

# CHAPTER ONE

## Introduction

### 1. Background to the study

The increasing use of information communication technologies (ICTs) in particular the Internet has become prominent and has the potential to change fundamentally how organizations work (La Porte et al., 2001). Internet provides an opportunity for governments to provide services to their citizens via websites. Government websites provide a platform for efficient communication and access to public information. Government has an obligation to make information available easily, widely and equitably and increasingly also in electronic format. Government websites should therefore be utilized as tools to disseminate information and services to a wide range of audiences and should be a public relations tool to reach citizens, the media and foreigners, including tourists and investors. Previous studies by Chisenga (2004) have shown that government websites are used for several reasons, some of which include informing the public of new developments in the government through the provision of government documents; to provide services such as online application facilities; and to provide interaction between the government and the citizens through feedback facilities.

The W3C eGovernment Interest Group (2009) has observed that governments world over have been striving since the late 1990's to find better ways to connect with their constituents via the web. By putting government information online, and making it readily available, accessible, understandable, and usable, people can now interact with their government in ways never before imagined. This concept is dubbed "electronic government", or e-Government (W3C eGovernment Interest Group, 2009). Broadly defined, e-government can include virtually all information and communication technology (ICT) platforms and applications in use by the public sector. For the purpose of this study however, e-government is defined as: utilizing the internet and the world-wide-web for delivering government information and services to citizens. As more and more people take advantage of these features, digital government is supplanting traditional means of access based on personal visits, phone calls, and mail delivery (West, 2007).

For democratic governments, the web can be one of the best tools to engage users and disseminate information in a manner that promotes transparency and citizen satisfaction.

Such benefits, however, cannot be realized if websites are unusable. Web usability generally means that websites are clear, simple, consistent and easy for users to use (Cappel & Huang, 2007). Government websites that are usable can help improve the relationship between government and citizens through communication and sharing of ideas. Ultimately, improving usability on a government website cannot only improve the user experience; it can also lead to better citizen interaction.

As regards the implementation of government websites, Kaaya (2004) observed that they can be classified into four phases, namely: (1) Website creation, (2) initial two-way interaction, (3) online transactions and (4) comprehensive government portals. The first phase involves development of government websites to provide information to citizens. The second phase focuses on building a platform for interaction between citizens and the government websites. Tools such as electronic submission forms and discussion forums are created at this phase. The third phase aims at creating web tools for facilitating transactions of government websites services, such as electronic procurement. The last phase involves integration of government website systems to share resources. Kaaya (2004) further noted that usability issues of government websites were particularly relevant to phases one and two of the implementation of government websites.

Trusler (2008) however stated that setting up a website often leads to complacency about e-government in that it is easy for an agency to believe that just because it has created a website then it has electronically delivered a service. The Working group on e-government in the developing world (2002) argued that creating a website may be a benchmark in terms of implementing e-government, but it does not guarantee performance or customer usage. This might be true in societies that have high rates of Internet penetration, but even then it is only true for some websites. "In places where Internet access is cost prohibitive for the average citizen, or not widely available, there is even less reason to tout the creation of general websites, or assume they actually deliver services just because they exist" (Working group on e-government in the developing world 2002).

In any case, if a government is going to make effective use of the Internet, one challenge it faces is to develop websites that are usable and that contain content that visitors to the sites will find useful. According to Zeff (1996), for a government to fully utilize the Internet and realize the potential benefits of cyberspace usage, it must provide websites that are user friendly and that provide useful content. While the content of government websites has been analyzed, the question of the usefulness of that content, and the overall usability of the websites, remains. Despite the perceived importance of government websites in governance issues, little is known about their effectiveness and efficiency. It is against this background that this study sought to evaluate government ministerial websites in Zambia for usability features such as content and services available that the average citizen would most likely use.

## **1.2 Global e-Government development**

The United Nations (2010) observed that the term e-Government is no longer unfamiliar in the present times but it is extremely important for any country to have a clear concept of the subject before embarking on the transformation journey. Understanding the various intricacies involved in the overall scope of e-Government strengthens the vision further.

According to the United Nations (2010), an e-government index is a tool, which is useful for policy planners and is employed as an annual benchmark that presents a more inclusive and less subjective measure of a country's e-government official online presence, evaluates its telecommunications infrastructure and assesses its human development capacity. The United Nations (2010) noted that the index identifies underscores and weighs the importance of the requisite conditions which enable a country to sustain an e-government environment which ensures that every segment of its population has unconstrained access to timely, useful and relevant information and services. According to the United Nations (2010) the results of the e-government index tend to reflect a country's economic, social and democratic level of development. The web measure as reflected by the United Nations (2008) is based upon a five-stage model, which builds upon the previous levels of sophistication of a member state online presence. As a country migrates upwards through the various stages, it is ranked higher in the web measure index. The national portals or the official government website of the member state

are the primary sites evaluated to establish the e-government index. High-income countries enjoy the top rankings in the e-government development index in 2008 as in previous years. Among the top five countries in the 2008 United Nations E-Government Survey, the Republic of Korea received the highest score (0.8785), followed by the United States (0.8510), Canada (0.8448), the United Kingdom (0.8147) and the Netherlands (0.8097).

