probability of being selected

for the sample. In this research simple random sampling was used when distributing questionnaires to councillors and to council employees using the hat system. The researcher asked for councillors list in chamber secretary's office in order to have a good   sample size. All the names of the councillors were written on pieces of papers and those papers was put in a hat and shaken. The researcher asked one of the employees to simply pick 10 names of the Councillors from the hat to avoid bias. This was done also when sampling the Council employees and the sample size was 70.

Reasons for using Simple Random Sampling

- It is simple and easy to apply.

- There is less bias when using this method and estimates are easy to calculate.

- There is equity since everyone has the probability of being selected.

3.4.4 JUDGMENTAL SAMPLING

 According to Kumar (2011:207) judgmental sampling is when the research used his or her judgement to the respondents who can give the necessary information to produce effective results. Du Plooy (2001) highlighted that the research need to use personal judgement of the situation to that population that have the better knowledge of the study. The researcher used the judgmental sampling to interview the BM heads of departments since they are the ones who has the knowledge on the BM management systems, the level of ICT in BM and the role ICT is playing in their management systems

Reasons for using Judgmental Sampling

- It is easy to use and it save time since the study involves small number of people

- Saves money since the sample is small.

- There is less bias since the sample will use the small number of people from the population with the knowledge of the needed information by the researcher.

Category	Targeted population	Sample size	Sampling Techniques	Percentage
Management	6	6	Judgemental sampling	100%
Other employees	329	70	Simple random sampling	21%
Councillors	12	10	Simple random sampling	83%
Total	**347**	**86**		

3.5.0 DATA COLLECTION INSTRUMENTS

According to Struwig and Stead (2001:40) data collection instruments are the different instruments used in the collection of data and the research use the procedures that enables the research to be complete. In this study data collection was done through primary methods such as questionnaires, interviews and observations.

3.5.1 PRIMARY METHODS OF COLLECTING DATA

It is the information collected by the researcher starting from scratch. Kothari (2000) points out that primary data are the information collected from various individuals or the people involved in the research topic. The data was collected using questionnaires to councillors and middle managers and interviews to the Town Clerk and the heads of department.

3.5.2 QUESTIONNAIRES

Questionnaires are a set of questions for submission to a number of persons to get data. Harper (2001) reveals that questionnaires are very important in data collection because it allows the

respondents to explain their feelings towards the research topic and confidential information better no names will be mentioned. The researcher constructed the questionnaires and it was distributed to the councillors and other employees using simple random sampling. Kothari (2000:124) noted that a questionnaire is a number of questions structured by the researcher to answer the research objectives and the respondents answer it on his or her own without help from anyone In this research the closed ended questions were mainly used than the open ended questions because the closed ended questions saves time for the respondents, it is easy to answer and it reduce misunderstanding of questions.

Merits

- The researcher can collect a lot of information without spending a lot of time
- Through using a number of respondents more information is provided,
- It is faster, cheaper and it save time.
- It can allow for open ended questions where respondents can give their feelings, background, hidden information and interest since no identity is revealed.

Demerits

- Some officials may refuse to give information.
- It uses many people so distortion of information is high.
- Some questionnaires may not be returned.

To minimise these demerits the researcher informed the respondents in a way that they were willing to give information and understand better. The friendly environment was created by the researcher to overcome the challenge of those that refuse to give information. The researcher tried to ask clear questions that were understood by many people to avoid distortion of

information and also the researcher waited for the questionnaires from the respondents to avoid those questionnaires that will not return from the respondents.

3.5.3 INTERVIEWS

International Health Science University (2012) noted that interviews are verbal administering of questions it can be face to face or over the phone. Wilkinson and Bhandarkar (2002) assert that in interview approach the researcher is the one who asked the questions to the respondents face to face and the participants will be responding to the questions. Kothari (2000) also noted that in interviews the respondents can get any clarification and it can be structured or unstructured questions. The researcher used face to face interviews to the heads of departments. According to Babbie and Mounton (2001:249) face to face interviews have the following merits and demerits.

Merits

- A way of collecting information which is faster and flexible.
- The participants can offer a lot of information which can be difficult to obtain in questionnaires.
- It can improve the relationship between the researcher and the interviewee also it can create a free environment in the provision of information.
- They create an atmosphere for more explanation of some situation.
- They can yield the information that can provide the research with effective results.
- Sensitive and personal information can be extracted through interviews.
- They produce effective information and the response rate is high since it can be difficult to the participant not to answer the question.

Demerits

- It is time consuming.

- Some officials can give biased information and this can affect the research.

- Some respondents may not be available to interview them.

- They are expensive to administer.

To reduce the disadvantages of the interview the researcher communicated with the respondents earlier before interviewing them to have the appropriate time and days to interview them in order to find them available. The researcher created a comfortable and friendly atmosphere with the interviewees to gain their trust so that they could not give bias information.

3.5.4 OBSERVATIONS

Struwig and Stead (2001:96) assert that observation can be useful in determining how the programme is implemented and provides opportunities for identifying unanticipated outcomes. It is used when there is need for direct information and you can observe people, attitude, skills or physical settings for a better understanding since the researcher can see things which respondents in interviews or questionnaires they are unwilling to discuss. Observation complements other forms of data collection. The researcher observe the operations in the Bindura Municipality. Trying to find out challenges and prospect of ICT in the Municipality operations observations were done in some offices. The researcher also was observing if they are still referring to the files when providing services to the people or they are referring to computers, are they still using manual in some of the systems, how much time they are spending in managing different situations through manual and computers and researcher how many offices are using ICT for their operations.

Merits

- It allows the researcher to observe from outside without participation or disturb the working process.

- It can provide better understanding of the research since the researcher can observe things that respondents are unwilling to share.

- The researcher can also observe through full participation in the situation with unknown identity.

Demerits

- It can be expensive and time consuming.

- It needs to have content skills to interpret the observation correctly.

- The observer may be bias and this reduces the reliability of the data produced also it can go against the research ethics. This caused the researchers to observe and recorded what they expected to see not the actual situation.

- There is observer effect, which refers to the way in which the presence of an observer in some way influences the behaviour of those being observed.

The contingency measures to lessen the demerits of observation are that, the researcher tried to understand the behaviour and the situation of the environment to avoid misinterpreting the observation. In order to avoid or minimise to affect the behaviour of those to be observed the researcher attempted to be as unobtrusive as possible and able to manage time effectively to avoid taking too long in observing.

3.6 SECONDARY DATA COLLECTION SOURCE

Secondary data is the use of information collected by other person for other purposes. Boslaugh (2007) noted that secondary data in the broadest sense it is analysis of data collection by someone else. Examples of second data are information from journals, information of large

government funded dataset, university records and population surveys. The secondary data is the data collected not to answer the researcher's questions. It is very cheap and it also saves time because the researcher use the data that was collected by someone else and the researcher will not start to research from scratch. It can also obtain quality information that one may not find it in primary data collection. Also some of the background information like literature review needed will be already available. The disadvantages of using secondary data are that the information collected might not be useful to the researcher's questions. Some of the information could be collected in a geographical area which is not the researcher's desired area. The researcher will have little knowledge on how the information was collected and the criteria used to collect that data. In order to minimise the disadvantages of secondary data the researcher need to understand the information first before using it to see if it is relevant to the researched topic. Also the researcher needs to know how the data was collected and the techniques that were used. This research used secondary data on statistics of ICT in Zimbabwe and the challenges of ICT in Zimbabwe and other countries.

3.7 PRE-TEST

 According to Creswell (2014) pre-testing of questions is crucial because it reveals the validity of the questions to produce effective results. It also improve the sequence of questions. Presser et al (2004) noted that pilot test is the only way that can reveal the problems associated with the questionnaires and the interview questions to the participants. Du Plooy (2001) asserts that it is important to pre-test the method of collecting data to evaluate whether it is reliable or effective in producing the intended. Few draft questionnaires and interview questions were printed and given to fellow students and the supervisor to see if the BM Head of departments, other employees and councillors will understand the questions.

Reasons for the Pre-testing

- To analyse if the researcher's choice of questions are easy to understand and clear in the questionnaires and interview guide.

- To evaluate the structuring of the questions.

- To see if the questions will produce the information needed by the researcher.

3.8 RELIABILITY

.Bryman (2012:715) defines reliability as the extent in which the instrument used produce concepts that are stable. In this research the sample targeted 86 respondents so that it can produce effective results and reliable information. The research questionnaires and interview questions were re-tested to check the realistic and reliability and also to see if the questions will produce the effective results without any errors and being bias.

3.9 VALIDITY

Tichapondwa (2013) asserts that validity is the level in which the instruments used will produce what it is purposed to be produced by the study and the instruments used must be tested before using them to check if they are reliable. The researcher will have assurance that the instruments used are valid to produce accuracy results. Patten (2004) asserts that validity involves usefulness of the findings to the study and emphasizes on using the data instruments and the choice of questions which produce meaningful information to the research.

3.10 DATA COLLECTION PROCEDURES

The researcher first seek approval before carry out the research. This was done following the ethics which are in compliance with the research ethics which the researcher must seek approval from the respondents before conduct any interview or distributing questionnaires.

This helped the researcher not to cause any fear to the respondents and it created a free environment for collection of data even other respondents were free to reveal how they feel and other information. The researcher kindly introduced herself to the participants as a student at Midlands State University who is doing local governance studies and a research on the stated topic. The researcher explained to the respondents that the purpose of the research is only for academic. To those who wanted to retain unrecognized the researcher did not force or use their names without their awareness as the researcher is obliged to follow research ethics whilst the rights of the participant was be reserved.

3.11 ETHICAL CONSIDERATIONS

Ethics need to be considered when doing the research. The researcher considered the issues of informed consent before conducting any interview or give the questionnaires to the respondents the researcher informed the respondents about the aim of the research, content and the benefits of the research. Confidentiality was considered in this research, personnel records, identity and personnel feelings was not used. Objectivity was also considered by the researcher to strive to avoid bias in data interpretation, analysis and in personal decisions and also the researcher was be honest in producing results. The researcher did not fabric and misrepresent data. Possible harm to the respondents was also reduced by the researcher by not including sensitive questions that can cause uncomfortable and embarrassment to the respondents.

3.12 DATA PRESENTATION AND ANALYSIS

Different methods of presenting data was used such as tables, charts and graphs to evaluate the achievement of the research objectives. Data analysis helps the researcher to bring meaning to large amount of information.