The 2010 UN e-Government survey shows that Europe (0.6227) and the Americas (0.4790) score above the world average (0.4406). Asia (0.4424) almost the same as the world average. Africa (0.2733) and Oceania (0.4193) score below the world average. The majority of positions in the top 20 rankings belong to high-income countries, which is not surprising since they have the financial resources to develop and rollout advanced e-government initiatives, as well as to create a favorable environment for citizen engagement and empowerment. Developed countries have a distinct advantage in achieving higher rankings in the survey, as nearly two-thirds of the weight of e-government development index is allocated to the telecommunication infrastructure and human capital components, which both require long-term investment. For emerging and developing countries, the challenge is to invest in all three dimensions – online services, telecommunication infrastructure and education – to narrow the current digital gap. In other words, having a great website does little in e-service provision if the majority of people in the country cannot read or write, or if they have no access to the Internet. The United Nations (2008) observed that the world average of the global e-government index continues to increase as more countries invest resources in developing websites that are informative. Most countries have e-information on policies, laws, and an archives section on their portals/websites.

The United Nations (2008) noted that since services are the public face of government, the primary objective of all e-government initiatives is to provide the citizen user an efficient alternative medium for interacting with public sector service providers. This is generally accomplished by improving the flow of information both externally and internally. Information as reflected by the United Nations (2008) is government's most fundamental output and consequently, transforming ministries, departments, agencies, units and staff to make them "e"-ready is an intense and challenging process.

Newman, Kassam and Shaw (2008) argued that the concept of e-government is no longer a fantasy, or unfamiliar concept to political leaders, civil servants, or business captains around the globe. According to Newman, Kassam and Shaw (2008) few disagree on the dire necessity of connecting government more effectively with her citizenry and industry, as well as promoting the training of future generations to capture the benefits of a knowledge-based economy. However, Newman, Kassam and Shaw (2008) observed that very few of these national leaders are quite sure about the state of e-readiness of their own country, what needs to be changed, and what barriers exist, and they often fail to see the benefits of such changes. The United Nations (2008) noted that since services are the public face of government, the primary objective of all e-government initiatives is to provide the citizen user an efficient alternative medium for interacting with public sector service providers. This is generally accomplished by improving the flow of information both externally and internally. Information as reflected by the United Nations (2008) is government's most fundamental output and consequently, transforming ministries, departments, agencies, units and staff to make them "e"-ready is an intense and challenging process. According to the Working group on e-government in the developing world (2002) if not well conceived and implemented, e-government initiatives can waste resources, fail in their promise to deliver useful services and thus increase public frustration with government in terms of service delivery.

### **1.3 Overview of e-Government in Zambia**

#### **1.3.1 Background**

Located in south-central Africa, Zambia is a landlocked country bordered by the Democratic Republic of Congo and Tanzania to the north; Zimbabwe, Botswana, and the Caprivi Strip of Namibia to the south; Malawi to the east; and Angola to the west. It has an area of approximately 753,000 square kilometers and a population of about 12.9 million (UN, 2009), for a total population density of approximately 13 persons per square kilometer.

Zambia has moved from being a major copper producer and potentially one of the continent's richest countries at independence in 1964 to one of the world's poorest. A colonial legacy, mismanagement, debt and disease are said to have contributed to the country's tribulations. The World Bank has urged Zambia to develop other sources of revenue - including tourism and

agriculture. Even so, copper accounts for most of Zambia's foreign exchange earnings and there is optimism about the future of the industry, which was privatized in the 1990s. Millions of Zambians live below the World Bank poverty threshold of \$1 a day (World Bank, 2008). According to the 2008 United Nations E-Government Survey, Zambia indexed below 1.00 in the Deficient E-gov Capacity. The index examines the e-government development stage, telecommunication infrastructure, and human capital in each country.

According to the 2008 United Nations E-Government Survey, Zambia has a score of 0.2266 in an e-government readiness index and was ranked 158th (the average for 92 countries is 0.4514). In a more recent study, Zambia (0.2810) jumped 15 positions to stand at 143<sup>rd</sup> in the 2010 survey ranking (UN, 2010). Despite its low ranking in e-government readiness, the number of web users continues to grow in Zambia as can be seen from the mushrooming of Internet kiosks in and around Lusaka. Therefore, it is advisable for the Zambian Government to create usable government websites to improve communication with its citizens.

### **1.3.2 Status of e-Government Initiatives**

E-government initiatives were launched as part of the overall country information technology plans in 2007 (Ministry of Communication and Transport, 2007). The national information technology plan focused on ICT as a tool to reform public organizations. In general, the ICT policy hinges on thirteen pillars namely; human resources, education, access, media, content and culture, ICT sector, telecommunications infrastructure, e-Government, e-Commerce, agriculture, health, tourism, environment and natural resources, youth and women, legal and regulatory framework, and security in the information society. According to the United Nations and ASPA (2002), the concept of e-government in Zambia is being openly embraced. In its annual e-government index report, the United Nations (2008) noted that Zambia had reached the enhanced presence stage of e-government model. The United Nations (2008) further noted that existing e-government ministry websites in Zambia are characterised as having an *enhanced presence* in which the government provides greater public policy and governance sources of current and archived information, such as policies, laws and regulation, reports, newsletters, and downloadable databases. The user can search for a document and there is a help feature and a site map provided.

The United Nations 2008 Survey reported that Zambia had no online presence and yet by the 2010 Survey the country's national sites were readily available and easily accessed (United Nations, 2010). The Ministry of Communication and Transport (2007) attests to this by indicating that currently, a number of initiatives are being undertaken within the public sector. The number of ICT projects has increased over the years resulting in building blocks such as the Integrated Financial Management Information System (IFMIS) Project, Payroll Management and Establishment Control Project and building of Local Area Networks; these are central to the establishment of e-Government. However, such building blocks are being implemented in the public sector with very little coordination and integration with existing systems at operational level. In addition, over-duplication of telecommunications infrastructure has resulted in inefficient and ineffective projects with very little positive impact on the overall development agenda.

### **1.3.3 E-Government at the Policy Level**

E-Government in Zambia has only begun to be discussed at the policy level. According to the Zambian Government (2007), the National ICT Policy of 2007 gives due importance to the issue of e-Government, declaring that "the Government shall use ICT systems within the public administration to improve efficiency, reduce wastage of resources, enhance planning and raise the quality of services." The policy further provides that "the Government shall implement ICT systems to provide nation-wide coverage and access by any citizen to the government databases and administrative systems which can be used to extend public services to the remotest corner of the country. The policy further noted that the purpose of transforming government through ICTs is to realize efficiency gains, reduce operational and administrative costs as well as streamline government processes and procedures. The ICT policy paper further noted that Government is aware that the potential benefits that shall be derived from the implementation of e-Government are enormous. However, Government is also aware that mere deployment of ICTs in the public sector will not necessarily translate into improvements in service delivery unless appropriate institutional reforms to address the challenges that could hinder or undermine the process of effective implementation of ICTs are addressed (Ministry of Communication and Transport, 2007).

## **1.4 Benchmarking e-Government**

The United Nations (2010) has observed that services are the public face of Government and that virtually all government services can be classified under one of three fundamental categories: informational, interactive and transactional. The first, informational, is by far the most significant. Information is at the heart of every policy decision, response, activity, initiative, interaction and transaction between government and citizens, government and businesses and among governments themselves. How information is collected, processed, analyzed, packaged and disseminated is in itself a specialized industry. Successful citizen-centric e-government programs emphasize the indispensable nature of information while balancing its often limited shelf-life and considerable inflationary component. In the information and knowledge age, there is no institution that produces raw data and new information with more regularity than government.

## **1.5 Website evaluation as a benchmarking tool**

According to the United Nations (2010), governments analyze and test a variety of measures and indicators in order to find the most practical benchmarking methods. Website evaluation should be used in conjunction with other assessment and benchmarking activities that complement its value. When perfected, website evaluation can be useful in fulfilling such governance goals as improved planning and goal setting of e-government initiatives, improved decision-making and resource allocation related to e-government programs, determining the effectiveness of e-government website, determining the degree to which the website adds value to the organization, providing trend data to assess change over time and contributing to continuous improvement efforts and benchmarking. This study therefore sought to determine whether website evaluation was being carried across the government web system in Zambia.

## **1.6 Statement of the problem**

In today's highly dynamic web environment, governments need to focus on having an online presence that is meticulously crafted, keeping users' requirements in mind. It is only then that a web presence can bring higher revenue, customer loyalty and trust, satisfied visitors and higher credibility in the market place. It should be noted that using ICTs allows the government to gain



the presumed benefits of providing timely, effective and cost efficient services. A variety of service channels must be maintained for the benefit of those citizens that prefer to use more traditional channels of service. Motivating citizens to use the more cost efficient online services creates a challenge to the government. Building the network is not enough; maintenance, usage skills and social acceptance are even more important. A basic condition for user acceptance of websites is their dependability on user satisfaction and the added value they provide.