3.13 SUMMARY

The chapter highlighted the methodology that was used in the research to examine the use of ICT in Bindura Municipality and to assess the role of ICT in improving management systems. It looked at different data collection instruments that were used by the researcher such as questionnaires, interviews and observation. Through these data collection instruments challenges faced and opportunities in BM management systems were identified. The chapter also revealed sampling methods such as simple random sampling, judgemental and systematic sampling. The chapter highlighted data collection procedures and ethics, secondary and primary data collected .Data collected will be analysed and presented using graphs, pie charts and tables in the following chapter.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

4.0 INTRODUCTION

The chapter will present the research findings. The researcher will interpret and analysis the data from questionnaires, interviews and observations, the research was carried out at Bindura Municipality. The data will be analysed using the research objectives to see if the objectives were achieved. Different methods of presenting data will be used such as graphs, tables and pie charts for easy interpretation of the findings.

4.1 RESPONSE RATE

The response rate of questionnaires and the interview guide provide the researcher with the chance to evaluate the information found on whether it will provide the meaningful analysis of data. The response rate can be affected with the researcher's ability to distribute questionnaires and collect them. It can also depend with the availability of the respondents.

4.1.1 Response Rate of Questionnaires

The researcher drafted two types of questionnaires one was for council employees and the other one was for councillors and simple random sampling was used in distributing them.

Table 1: Response Rate for Questionnaires.

Strata	Questionnaires Distributed	Questionnaires Retained	Questionnaires Not Returned	Response Rate %
Councillors	10	8	2	80%
Council employees	70	60	10	85%
Total	**80**	**68**	**12**	**85%**

Source: Research Data 2014

4.1.2 Analysis

The table 1 above summarizes the response rate of the questionnaires which were distributed to Bindura Municipality employees and Councillors. The total number of questionnaires which were distributed by the researcher is 80 and the questionnaires which were returned was 68. The councillor's questionnaires represent a respond rate of 80% and council employee's questionnaires represent a response rate of 85%. 10 of the questionnaires were not returned from council employees and most questionnaires which were not returned were from finance department because there was external auditors at the Council and they were busy assisting them. Also some of the employees misplaced the questionnaires and 2 of the councillors were not available that the researcher was not able to collect the questionnaires from them. This hinders the researcher from obtaining 100% response rate on questionnaires. The total response rate of both questionnaires is 85% which is good for making analysis and conclusion on whether the objectives were achieved or not. According to European social survey (2003) the

response rate should be at list 60% for the research to be valid and reliable. Less than 50% response rate is not effective for making data analysis and conclusions.

4.1.3 Response Rate for Interviews

Face to face interviews were carried out to the heads of departments. There are 6 heads of departments and all of them were going to be interviewed using judgemental sampling since there are the ones who know better on the use of ICT in BM and how ICT improves the management systems.

Table 2: Response Rate for Interviews.

Strata	Targeted Interviews	Responded	Not Responded	Response Rate %
Heads of Departments	6	4	**2**	67%
Total	**6**	4	**2**	**67%**

Source: Research Data 2014

4.1.4 Analysis

The table above reflects the response rate of interviews to the heads of departments. The total number of interviews which were targeted by the researcher was 6 and the interviews which were carried out are 4. Other 2 respondents were not available that is why the researcher was not able to interview them. The total response rate of interviews is 67% which is also good for data analysis, conclusions and recommendations.

4.1.5 Total Response Rate for Questionnaires and Interviews

The total sampling population was 86 for both questionnaires and interviews. Councillors and other council employees answered the questionnaires whilst the heads of departments were interviewed. 2 heads of departments and 2 councillors were not available and some of the employees misplaced questionnaires and this affect the researcher from getting 100% response rate from both interviews and questionnaires. The total population of interviews that were carried out and questionnaires which were answered is 72. The overall response rate of interviews and questionnaires is 84%.This revealing that the response rate of interviews and questionnaires allow the researcher to analyse if the use of ICT can improve public sector management systems using the data collected from Bindura Municipality as a case study.

4.2 DEMOGRAPHIC INFORMATION

4.2.1 GENDER OF EMPLOYEES

The figure below presents the total number of males and female employees who participated

Figure 1: Gender of BM Employees
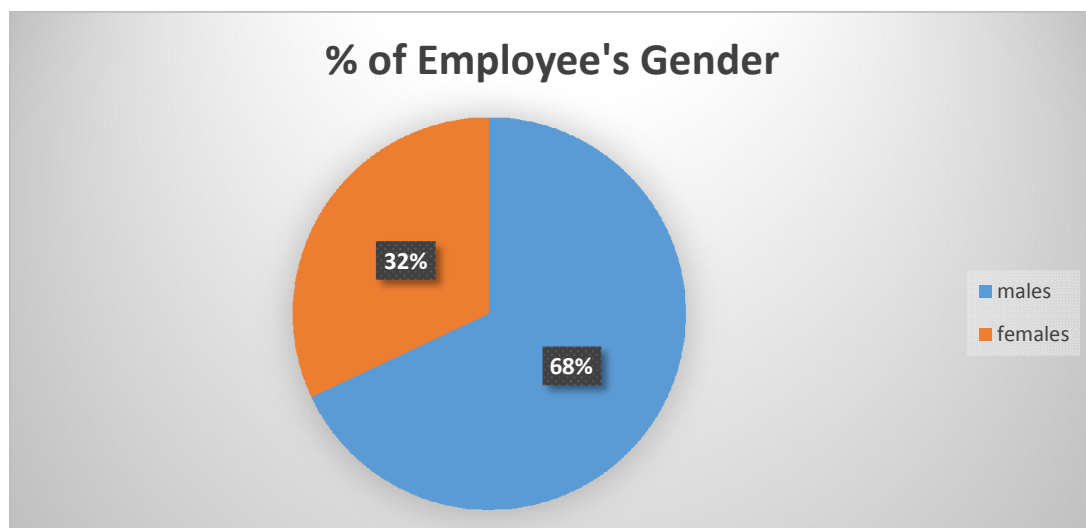
Source: Research Data 2014

4.2.1.1 Analysis

The figure 1 above indicates that there are more males who participated than females. The total number of females in Bindura Municipality is 86 and of males is 249. This shows a wide gap between males and females employees at BM thus revealing that males are still dominating in most organisations. In the use of ICT both males and females are using it but males are the ones who are using ICT more than females since they are the majority at Bindura Municipality. Even in higher position there is only one head of department who is a women, also in I.T section the researcher also observed that there are no females this concurs with Diawara (2002) who noted that gender analysis reflect that females are marginal users of ICT, 25% on average.

4.2.2 GENDER OF COUNCILLORS

Figure 2: Gender of Councillors
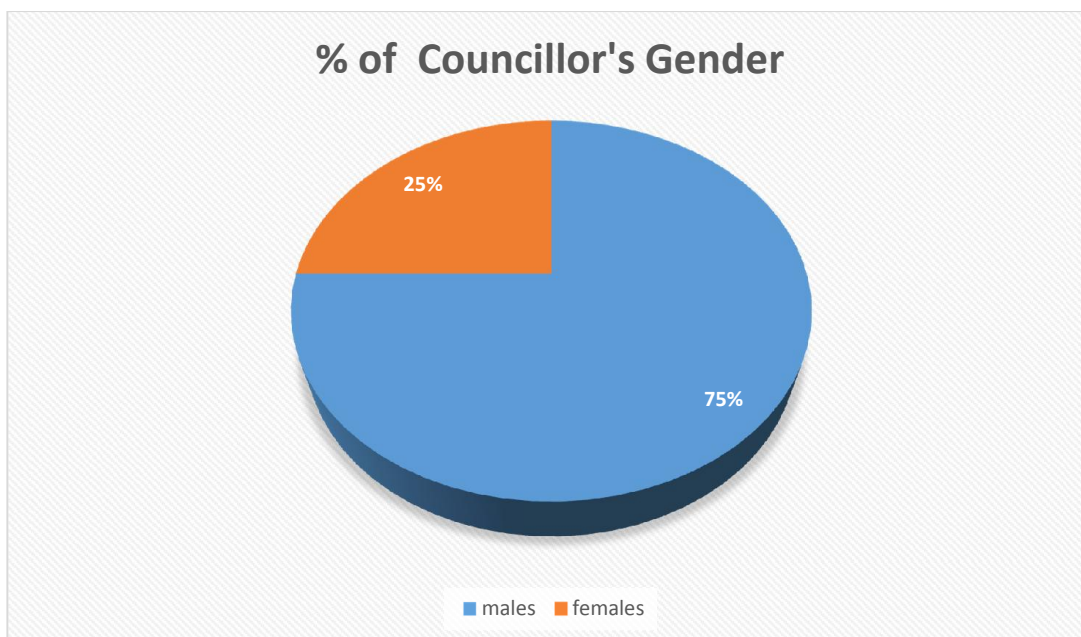
Source: Field Data 2014

4.2.2.1 Analysis

The figure 2 above shows that 75% of the councillors who responded to the questionnaires are males and only 25% are females. Generally there are only two female councillors in Bindura and other 10 councillors are males. This indicates that females are still very few in the issue of politics and governance and men are still dominating. These results also show that since there are only 2 female councillors this can affect their decisions in trying to promote women in the use of ICT.