Even though government ministries in Zambia have adopted the Internet through websites, little was known about the usability of these sites. There has been no usability study of government website in Zambia. Therefore this first study intended to fill this void.

### **1.7 Objectives of the study**

The general objective of the study was to evaluate usability aspects of government websites in Zambia. The specific objectives were to:

1. Determine the effectiveness of government websites as information communication channels
2. Establish the usefulness of content posted on government websites
3. Ascertain whether monitoring and evaluation of government websites for usability was being done

### **1.8 Research questions**

The research questions were framed according to each of the research objectives. The study aimed at answering the questions below:

1. How effective are government websites as information communication channels?
2. How useful is the content posted on government websites?
3. Is monitoring and evaluation of government websites being undertaken? If not, what are the hindrances to the processes of monitoring and evaluation of website usage?

### **1.9 Significance of the study**

Website usability studies are very rare in Zambia. This study therefore blazes the trail and serves as a primer for public sector web designers who are responsible for or otherwise involved in the

creation and maintenance of government websites as well as those considering conducting website usability research. Secondly, the study provides the government a picture of what needs to be improved according to international website design standards.

### **1.10 Operational definition of terms**

#### **E-Government**

According to UNESCO (2005), "e-Government is the use of Information and Communication Technologies to promote more efficient and effective government, and make it more accessible and accountable to the citizens. The characteristics of e-Government include: Electronic service delivery, electronic workflow, electronic voting and electronic productivity."

#### **Evaluation**

Preece (1993) defines evaluation as 'gathering information about usability or potential usability of a system in order to improve features within an interface.' According to Macleod (1994), the purpose of evaluation may be to shape design (or redesign) to meet users' needs, to identify and diagnose problems, or to evaluate implementation (for comparison with other designs and for acceptance testing).

#### **Website**

A website is a collection of electronic documents linked together logically in order to provide consistent information. These documents are stored on a computer that is connected to the Internet, and made available via the World Wide Web. By virtue of the HTTP protocol on which the WWW is based, it is possible to assign a unique identifier, or address, to every collection of documents, which distinguishes it from other sets of documents available on the web, and makes it possible for users to precisely locate the computer in which it is stored, and access it. Hence, a website is called a web site because it represents one of many possible distinct locations (or *sites*) where information is available within the World Wide Web.

## E-Government website

An e-Government website is a tool designed to support the activities of governmental bodies by giving them the possibility to exchange information with the public over the Internet. The typical users of e-government websites are citizens, firms, other governmental agencies, civil society organisations/NGOs, or the press, i.e. all the parts of society that entertain relations with public agencies (and have access to the internet).

## ICT

ICTs are the hardware and software that enable society to create, collect, consolidate and communicate information in multimedia formats and for various purposes.

## Usability

Usability is a measure of how well a product (in this case a web site) meets the needs of its users. Nielsen (1999) suggests that there are five aspects of usability:

### 1. Learnability:

The site needs to allow users who have never seen it before to learn to use it quickly to succeed in accomplishing basic tasks. Can people use the web site effectively the first time they visit it without becoming frustrated?

### 2. Efficiency:

The site needs to be designed to allow rapid accomplishment of tasks for more experienced users. Can users find what they need and accomplish their goal in a reasonable amount of time?

### 3. Memorability:

Casual users of the site are assisted by an interface design that they can remember how to use. Will visitors remember how to use the web site the next time?

### 4. Error tolerance:

The site should be designed to minimize the number and severity of errors, and allow for quick error recovery. Can users easily figure out where to go or what to do next if they make a mistake?

### 5. Subjective satisfaction:

The experience of using a web interface should be a pleasant one. Do visitors have a

good feeling about using the web site? Will they use it again?

6. Accessibility:

The site's information/content needs to be obtainable functional to largest possible audience. Accessibility is actually a prerequisite to usability. If a person cannot access a web page he certainly cannot use it.

### 1.11 Theoretical framework

Heeks and Bailur (2007) observed that a reasonable amount of literature on e-government research states that e-government research can either be informed by theory-based work, framework-based work, model-based work, schema-based work, concept-based work, category-based work or non-framed work. In all these, Heeks and Bailur (2007) note that the model-based paradigm has dominated the theoretical framework used in e-government research. Various models of e-government implementations have been advanced in the literature.

The present study selected West's (2005) stages of e-government model as the basis of the theoretical framework because it was found to be appropriate for the Zambian context. This model is described as "Stages of e-Government: From billboards and service delivery to interactive democracy". According to this model, there are four general stages of e-government development that distinguish where government agencies are on the road to transformation:

- (1) The billboard stage
- (2) The partial service-delivery stage
- (3) The portal stage with fully executable and integrated service delivery, and
- (4) Interactive democracy with public outreach and accountability-enhancing features.

This categorization does not mean all government websites go through the exact steps or that they undertake them in a linear order. It is clear from looking at agency websites that there is a variety of ways in which e-government has evolved. The commonality of this model therefore allows researchers to distinguish agency progress based on how far along they are in incorporating various website features.

**First stage:** In the first stage, officials treat government website much in the way highway billboards are used, that is, static mechanisms to display information. They post reports and publications, and offer databases for viewing by visitors. There is little opportunity for citizen

interaction and no chance for two-way communications between citizens and officials. Visitors can read government reports; see the text of proposed legislation, and check to find out who works in specific offices.

The static nature of a billboard approach limits a visitor's ability to use interactive technologies. Citizens can see information, but not alter it to their own ends. Government websites utilizing this approach offer the advantage of access to information, but do not allow citizens to search the site, send feedback, or order government services. Without the ability to "engage" a government website, citizens cannot take advantage of the technology's capacity for two-way communications or personalize the website to their own specific interests. Approximately 85 percent of government websites in Zambia fall in this stage.

**Second stage:** Some government agencies have moved to a second stage that of incorporating information search features and partial service delivery into the website. In this phase, citizens can access, sort, and search informational databases. Government websites start to place some services online, although the services offered tend to be sporadic and limited to a few areas.

This stage represents an advance over the billboard approach, but there are limits to what citizens can do online. In this situation, most government agencies are slow to incorporate truly interactive features onto their websites. Citizens are not able to "personalize" their website or engage in conversation with public officials. There is little way to take full advantage of the power of digital technologies. About 10 percent of Zambian Government Websites are in this category

**Third stage:** The third stage features "one-stop" government portals with fully executable and integrated online services. This phase offers considerable convenience to visitors. The entire city, state, or nation has one place where all agencies can be accessed. This improves citizen ability to find information and order services. Agency sites are integrated with one another and a range of fully executable services are available to citizens and businesses. Officials show that they pay attention to privacy and security concerns on the part of the general public by posting policies online. No longer are websites static and presentation 1, but dynamic and interactive. By

incorporating advanced features on government websites, citizens gain control over information and service delivery. Visitors can register to receive updates and newsletters, as well as other material that is useful to them. There are five government websites that are moving toward this phase

The limiting factor of this stage, however, is that it is characterized more by a service-delivery mentality than by a vision of transforming democracy. Public planners are more apt to want to get new services online than seek to extend democracy to disenfranchised citizens. There is little interest in providing opportunities for government feedback and public participation in decision making.

This stage ignores the central virtue of the Internet: its ability to enhance the performance of democratic institutions and improve the functioning of democracy. Technology is available, though not widely implemented, for citizens to convey references to government personnel, participate in agency decisions, and improve the functioning of democratic political systems. Few of these attributes have been incorporated into the public sector, however, because government officials emphasize a model of e-government based on service delivery as opposed to system transformation. The public sector is less apt to think of the Internet as a tool for fundamental institutional change than for the delivery of particular services to businesses and the middle class.

**Fourth stage:** It is at the fourth stage—interactive democracy with public outreach and accountability measures—that government websites move to a goal of system wide political transformation. In addition to having integrated and fully executable online services, these kinds of government sites offer options for website personalization (i.e., customizing for someone's own particular interests) and push technology (i.e., providing emails or electronic subscriptions that provide automatic updates on issues or areas people care about). These features help citizens customize information delivery and take advantage of the interactive and two-way-communications strengths of the Internet. Through these and other interactive features, visitors can avail themselves of a host of sophisticated technologies designed to boost democratic responsiveness and leadership accountability. No Zambian Government Website is in this stage.

These four stages of e-government provide a rubric by which to gauge the effectiveness of technology and the degree of technological change. Governments that incorporate tools of democratic outreach, interactive elements, privacy and security policies, and accountability-enhancing elements in their websites come closest to fulfilling the revolutionary claims of Internet visionaries.

### **1.12 Summary**

This chapter presented background to and an outline of the research problem, definition of the key terms relevant to the study, theoretical framework which outlined the assessment framework and model for the study, justification of the study, the problem statement as well as the research objectives and questions asked in the study.

# **CHAPTER TWO**

## **Literature Review**

### **2. Introduction**

This chapter presents the findings of the literature review carried out during the first phase of the study. The aim of this phase was to gather background information on issues of website usability deemed to be important in the current literature. These findings were then used to inform the criteria included in the evaluation process.