4.2.3 AGE PROFILE OF THE RESPONDENTS

Figure 3: Age Profile of BM Employees
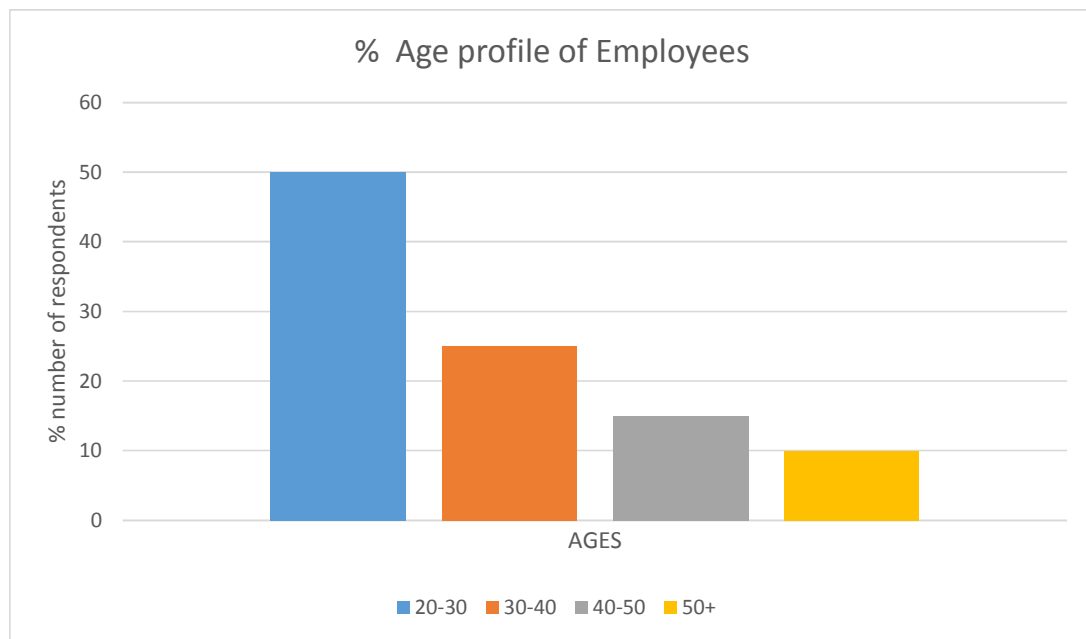
Source: Field Data 2014

4.2.3.1 Analysis

The bar graph above presents the age groups of the respondents. The figure 3 shows that the age range of 30-40 has the highest number of the respondents which is 50%. The age range of 40-50 has the respondents of 25%, age range of 20-30 has 15% respondents and the age range of 50 years and more has the lowest respondents with 10%. These results indicates that few employees in BM are now above 50 years and the use of ICT is modern technology, thus many of the people that are 50 years and above are not flexible in using ICT some are not even willing to use ICT. Most of the employees in Bindura Municipality are below 40 years which shows that the employees are not too old for using ICT in their day to day operations and also they can be trainable where necessary.

4.2.4 Councillors Age Profile

Figure 4: Age Profile of Councillors
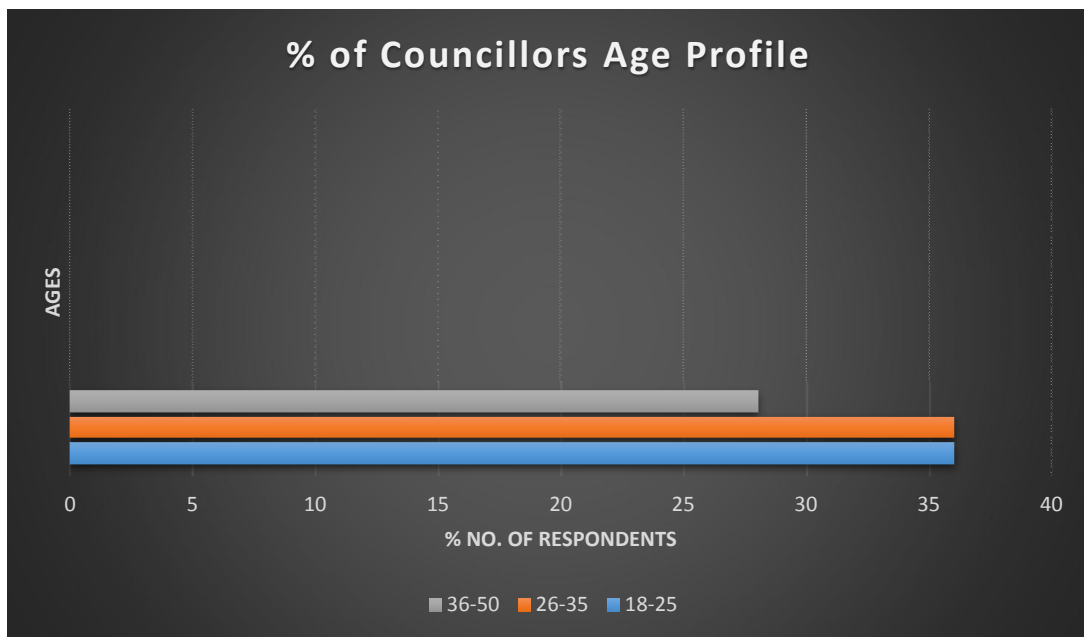
Source: Field Data 2014

4.2.4.1 Analysis

The information above reflects that most of the councillors who responded are at the age range of 18-25 and 26-35 as indicated by 36% very few employees are at the age range of 35-50 as indicated by 28%. These results shows that most of the councillors at BM are not too old and it cannot be denied that they understand the practice of ICT and its significant in the organisation, thus they can help BM to be effective in the use of ICT.

4.2.5 EDUCATIONAL INFORMATION

FIGURE 5: Educational Information of B M Employees
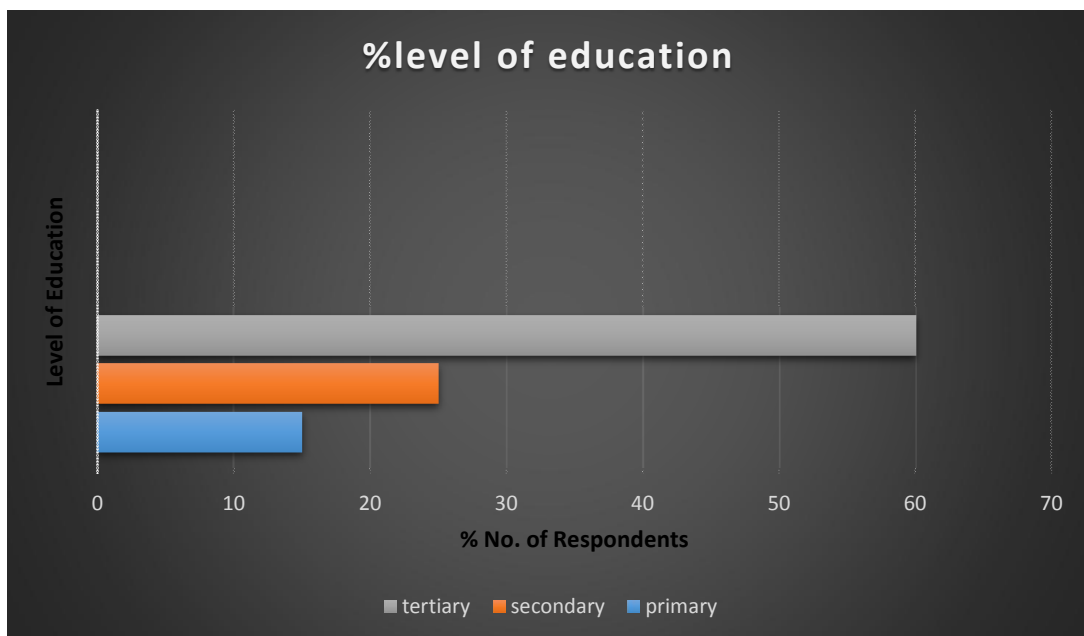
Source: Research Data 2014

4.2.5.1 Analysis

The information above indicates that the highest level of education of the respondents is tertiary education with 60% followed by secondary education with 25% and the respondents with only primary education are 15%. Using the data above it can be shown that most of the employees

in Bindura Municipality have tertiary education. This research is analysing how ICT can improve the public sector management systems using Bindura Municipality as a Case study. The use of ICT requires education and different forms of ICT can be fully utilised by the people with education. This concurs with Hafkin (2002) who asserts that ICT needs education that poor basic education is the main problem in local government. This reveals that most of the employees in Bindura Municipality are educated, thus education cannot be a major barrier for the effective use of different forms of ICT in Bindura Municipality.

4.2.6 EDUCATION INFORMATION OF COUNCILLORS

Figure 6: Councillor's Level of Education
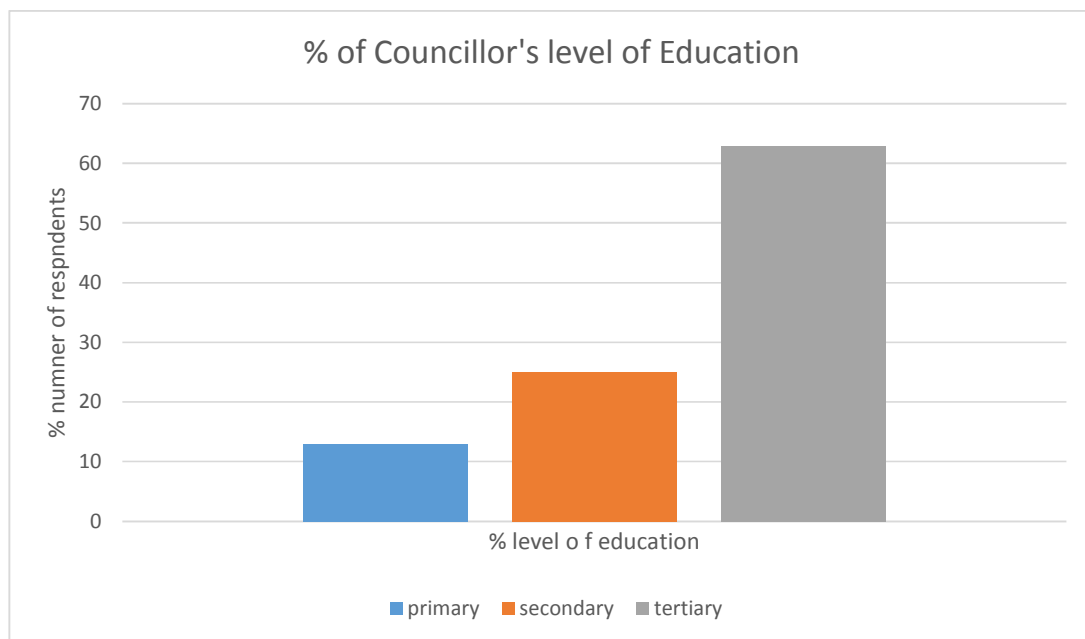
Source: Field Data 2014

4.2.6.1 Analysis

The figure 6 above shows that 63% of councillors who responded have tertiary education, 25% have secondary education and 13% has a primary education. This indicates that most of the

councillors at BM are educated. Other respondents said that some Bindura councillors are doing different degree programmes and diplomas in Bindura University. Considering the fact that these councillors are elected without considering the issue of education if most of them are educated this shows that they can contribute to the use of ICT effectively since the use of ICT requires education.