### **2.1 E-Government**

UNESCO (2005) defines e-government as the use of ICTs to improve the activities of public sector organization. It allows government departments to network and integrate their services and enhance the relationship between the government and the public. In a number of instances this term has been confused with e-governance. According to UNESCO (2005), e-governance is about the use of information technology to raise the quality of services governments deliver to citizens and businesses. Misuraca (2006) noted that e-governance is generally considered as a wider concept than e-government since it can bring about a change in how citizens relate to governments and to each other. It is also about moving beyond passive information giving to active citizen involvement in the decision-making process. According to Backus (2001) the strategic objective of e-government is to support and simplify governance for all parties, for example government, citizens and businesses. The need for e-government as stated in UNESCO (2005) finds its origin from the broader factor pertaining to good governance. The use of ICTs can connect all three parties (government, citizens and businesses) and support their processes and activities. Governments in the world as observed by Mutula (2008) are under an obligation to implement e-government systems to enhance good governance and reduction of red tape. Newman, Kassam and Shaw (2008) argued that e-government is not simply putting government forms on-line, creating a static tourism website or even posting simple tariff schedules online, but rather it is the integration of government operations in the delivery of services to the citizenry and the business sector.



## 2.2 Website evaluation

Evaluation in this respect is often segmented either into website design and evaluation in general, or approaches to examining performance of e-government as delivered via the Internet. In the case of the former there are many examples of guidance. These may take the form of online checklists (W3C, 1999). There are a lot of literature on the subject such as those of Lazar (2006), and Nielsen and Loranger (2006) that provide direction in information architecture and design, style, and quality. In the latter case, a specific focus may be particular aspects of Website performance applied according to regulatory guidelines such as accessibility for people with disabilities (Evans-Cowley, 2006). Further, Choudrie and Ghinea (2005) adopted what they called an integrated socio-technical perspective using participant evaluation along with use of Web diagnostic tools for sites of four countries. These investigations contribute to a growing body of examination of online delivery practices, with accompanying development of measuring instruments. For example Kaylor *et al* (2001) conducted studies on local governments in the USA, and focused on the functions and services that cities typically provide. The model they used contains detailed questions on services delivered online. It also used a 4-point scale system to measure the presence and the degree of implementation of online services.

In Brazil, Garcia *et al* (2005) produced an instrument, *g-Quality* for ‘inspection’ of government websites. West (2005) has developed a method for examining comparative performance of sites. It uses criteria relating to features such as information availability, service delivery, and public access. It is used to provide performance reports for example for internationally (West, 2006). Five main categories for evaluation of e-government sites are used in an instrument developed by Melitski *et al* (2005). These are security and privacy, usability, content, service and citizen participation. Within these five categories, there are a total of 92 questions, 47 of which use a 4 point scale. These have been developed further in an instrument *egWet* (Henriksson *et al*, 2007) that extends the questions and adds a category ‘features’ that caters for such aspects as personalization and extended search capability.

The Working group on e-government in the developing world (2002) noted that the e-government process needs continuous input and feedback from the relevant stakeholders: the public, and businesses and officials who use e-government services. The monitoring and

evaluation of e-government projects as reflected by UNESCO (2005) involve an assessment of the usability of government portals/websites. UNESCO (2005) stated that most of the time a concerted effort towards e-government involves the setting up of a website/portal, which acts as a front-end for accessing the online services. Since this website forms the face of the entire effort in front of the stakeholders, it is important that the is convenience and ease of use as far as the user interface of these government sites is concerned. According to UNESCO (2005) an important aspect, therefore, in terms of evaluation becomes the assessment of these government websites.

### **2.2.1 Website evaluation parameters**

According to UNESCO (2005), some of the parameters which may be used for assessing the usability and citizen centricity of government portals could be broadly grouped into six categories, namely: accessibility, navigation architecture, content, design and layout, reliability and evaluation technique.

#### **2.2.1.1 Accessibility**

Accessibility in the context of e-government as stated by UNESCO (2005) refers to the extent to which the portal and its contents are available to a wide range of users with varied levels of physical capabilities/skills and technology. According to UNESCO (2005) a portal being universally accessible would imply that a broad range of software, hardware and audiences, including physically challenged citizens can not only access the online content and services on the portal but are also able to effectively make use of it. The World Wide Web consortium (W3C) Web Accessibility Initiative (WAI) is an internationally agreed recommendation for website accessibility for people with special needs and it is expected that government websites follow these standards. UNESCO (2005) noted that it is important that reasonable steps are taken to sensitize the developers to alter practices, policies and procedures that make it impossible or unreasonably difficult for people with disabilities to access or use the web portal.

#### **2.2.1.2 Navigation architecture**

The provision of good navigation aids and website structure are essential for good usability. Good navigation helps users to orientate themselves within the site, by letting them know where

else they can go and where they have already been. Common forms of navigation aids include navigation bars, a group of buttons providing access to other pages within the website. Navigation features relate to aids specifically designed to allow the user to steer through an e-government website readily. Designing a website for effective use also means thinking about the services, information, and other content with the user in mind—in the case of public-sector sites, citizens without in-depth knowledge of government and how it works. These features differ from user-help tools in that navigation features specifically identify quick routes to services that users want most (Stowers, 2002). The basic element of an effective website is its navigability. “Good navigation in a website is comparable to a good road map” (Shahizan and Li, 2005). With good navigation, proper grouping of contents, users would know where they are, where they have visited, and how they can get to a destination from their current position. In brief, navigation is the key to make user experience enjoyable and efficient. Navigation should be designed in a way that is user-friendly and easy to understand. The challenge for Zambia is to have web designers who understand the issues of good design on the basis of W3C guidelines.

Navigation architecture as reflected by UNESCO (2005) includes all the features, which make it convenient/inconvenient for a user to browse the contents on the portal. The navigation architecture should be such that users spend minimal time and effort in locating and using the desired information and services online. According to UNESCO (2005) even if the web portal has valuable information for the citizen, it is not of much use if that information is buried somewhere deep inside the piles of content and the visitor is not able to easily reach it. Moreover, a certain consistency in the navigation pattern is very important, particularly for huge portals with large numbers of modules and pages. Despite the web’s promise for ease of use and access, Garcia, et al (2008) noted that in terms of creativity and efficiency, agency managers and leaders are finding that websites are increasingly presenting challenges of inflexibility, inconsistency, workflow bottlenecks and costs.

### **2.2.1.3 Web Content**

A government website as observed by UNESCO (2005) should be oriented towards its citizens. This means that the content in the portal/website has to be defined in the manner that the citizen wants and the portal should act as a platform to provide the information and services, hitherto

provided conventionally by the government, in a faster and convenient manner. Also, equal emphasis needs to be given to the way it is written and presented. According to UNESCO (2005) the content aimed at the common public must be written plainly and in a language, which people with diverse educational and knowledge backgrounds can easily understand. This category includes all those parameters, which influence the extent to which citizen friendly, authentic, correct and most updated content is provided, in a suitable format, on the government web portals. Another important pre-requisite for an effective government website is the availability of comprehensive contact information which may be used by a citizen to approach the government functionaries. UNESCO (2005) noted that a citizen centric website shall not only have the email addresses of the various government officials/departments but also the postal addresses and/or the telephone/fax numbers so that a user with limited access to the Internet may also be able to refer to the information from the site and then contact the department concerned. The information displayed on the web pages needs to be usable and attractive to target users. On the one hand, the language should be simple and the text area should be suitable. Therefore, it is suggested to employ “scannable text” (Nielsen, 1999) to improve the readability. On the other hand, from an aesthetic point of view, there should not be too much content displayed in one page, to avoid excessive scrolling. How this can be an issue in the Zambian context is what this study intends to find out.

#### **2.2.1.4 Design and layout**

A good government website should have a simple user interface. Design layout for web pages should be consistent so that people find it enjoyable and comfortable to access the desired information without wasting time. A good colour scheme and well-structured design elements make content easy to read. In this regard, UNESCO (2005) observed that websites should have citizen friendly design and layout so that people find it enjoyable and comfortable to access the desired information with minimum fuss. The colour scheme of the portal and the positioning as well as consistency of the design elements has to be such that it allows for legibility and easy reading. The features included in this category affect the way graphics and design elements, as well as the layout of the portal appears. The layout (design) is essential for websites. It helps users to understand the structure of content better, and influence the first impression as well. Psychologists at the Carleton University (Lindgaard et al., 2006) found that it takes the users

only 50 milliseconds to decide whether they like a website or not. There is no time to lose! Within the blink of an eye it is necessary to succeed making a positive impression on the user. If users get negative impressions, they probably lose interest no matter how excellent the website is from perspectives of content and usability. And once the users lose interest, there may not be a second chance to compensate for that, since impression is hard to change. The saying "The first impression counts!" also applies to the Internet. It is worth investing in the design of government websites.

#### **2.2.1.5 Reliability**

Stowers (2002) noted that legitimacy characteristics refer to features that reassure users that a particular e-government website is legitimate (Stowers, 2002). According to UNESCO (2005) reliability refers to the extent of trust which a citizen can impose on the government website with respect to security and legal requirements. UNESCO (2005) further noted that government websites must raise citizens' confidence by abiding by the law and explaining their terms and conditions clearly to the users. The issue assumes more importance when it comes to online transactions as well as making payments through the website. Legitimacy features provide credible evidence that an e-government website is an official venue for seeking service from a particular governmental entity. There are several features that serve to legitimize government websites. Online crimes are common these days. Therefore, it is important to have legal policies to ease the worries of users. Well-worded disclaimers, privacy policies, terms and conditions and copyright information enhance the credibility of the website and help in further building the users' trust. Another equally important aspect related to credibility as stated in UNESCO (2005) is the site address or the URL. Thus, the presence of such an address further adds to the credibility of the government website.