4.2.7 WORKING EXPRIENCES OF THE RESPONDENTS

Figure 7: Working Experiences of the Respondents
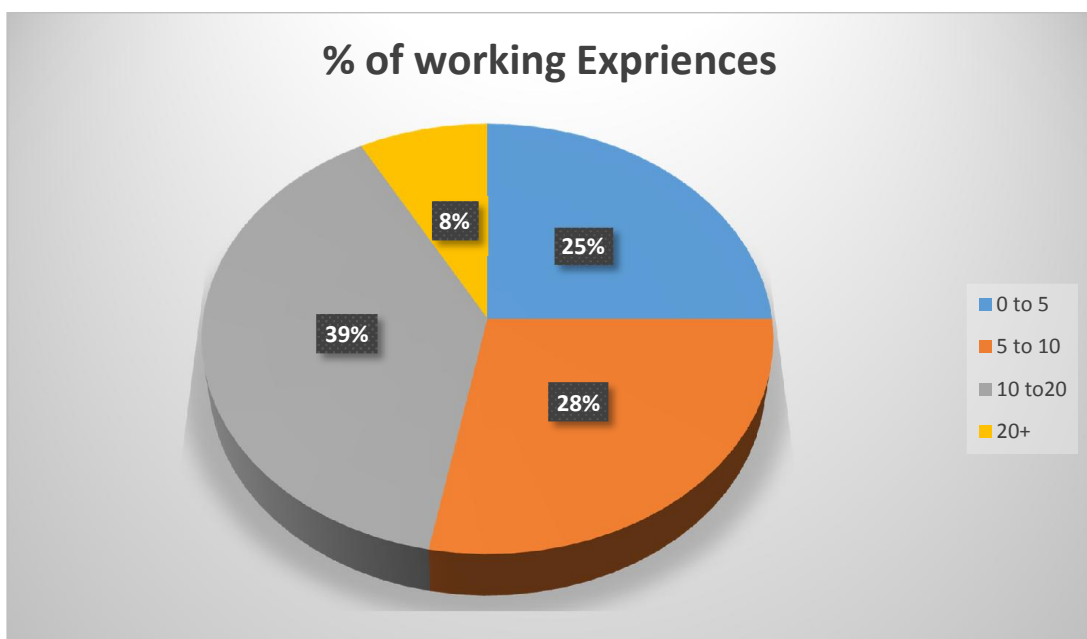
Source: Research Data 2014

4.2.7.1 Analysis

The information above shows that there is response from every year range. Most respondents have the working experience of 10 to 20 years as indicated by 39% followed by 28% of the respondents who have working experiences of 5 to 10 years. 25% of the respondents have 0 to 5 years working experience and very few respondents have 20 years and more working experience as indicated by 8%. This shows that most of the employees who are at BM have

between 10 to 20 years working experiences. The researcher noted that most of these respondents started working at BM in time where the use of ICT was still poor and by that time most local authorities were using very few computers, printers and mobile phones. Due to the introduction of new public management the government is emphasising on the use ICT in all local authorities. Since most of the employees have between 10-20 working experiences in BM the effective use of ICT brings both negative and positive changes to those employees that worked at BM for long time. Some may take long time to adapt to the use of ICT, others will resist and unwilling to use ICT. Positively some may prefer and appreciate the effective use of ICT through comparing to the years when they was poor use of ICT.

4.2.8 LEVEL OF ICT LITERACY

Figure 8: ICT Literacy Rate

% OF ICT LITERACY

No 10%

Not sure 48%

Yes 42%
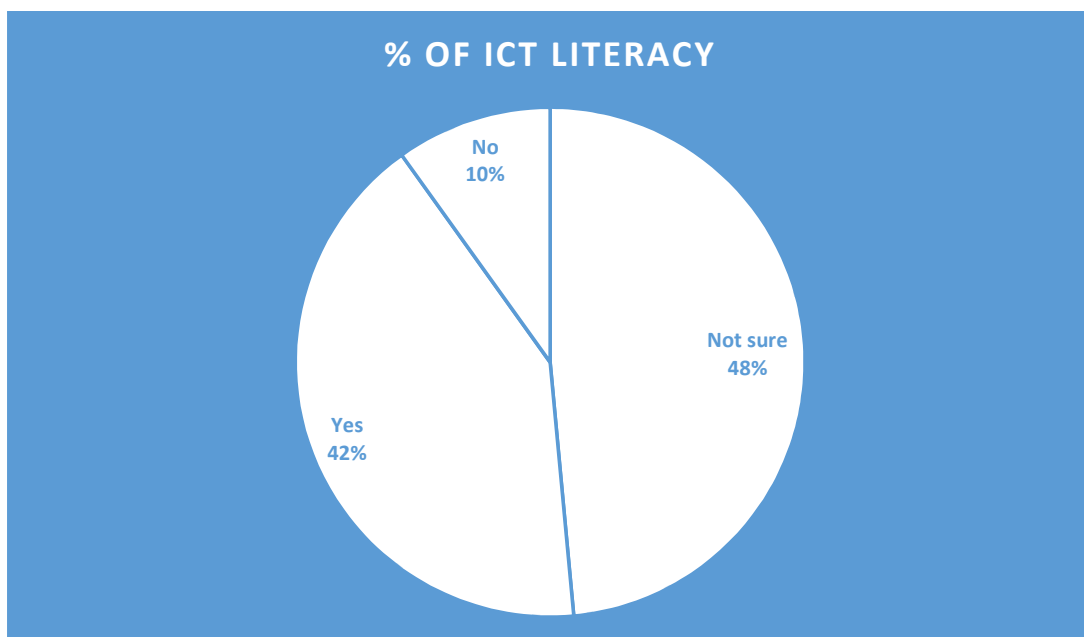
Source: Research Data 2014

4.2.8.1 Analysis

The figure 8 above indicates that 48% of the respondents are not sure if they are ICT literate or not, 42 % of the respondents are ICT literate and 10% are not. This revealing that if most of the respondent are not sure whether their ICT literate or not. These results show that most of the employees in BM employees did not have ICT skills in order to refer themselves as ICT literate. 42% of the respondents shows that they are ICT literate, this reveals that the council can make use of those employees who are ICT literate for better use of ICT in management systems. The information above also reflect that 10% of the respondents are not ICT literate, this shows that it affect the full implementation of ICT at Bindura Municipality since some employees are not ICT literate.

4.3 THE EXENT BM IS USING ICT

There are different forms of ICT that are being used at BM. This research need to analysis the extent in which BM is using ICT in its management systems. The respondents were asked to tick forms of ICT that they are using.

Figure 9: Forms of ICT in BM
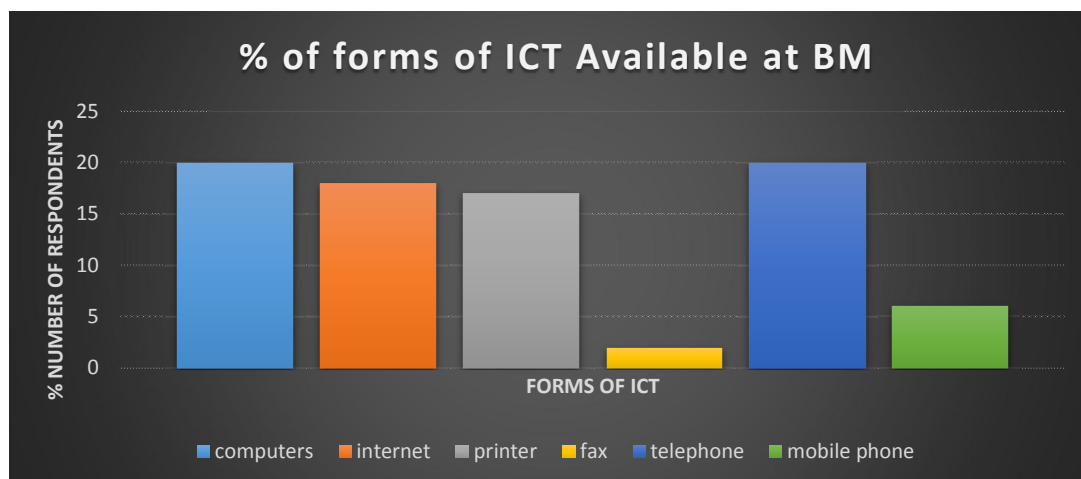
Source: Research Data 2014

4.3.1 Analysis

The information above reflects that 20% of the respondents at Bindura Municipality are using computers and telephones.18% of the respondents are using internet, 15% are using printers, 6% are using mobile phones and only top managers are the ones supplied with mobile phones by the council and 2% are using fax and those are Town Clerk and his personal assistance.

Referring to the information above it indicates that the extent in which BM is using ICT in its management system is still poor. The data presented by the figure 4 shows that the most forms of ICT used at BM are computers, internet and telephones. Many offices with computers are connected to the internet and they is also a telephone. This concurs with the work of Hafkins (2002) and Idowu (2003) who noted that the most ICT forms available in local government institutions are computers and telephones. Considering the information provided by heads of departments interviewed there is only 2 computers and 2 printers for the whole housing department and it is not yet connected to the internet because the department is in location and the BM is not financially stable to install internet in that department thus revealing that the department will remain behind in the use of ICT than other four departments which are at the town house. Also the information provided reflects that those that are not using computers, printers , telephones and internet do not necessarily mean that their nature of work do not need them to use those forms of ICT but there are few ICT resources at BM.

The researcher also observes that BM is not using ICT in all management systems. The I.T section is under finance department and they are effective use of ICT in finance department compared to other departments. In personnel section there is only one computer, a printer, telephone and the computer is connected to the internet. They are using internet but they are not utilizing it because as a personnel section they do not have an email account as a section even their recruitment and selection process is still manual and they are still referring to files

in lot of things. The researcher noted that since there is few computers a lot of work which requires any form of ICT is being done by secretaries who have computers, printers, and internet this is causing other employees to be unwilling to use ICT or to be reluctant in the use of ICT. This show that lack of ICT resource is a problem that the council need to deal with following the recommendations in the next chapter.

4.4 LEVEL OF EMPLOYEES WHO ATTENDED ICT TRAINNING

The researcher needs to analyse the level in which Bindura Municipality is training its employees for the use of ICT and also to know the benefits of those training in the use of ICT

Figure 10: Level of employees who attended the ICT training

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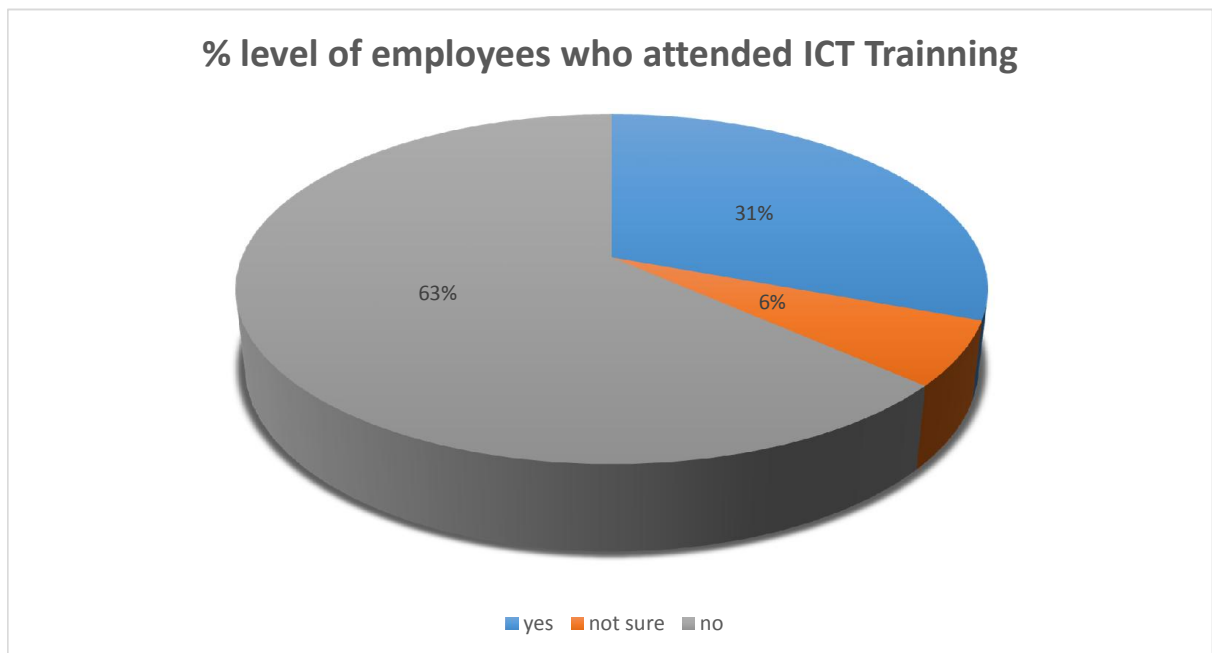
Source: Field Research Data 2014

4.4.1 Analysis

The figure above indicates that most of the employees did not attend any ICT training as reflected by 63%. 31% of the respondents attend system training and 6% are not sure if they attend any training or not. Considering the information from the heads of departments interviewed only few employees managed to have that system training. Most of the employees who did that training were from finance department very few were from personnel and audit section. BM is not yet in apposition to train its employees frequently due to financial problems. The researcher also observed that some of the employees are not yet in the position to realise the need for ICT training and they still referring it as the secretaries are the ones who need that ICT training since are the ones which are effectively using ICT. Other employees also noted that there is no performance appraisal for those training to evaluate the employee's performance after the training and also to see if the employees benefited from those training. Since there is no performance appraisal some employees do not take those training and workshops seriously and some will take it as an opportunity to use council's finance through free lunches and travelling and subsistence allowance (T and S). This revealing that BM will take a long time to fully implement the use of ICT in all management systems thus there is need to follow the recommendations in the next chapter.

4.4.2 Benefits of ICT Training

Figure 11: Benefits of ICT Training
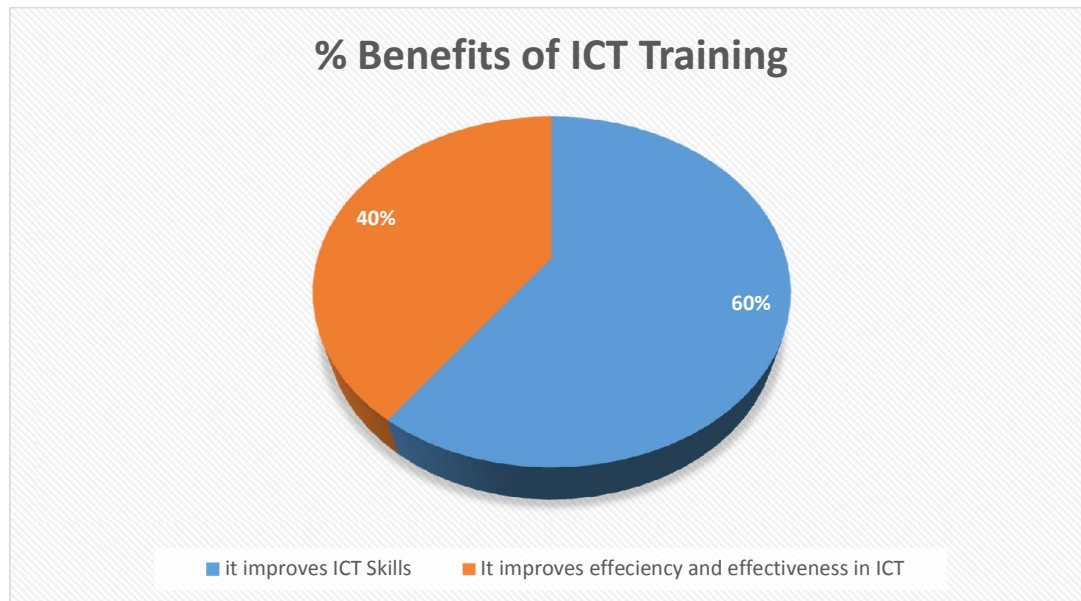
Source: Field Data2014

4.4.3 Analysis

From the information provided by the respondents, the BM managed to hold one ICT training exercise and it was a systems trainining.60% of the respondents indicates that the training improves ICT skills and 40% shows that it improves efficiency and effectiveness in the use of ICT. These results show that ICT training improves the ICT skills as indicated by the 60% respondents. Some respondents said that the training helped the personnel section on how to enter the employees leave days in computer system, to add the new employee in the system and to separate those that retired. This is in line with the work of Wachira (2010) who noted that the use of ICT in human resource management systems involves processing of leave days, employees personal information and recruitment and section process. In finance department the training improves the employee's skills on how to enter all the financial transaction in the computer system. Some of the respondents indicate that the employees were not able to receive

the training effectively because of financial problems to hire an ICT expert to train the employees. This revealing that those who attended the training are not effective enough to implement what they have trained for.

4.5 ROLES OF ICT IN MANAGEMENT SYSTEMS

The figure 12 below indicates the responses on the roles of ICT in management systems.

Figure 12: Roles of ICT at BM Management Systems
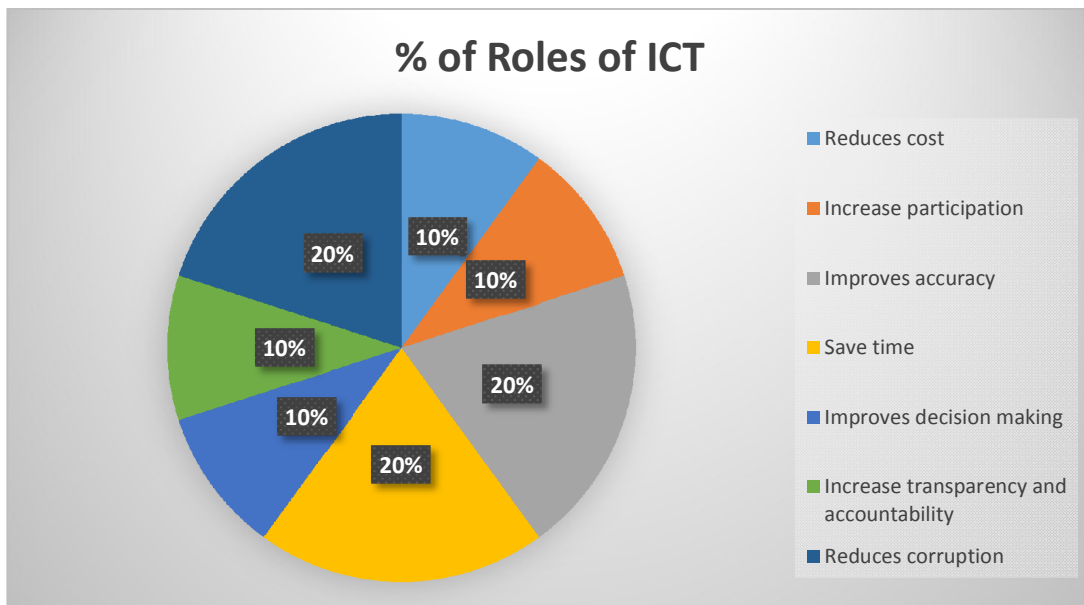
Source: Research Data 2014

4.5.1 Analysis

The figure 12 above shows the responses from the respondents on the roles of ICT in management systems. 20% of the respondents indicate that ICT improves accuracy. It save time and it reduces corruption. 10% of the respondents reflect that ICT increase transparency and accountability and it improves decision making. It increases employee's participation and it reduces cost. These results shows that the role of ICT in BM management system is that it improves accuracy as indicated by 20% respondents .This concurs with the work of Ogobomo

(2009) who observed that the use of ICT in local government administrations improves accuracy in government operations. The results above also reflect that ICT saves time. This supports the works of Alleyne (2003), who describes the role of ICT in improving the provision of service with little constraints on time, place or availability. The results also reveal that the use of ICT in management systems reduces corruption. Considering the information provided by the respondents there is lot of corrupt activities in the use of manual system different forms of ICT such as internet, media and computers helps the organisation to fight against corruption. This concurs with Zvekic (2002) who noted that the freedom and integrity of ICT must be kept intact, as it plays an important role in investigating and exposing corruption.

The use of ICT in management systems increases employees' participation and this is in line with the work of Wachira (2010) who noted that the use of ICT in human resource management system increase the high level of two way communication and participation. The responses of the respondents also shows that the use of ICT in management systems increase transparency and accountability. From the information provided by the respondents they said that through the use of ICT it provide clear employee's responsibility that it increase accountability also the use of computers and internet it increase transparency through better understanding of councils operations through internet and relationships with other local authorities. This support the observation of Ogbomo (2009) who said that ICT in local government administration had improved transparency

4.6 EFFECTIVENESS OF USING ICT IN MANAGEMENT SYSTEMS

The increase of poor management systems in the public sector led to the introduction of new public management and the use of ICT is one of the principles of new public management. Most government worldwide are referring to the use of ICT as effective to improve organisation's operations as revealed by different scholar in chapter two. Using BM as a case

study the question raised by this study is that how effective is ICT in improving BM management systems. The graph below indicate the results from the respondents on the effectiveness of ICT in improving management systems

Figure 13: Effectiveness of ICT in Management Systems
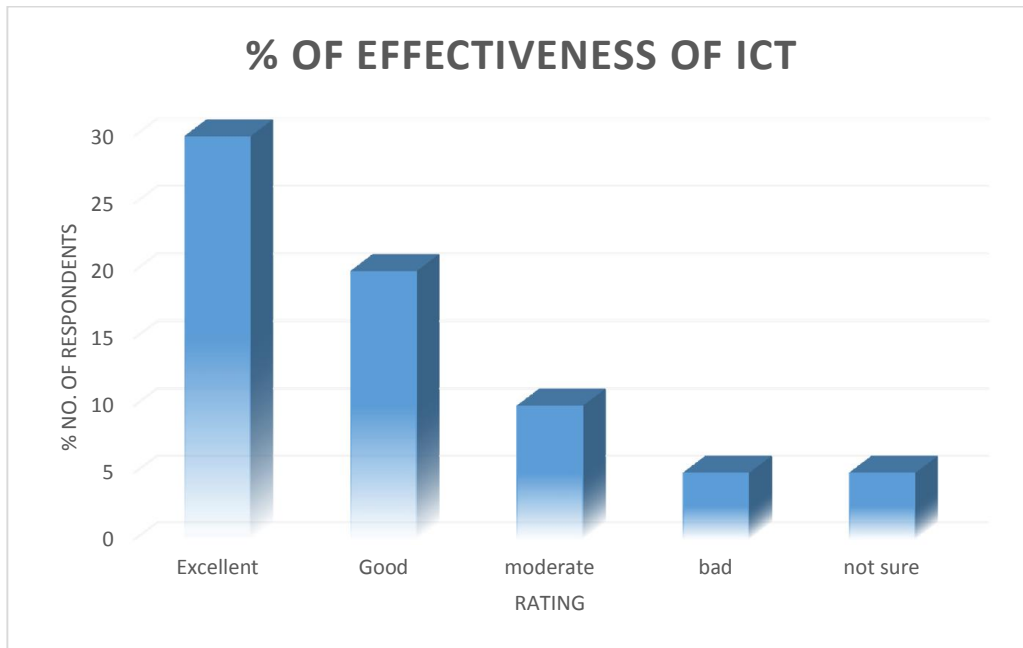
Source: Research Data 2014

4.6.1 Analysis

The responses from the figure 13 above indicates that 30% of the respondents rated ICT as effective in improving BM management systems and 20% reflect that ICT is good in improving management systems. 10% said that it is moderate meaning it can be effective or not effective whilst the 5% of the respondents said it is not effective and 5% also indicates that there are not sure if the use of ICT improves the management systems. These results reveal that the use of ICT improves the management systems as indicated by the 30% of excellent and 20% of good. The researcher observed that 5% of the respondents who said that there are not sure if ICT improves management systems and those employees that said ICT did not improve the

management systems are those employees which are not using ICT in their day to day operations and some of them they do not understand the link between the use of ICT and its role in management systems.

4.7 CONTRIBUTION OF COUNCILLORS IN THE USE OF ICT

Councillors are policy formulator and they are not fully time employees which have offices at council. They are mostly available at council when there are committee meetings or other urgent matters. Through their role as policy formulators and representatives of the residents they can contribute in the effective use of ICT. The table 3 below shows councillor's responses on their contributions in the use of ICT.

Table 3: Councillor's Contributions in the use of ICT

CONTRIBUTION	NO. OF RESPONDENTS	%
Formulating ICT policies	6	75
Encouraging ICT training or workshops	2	25

Source: Field Data 2014

4.7.1 Analysis

The table 3 above reflects that 75% of respondents indicated that councillors can formulate ICT policies in order to improve the use of ICT at BM. 25% shows that councillors can encourage ICT training and workshops. The information above shows that most contribution that can be done by councillors in the use of ICT is that they can formulate ICT policies as indicated by 75%. The researcher observed that ICT policies improve the use of ICT if those policies put into practice. Most of ICT policies are being formulated but not being put into

practice due to number of challenges that will be mentioned below. Also councillors can encourage ICT trainings or workshops and those workshops may improve the use of ICT through improving employees ICT skills. One of the respondents said that councillors represent the needs of the residents as their primary role through policy formulation. Thus they have a significant role in improving the use of ICT and it will improve the management systems hence resulting in efficiency and effectiveness in provision of services to the residents

4.8 CHALLENGES FACED BY BINDURA MUNICIPALITY IN THE USE OF ICT

Figure 14: Challenges Faced in the Use of ICT
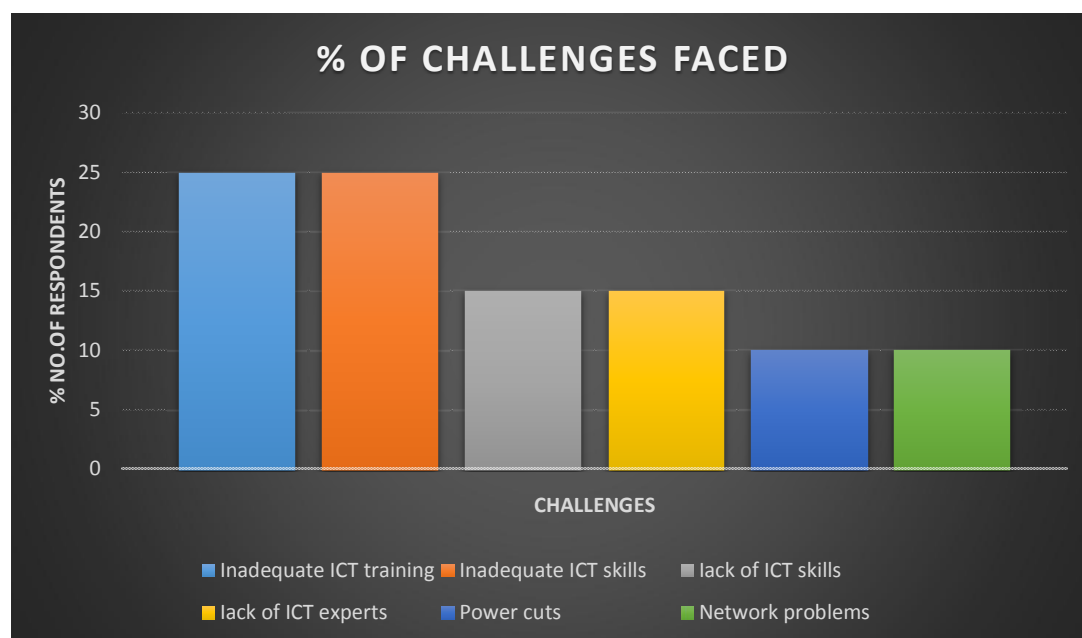
Source: Research Data 2014

4.8.1 Analysis

The figure above shows that 25% of the respondents said that inadequate of ICT training is a major challenge faced in the use of ICT. Most of the employees at BM lack ICT training. Many respondents noted that in the use of ICT there is lot of software and models that need training

in order to understand them but because of financial problems the council is failing to train the employees. This supports the works of Ajayi (2007) who noted that the use of ICT requires a lot of finance in order to fully implement it. This is also in line with Ndlovu (2012) who noted that the limiting factor in the use of ICT in Zimbabwe is the cost. From the information provided ICT trainings cost BM a lot of money since they need to hire an expert to train the employees and it is very expensive.25% of the respondent also stated that Inadequate of ICT infrastructures is challenge faced in the use of ICT. Considering the data provided by the respondents there are few ICT infrastructures at BM some offices do not have computers, printers or even telephones. BM is facing a challenge in purchasing more computers, printer or even to install other ICT infrastructures. This is causing poor effective use of ICT at BM since some employees are not able to use ICT due to lack of ICT infrastructures also it is causing some of the employees to be reluctant and unwilling to use ICT because of inadequate infrastructures.

15% of the responses indicate that lack of ICT skills is a challenge faced. The respondents said that the use of ICT requires skills that most of the employees do not have those skills. Considering the fact that most of the employees at BM have more than 10 years working at BM those employees requires ICT skills to adjust from the manual system to the use of ICT. This concurs with the observation of Ogbomo (2009) in Nigeria that lack of ICT skills is the major problem which is affecting the rate in which ICT is being used in local government.

15% of the responses reflect that lack of ICT experts is also another challenge faced. The respondents said that there is no ICT expert in I.T section who can assist the employees effectively in the use of ICT. Most of the employees continued to performance poorly in the use of ICT because there is no ICT experts who can guide the employees even to update different software or to repair available ICT infrastructure without the council hiring an external ICT expert to repair those ICT infrastructures and that can increase the cost to the

council. 10% of the respondents also indicate that power cuts are a challenge faced in the use of ICT. One of the respondents interviewed said that most of ICT resources require electricity and the problem of electricity supply is affecting the effective use of ICT because sometimes it damages the ICT resources available at BM. Sometimes it causes loss of information because there is no time table for power cuts they just cut it while someone is typing a document in a computer without pressing automatic save of information. This support the work of Ogbomo (2009) who noted that power cuts is a challenge which affects the use of ICT in most African countries. 10% of the respondents reflect that a network problem is another challenge faced in the use of ICT. Some forms of ICT such as internet, intranet and mobile phone requires network. Other respondents noted that Bindura town is facing network problems and this reduces the effective use of those forms of ICT. More so it affects progress because some of the work may requires network like to send an email or to download documents. This support the work of Ndlovu (2012) who asserts that the use of ICT in most developing countries is affected by poor networks and poor accessibility.

4.9 OPPORTUNITIES THAT CAN BE USED BY BM IN THE USE OF ICT

BM as an organisation there are opportunities that it can take advantage of in the use of ICT. The research raised a question focuses on the opportunities that BM can use to be effective in the use of ICT. This figure 9 below shows the responses on opportunities that BM can use to be effective in using ICT.

Table 3: Opportunities that BM can use in ICT

OPPORTUNITIES	NO.OF RESPONDENTS	PERCENTAGE%
Availability of Universities in Bindura town to acquire ICT skills and experts	30	35
Availability of labour from University students in the use of ICT	45	52
BM is near capital city it can be easy to excess ICT resources	11	13

Source: Field Data 2014

4.9.1 Analysis

The table 4 above indicates that 52% of the respondents said that the availability of labour from university students in the use of ICT is the major opportunity that BM can use to improve the use of ICT. From the information provided by the respondents BM employ students for work related learning from various universities every year. The organisation can take advantage of those students in the use of ICT since they have a better understanding in the use of ICT and most of the organisations do not pay them and to those that pay them they do not give them a lot of money. It is important to note that there are various ICT degrees and diplomas in universities that BM can employ those students who are doing ICT degrees or diplomas for work related learning so that they can improve the use of ICT at BM and also they can improve employee's skills in the use of ICT. Another opportunity that can be used by BM is the availability of three Universities in the town that they can acquire ICT skills and experts as indicated by 35% of the respondents. Considering the information provided by the respondents BM can make arrangements with one of the universities to train the employees on the use of

ICT even to hire an ICT expert from one of the universities to improve the use of ICT since he/ she will be coming from local area it reduces the cost than to hire an expert from other university outside Bindura town.17% of the respondents shows that BM can use the opportunity that it is near capital city. Using the information provided in the background of Bindura in chapter one the town is 89 km from Harare. Different ICT resources are cheap in Harare and they can be available to purchase them. It can be easy for BM to excess ICT resources in Harare the transport cost is not that expensive or even the accessibility of other ICT infrastructures is easy.

4.10 SUMMARY

The chapter presented the research findings and results on the study of ICT as a means of improving public sector management systems. Following the research objectives after distributed 80 questionnaires and 70 were responded and 4 interviews were conducted out of 6 different methods of presenting data was used such as pie charts, tables and graphs. The important results attained includes the roles of ICT in the management systems and challenges faced in the use of ICT such as inadequate ICT infrastructures, inadequate ICT training, lack of ICT skills and others. The chapter also provided the opportunities that BM can use to be effective in the use of ICT. The summary of the previous chapter, conclusions and recommendations will follow in the next chapter.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

The chapter provide the summary of other previous chapter. It will also focus on the benefits and challenges faced in the use of ICT as a means of improving public sector management systems. The chapter will also draw conclusions from the findings and then make recommendations.

5.1 SUMMARY

This study focused in the effectiveness of ICT in improving public sector management systems using Bindura Municipality as a case study. The benefits and challenges faced in the use of ICT were outlined. The study emerged to analyse if ICT solve the problems faced by public sectors in the management systems. As stated in the statement of the problem BM management systems faced a lot of challenges that were hindering the provision of effective and efficiency services although the study reveals that they are still facing challenges in their management systems. The use of ICT came as the principle of new public management that all public sector are being encouraged to use it and also after the pressure from the global changes worldwide on new technology in the public sectors.

The research was guided by research objectives and questions, the main objectives was to assess the role of ICT in BM management systems, to analyse the effectiveness of ICT in improving the BM management systems and to identify opportunities that can be used by BM to improve the use of ICT, challenges faced in ICT and to recommend solutions. The research outlines the significances of the study to BM, other students and to the researcher. The most

important significance of the study was that it creates awareness to BM on the importance of using ICT in management systems and provides better solutions and measures to improve the use of ICT in public sectors. Also it helped the researcher to understand better and to have an analysis on the use of ICT in public sectors. Delimitations and limitations of the study were presented and the main limitation of the study was that some of the respondents were not available and some were not willing to participate. The main delimitation of the study was that the research focused on the use of ICT at BM only not Bindura town as whole. It also looked at the use of ICT in management systems focusing on BM employees and councillors.

 The research revealed theoretical construct and views from various individuals and scholars in the practise of ICT. The benefits and challenges of using ICT were outlined basing on various scholars views and aspect. ICT in generals was discussed as the use of any modern communication devices which are important through producing and distributing information. The study also presented the use of ICT in developing and developed countries and the role in which ICT is playing in those countries using different views of individuals and scholars. The study showed that ICT in developed countries is now a step further than in developing countries. Chapter two also reveals that ICT in developing countries is facing a number of challenges because those countries are poor and they are facing challenges in developing ICT infrastructures. There are forms of ICT which were outlined such as computers, printers, fax, internet, mobile phone and telephones and their merits and demerits. Different types of management systems were outlined such as financial management systems and human resource management systems. The research also presented the various arguments and aspect of scholars on the benefits of ICT and the challenges faced by local authorities in the use of ICT.

This research used both quantitative and qualitative research methods. The main reason for using both methods was that it helps the researcher to provide the information in numerical results also to be able to analyse the situation, feelings and employees behaviour in the use of ICT. The research targeted populations were councillors, other council employees and heads of departments. Sampling techniques used in this study are simple random sampling and it was used to council employees and councillors. The main reason for using simple random sampling was that it is easy to apply and there is less bias in using that technique. Judgemental sampling was used to the heads of departments. The main reason for using judgemental sampling was that it save time and less bias since the researcher will obtain information from the right people with the better knowledge of the study. The sampling population of the study had a total number of 86 respondents, 70 council employees, 10 councillors and 6 heads of departments. Data collection instruments used was questionnaires which were distributed to the councillors and other employees. Observations were also used and the main reason for observations was that the researcher needs to analyse the use of ICT through observing the environment and the infrastructures available. Interviews were also conducted to the heads of departments because it helped the researcher to obtain more information and allow the respondents to further explain in the use of ICT. Questionnaires and interviews were undergoing a pre-testing in order to see if the questions are clear and understandable. Data collection procedures and ethics were also considered in chapter 3.

Data was presented using different methods such as pie charts, tables and graphs. The total response rate of both interview and questionnaires was 84% which was good for better analysis of the information. Many respondents noted that ICT is effective in improving management systems. Roles of ICT outlined are it improves accuracy, save time, it reduces corruption and others mentioned in chapter four above. There are challenges being faced in the use of ICT

such as inadequate ICT training, inadequate ICT infrastructures, lack of ICT skills, power cuts and lack of ICT experts.

5.2 CONCLUSIONS

❖ Computers, internet and telephone are the major ICT tools or gadgets being used in BM. The researcher observed that not every employee is capable of using them and the council is not using ICT in all management systems other receipting points are still using manual and there many challenges being faced in capturing manual receipt.

❖ Bindura Municipality is taking long time to adjust to the use of ICT. The researcher observed that there are lot of employees who have more than 10 years at BM so those employees were used to the manual system so it is difficult for them to adjust to the use of ICT.

❖ There is no separate ICT department at BM with skilled personnel and this is affecting the effective use of ICT in management systems. The I.T section is under the finance department and the employees are not ICT experts.

❖ The research noted that the use of ICT in management systems brings a lot of benefits that can improve public sector management systems. It is important to note that if public sector prioritises the use of ICT in their operations it can improve provision of quality services to the people through effective management systems. The respondents has agreed that the use of ICT in management systems add value and they cited the following benefits:

- It increases employee's participation

- It reduce cost

- It save time

- It improves decision making

- It reduces corruption

- It improves accuracy

❖ Bindura Municipality is facing challenges in the use of ICT. The researcher established that if those challenges are properly managed and reduced the use of ICT can be effective enough to improve public sector management systems. The other challenges are increasing because the council is not prioritising the use of ICT.

❖ Bindura Municipality is greatly affected by inadequate ICT infrastructures to improve the use of ICT; this is because of the issue of finance. The local authority is not financially stable and the full implementation of using ICT requires a lot of infrastructures development and those infrastructures are very expensive to purchase.

❖ The council is failing to train the employees in the use of ICT. Many employees require ICT training in the use of ICT. The research noted that ICT training is not considered as important by the council and not all employees are being involved in those ICT training.

❖ There is no performance appraisal after the training of ICT. The researcher noted that there was no performance appraisal in all council operations. The introduction of Result Based Management (RBM) in all government institutions that is when the use of performance appraisal started but in trainings and workshops the council has not started to implement it .This is causing some of the employees not to take those trainings seriously and not realise the importance of ICT training.

❖ Lack of ICT experts is another challenge faced by BM. The level of ICT understanding and operations is very low. There are no experts in the use of ICT that can foster and improve the effective use of ICT in all management systems.

❖ The problem of network is affecting the effective use of ICT in BM. The researcher noted that although there are few ICT resources at Bindura Municipality the problem of network is reducing the effective use of ICT.

❖ The research also noted that some employees are ignorant in the use of ICT. They are not willing to participate or even to develop themselves in the use of ICT. This is causing the slow growing of ICT at BM.

❖ There is no ICT policy at BM which guides the employees in the use of ICT that is the reason why the council is not prioritising the use of ICT. Even some of the employees are not taking it seriously or failing to recognise its importance in their day to day operations.

❖ ICT literacy is also a challenge faced in the use of ICT. Many ICT tools require knowledge on how to use them even a basic education the ability to read and write especially computers and internet. The researcher noted that there are few employees who are ICT literate.

❖ There are opportunities that noted by the research that BM can use to improve the use of ICT. The availability of three universities in Bindura town BM can take advantage of those universities to develop their employees and systems through hiring ICT experts or even to allow those employees who want to improve themselves in any ICT programme.

❖ The study also noted that the availability of labour from the university students for work related learning is playing vital role in ICT. In all universities in Zimbabwe I.T is a compulsory module that every university student has the knowledge and a better understanding on the use of ICT. This is helping BM in the use of ICT because those students are assisting the employees in the use of ICT.

5.3 RECOMMENDATIONS

The researcher managed to recommend possible solutions that can improve the use of ICT in management systems through analysing the findings and conclusions noted above. The recommendations below seek to help the council on how to solve the problems faced in the use of ICT and to be effective in using ICT.

53.1 Frequent ICT training and workshops

BM need to do frequent ICT training to all employees in order to improve their ICT skills, better understanding of ICT and to keep abreast with current ICT trends and changes. Departments need to do their own ICT training that can improve their operations at department level.

5.3.2 Training performance appraisal

There is need for performance appraisal after every ICT training and workshops. This will improve employee's performance in the use of ICT also it will increase their participation during training. Performance appraisals reduce cost to the council it evaluate if the employees benefited from that training through the way they perform their jobs and also it reveals areas that need improvements instead of council to just use the money and resources on training which are not benefiting the organisation.

5.3.3 ICT infrastructure development

BM must engage in ICT infrastructure development in order to improve the use of ICT. There is need to prioritise the development of ICT infrastructures in order to fully implement the use of ICT in all management systems through accessibility of ICT to all departments.

5.3.4 Public -Private Partnerships

The council need to engage into public private partnership that can assist the organisation in the use of ICT. Private organisations have more resources and skills than public organisations through public private partnerships council can engage into any type of contract with the private sector to improve the use of ICT either through infrastructure development or even improving employee's ICT skills. Other organisations like NGOs they can even donate ICT resources like computers or printers.

5.3.5 Formulating ICT policies

Councillors need to help the council in formulating ICT policies which can guide the council in the use of ICT together with the national ICT policies and strategic plans. These policies ensure that the council prioritise the use of ICT in the organisation and also it helps the organisation with better strategies to improve the use of ICT.

5.3.6 Employing ICT experts

BM needs to employ ICT experts in the organisation that can foster the use of ICT. Also it reduce cost to council to employ an experts than to hire someone who can cost a lot of money for that few moment but a fully time employee can improve the use of ICT better. There is poor employment rate in the country the council can take advantage of that situation to employ someone and they can negotiate on salaries since councils are not paying well.

5.3.7 Job Redesign

There is need for job redesign to some employees. Those employees who are unwilling and ignorant in the use of ICT need to be allocated in those offices that do not require effective use ICT in order to improve the use of ICT in BM management systems.

53.8 Establishment of ICT department

There is need to establish an ICT department with skilled personnel in order to improve the use of ICT. Also the department will help in capturing all manual documents into the ICT systems even to assist those departments that are still facing challenges in the use of ICT.

5.3.9 Prioritisation of ICT in annual budgets

The council need to prioritise the provision of ICT in its annual budgets. This will help the organisation in the development of ICT infrastructures and even to conduct ICT trainings and workshops frequently.

5.3.10 Use of Available Opportunities

The council need to take advantage of the opportunities available to improve the use of ICT. The students employed by the council for work related learning can improve the use of ICT since I.T is a compulsory module for all university students so they understand the use of ICT better and they can help some of the employees in the use of ICT.

5.3.11 Involvement of National Government in promoting ICT in Sub-National level

There is need for effective national government involvement in the use of ICT in local government. Some of the problems faced in the use of ICT such as network problems and inadequate ICT infrastructures the government must help local authorities in the development of ICT infrastructures. Also the government should partner with other private sectors that provide ICT resources such as econet, telecel and netone to improve those areas where there is poor accessibility of network through development of hard infrastructures like network boosters.

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APPENDIX I

Questionnaires for Bindura Municipality Employees

My name is Lisa Blessing Chitete an undergraduate student at Midlands State University. I am currently studying towards attaining a BSC Honors Degree in Local Governance Studies. I am carrying out a research on the topic, "Information and Communication Technology (ICT) a means of improving public sector management systems''. You have been identified as one of the relevant participants and your input in completing this questionnaire will be sincerely appreciated. Your contribution will help in the completion of the study. The information you provide will only be used for academic purposes. Participation in this   research is voluntary and your **confidentiality** is guaranteed. Do not include any names or personal information.

 NB: Tick where applicable and please answer the questionnaire on your own.

Demographic Information

1. Sex:
   Male ☐   Female ☐
2. Age group:
a. 20-30 years ☐ b.30-40 years. ☐ c.40 – 50 years ☐ d.51+ years. ☐
3. Level of education:
a. Primary level ☐ b. Secondary level ☐ c. Tertiary level ☐
4. How long have you been employed by Bindura Municipality?
a. 0-5years ☐   b. 5-10years ☐   c. 10-20years ☐   d. 20+years ☐
5. What position do you occupy now?
a. Middle manager ☐
b. Administration assistance (secretary, drivers, messengers, clerks) ☐
c. General employee ☐
d. If others, specify_____
6. What do you understand about Information and Communication Technology (ICT)?
a. Use of computers or internet ☐
b. Use of modern communication technology ☐

c.   Use of any communication devices ☐

d.   Not sure ☐

e.   If others, specify_____

7. Are ICT Literate

    a.   Yes ☐

    b.   No ☐

    c.   Not sure ☐

8. Which forms of ICT are you using in your organization?(you can tick more than one)

a.   Computers ☐

b.   Internet ☐

c.   Fax ☐

d.   Printer ☐

e.   Mobile phones ☐

f.   Telephones ☐

g.   Not sure ☐

h.   If others, specify_____

9. Have you attended any ICT training or workshops which were done by the organization?

    No ☐   Yes ☐   Not sure ☐

10. If yes how often did you attend those training or workshops

a.   Monthly ☐

b.   Quarterly ☐

c.   Annually ☐

d.   Never ☐

11. What were those training or workshops all about?(you can tick more than one)

a.   Basic ICT training ☐

b.   System training ☐

c.   Not sure ☐

d.   If others, specify_____

12. What are the benefits of those training or workshops to the use of ICT?

a.   It improves efficiency and effectiveness in the use of ICT ☐

b.   It improves ICT   skills ☐

c.   Not sure ☐

d.   If others, specify_____

13. Are you using ICT in all your systems?

No ☐   Yes ☐   Not sure ☐

14. What are the roles of ICT in your management systems?(you can tick more than one)

a. It reduces cost ☐

b. It increases employee's participation ☐

c. It improves accuracy ☐

d. It improves the decision making ☐

e. It save time ☐

f. It reduces corruption ☐

g. Not sure ☐

h. If others, specify_____

15. How effective is ICT in improving your management systems

a. Excellent ☐

b. Good ☐

c. Moderate ☐

d. Bad ☐

e. Not sure ☐

16. What opportunities did you notice that Municipality can use to be effective in using ICT in the management systems?(you can tick more than one)

a. Availability of universities in Bindura to acquire ICT skills and experts. ☐

b. Availability of labour from universities' students to improve the use of ICT ☐

c. The town is near capital city it can be easy to excess ICT resources ☐

d. Not sure ☐

e. If others, specify_____

17. What are the challenges that you are facing in the use of ICT?(you can tick more than one)

a. Lack of ICT training ☐

b. Lack of ICT infrastructures ☐

c. Lack of ICT skills ☐

d. Lack of ICT experts ☐

e. Poor electricity supply ☐

f. Not sure ☐

g. If others, specify_____

18. What suggestions do you have to solve ICT challenges faced by the organization?

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APPENDIX II

Interview Guide for Bindura Municipality Heads of Departments

My name is Lisa Blessing Chitete an undergraduate student at Midlands State University. I am currently studying towards attaining a BSC Honors Degree in Local Governance Studies. I am carrying out a research on the topic, "Information and Communication Technology (ICT) a means of improving public sector management systems''. You have been identified as one of the relevant participants and your input in completing this questionnaire will be sincerely appreciated. Your contribution will help in the completion of the study. The information you provide will only be used for academic purposes. Participation in this research is voluntary and your **confidentiality** is guaranteed. Do not include any names or personal information.

NB: Tick where applicable and please answer the questionnaire on your own.

Department of the respondent……………………………………………………………..

How long have you been in this position? ……………………………………………..

Date of interview...

1. What forms of ICT are you using?
2. Are you ICT literate?
3. What are you doing to support the use of ICT?
4. Are your employees ICT literate?
5. If not, what are you doing as directors to improve your employees ICT literacy?
6. What challenges are your employees facing in the use of ICT?
7. Are you using ICT in all your systems?
8. In your opinion can you say ICT is effective in improving your management systems?
9. Are there any opportunities that can be used by your organisation to improve the use of ICT?
10. What is your opinion towards the extent to which Bindura Municipality is using ICT?
11. How do you view the future use of ICT in your organisation?
12. As a head of department what measures are you taking to improve the use of ICT in your department?

13. As a director what challenges are you facing in the use of ICT in your systems?

14. What your suggestions to solve those challenges?

Midlands State University
Established 2000
Our Hands, Our Minds, Our Destiny

APPENDIX III

QUESTIONNAIRES FOR THE COUNCILLORS

My name is Lisa Blessing Chitete an undergraduate student at Midlands State University. I am currently studying towards attaining a BSC Honors Degree in Local Governance Studies. I am carrying out a research on, "Information and Communication Technology (ICT) a means of improving public sector management systems''. You have been identified as one of the relevant participant and your input in completing this questionnaire will be sincerely appreciated. Your contribution will help in the completion of the study. The information you provide will only be used for academic purposes. Participation in this research is voluntary and your **confidentiality** is guaranteed. Do not include any names or personal information.

 NB: Tick where applicable and please answer the questionnaire on your own

Demographic Information

1. Sex:
   Male ☐   Female ☐

2. Age group:

a. 18 – 25 years ☐   b. 26 – 35 years ☐   c.36 – 50 years ☐   d.51+ years ☐

3. Level of education

a. No schooling ☐   b. Primary level ☐   c. Secondary level ☐   d. Tertiary level ☐

4. Are you Information and Communication Technology literate?

   No ☐   Yes ☐   Not sure ☐

5. What do you understand about Information and Communication Technology (ICT)?

a. Use of computers or internet ☐

b. Use of modern communication technology ☐

c. Use of any communication devices ☐

d. Not sure ☐

e. If others, specify_____

6.   As Councillors what forms of ICT are you using?(you can tick more than one)

a. Cellphones ☐

b. Internet ☐

c. Computer ☐

d. Not sure ☐

e. If others, specify_____

7. What is the importance of using ICT in improving Bindura Municipality management systems?(you can tick more than one)

a. It reduces cost ☐

b. It improves accuracy ☐

c. It improves the decision making ☐

d. It save time ☐

e. It reduces corruption ☐

f. Not sure ☐

g. If others, specify_____

8. How effective is ICT in improving your management systems

a. Excellent ☐

b. Good ☐

c. Moderate ☐

d. Bad ☐

e. Not sure ☐

9. What are you doing as Councillors to improve the use of ICT in Bindura Municipality?

a. Formulating ICT policies ☐

b. Encouraging ICT training and workshops ☐

c. Not sure ☐

d. If others, specify_____

10. How do you see the future use of ICT in Bindura Municipality management systems in five years?(you can tick more than one)

a. Availability of ICT resources in all departments. ☐

b. Efficiency and effectiveness in management systems. ☐

c. Availability of ICT experts. ☐

d. Not sure ☐

e. If others, specify_____

11. What are the challenge that you facing in the use of ICT?(you can tick more than one)

a. Lack of ICT skills ☐

b. Lack of ICT resources ☐

c. Poor electricity supply

d. Not sure ☐

e. If others, specify_____

12. What are the opportunities that you see as Councillors that Bindura Municipality can use to improve the use of ICT in management systems?(you can tick more than one)

a. Availability of universities in Bindura to acquire ICT skills and experts. ☐

b. Availability of labour from universities' students to improve the use of ICT. ☐

c. The town is near capital city it can be easy to excess ICT resources ☐

d. Not sure ☐

e. If others, specify_____

13. What are your suggestions that can improve the use of ICT in Bindura Municipality management systems?

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THANK YOU