### **2.3 Website evaluation techniques**

According to UNESCO (2005) a variety of qualitative and quantitative evaluation techniques can be deployed to assess the performance, impact and citizen-centricity of the government websites. UNESCO (2005) presented the techniques in the following manner: lab testing, online user surveys, interviewing focus groups, syndicated surveys, informal user feedback, usage data analysis, web performance data, and expert review.

### **2.3.1 Lab testing**

This technique involves inviting a select group of users to a laboratory setting and asking them to access and navigate the various sections of the website. Structure testing is then carried out on the way different users browse through the site and its various online features. User behaviour, when analyzed, proves an important source to measure the usability and performance of the site.

### **2.3.2 Online user surveys**

This technique involves the website visitors responding to questions posed through pop-up surveys which appear whenever the site is accessed. This technique allows the website managers to survey a large number of users in a relatively short span of time. Online user surveys could be both randomized or carried out amongst a selected pane of audience based on characteristics such a qualification, age groups, ethnic background and others.

### **2.3.3 Interviewing focus groups**

This technique involves selecting a focused group of target users and having a moderator ask them a prepared set of questions about the usability a citizen orientation of the website. The group could also be asked to perform certain test exercises such as specific citizen services online or downloading an application form from the website. Such interviews could be carried out either face to face or in the form of virtual group discussions.

### **2.3.4 Informal user feedback**

This technique involves analyzing the unsolicited feedback of the visitors to the website received from time to time through guest books, email forms, he esk, phone lines and others. Such feedback can help the government departments to eradicate snags and errors in the site nd also to formulate questions and exercises for formal user surveys.

### **2.3.5 Usage data analysis**

This kind of evaluation technique involves the analysis of the web log data collected through specialized software installed on the web servers. Quantitativ data like page views, number of hits, unique visitors can be obtained through this method, which allows a government department to track overall usage trends over time.

### **2.3.6 Web performance data**

The technique here involves measuring the site's performance on technical aspects like the download time, speed of data transfer, number of broken links, accessibility for the disabled. There are various specialized tools, testing software and free websites which facilitate an online evaluation of a website regarding the above aspects.

### **2.3.7 Heuristic evaluation (Expert review)**

Finally, an important qualitative method of assessing a government website is through an expert review. In this approach, a panel of experts reviews the website and evaluates it against a set of pre-defined parameters. According to Nielsen (2000), heuristic evaluations are the most informal method of usability inspection. Usability specialists determine whether the interface conforms to established usability principles, called heuristics.

## **2.4 Website Usability**

Usability refers to how quickly people can learn to use something, how efficient they are while using it, how memorable it is, how error-prone it is, and how much users like using it. If people can't or won't use a feature, it might as well not exist" (Nielsen & Loranger, 2006).

There has been a great deal written about creating good quality useable websites both in print and on the Internet e.g. Nielsen (2000); Nielsen and Tahir (2002); Nielsen and Loranger (2006) etc. These works all stress the importance of elements such as the layout and readability of the website and its information architecture, i.e. the use of "effective navigation organization, labelling, and search systems" (Usability First 2007). With the rising importance of websites as a communication tool, many studies have been conducted to evaluate their usability. Although international guidelines on web page development are provided by World Wide Web Consortium (W3C, 2009) to help website administrators develop usable websites, these guidelines are not often followed.

Usability is the most traditional concept of study in human-computer interaction (HCI) research (Olson and Olson, 2003; Karat, 2003). The importance of HCI and usability has become increasingly important with the development of the WWW and its role in e-commerce activities.

In fact, Jakob Nielsen, a noted usability expert, suggests that organizations should spend 10 per cent of the development budget on usability. Nielsen, in a study of 42 organizations who redesigned their web site with usability as a primary concern, concluded that the sales conversion rates increased by 135 per cent and that traffic on the web site increased by 150 percent. These findings provide support as to the importance of developing web sites that have high usability.

Nielsen (2003) states that it is more important for design to meet the needs of the customer rather than be attractive and fun. If the customer finds the site too difficult to use, there will not be a purchase or return visit. In their research on web customer satisfaction, McKinney *et al.* (2002) state that a web site will be abandoned if the consumer has difficulty searching or retrieving their needed information, even if the web site provides the information necessary to complete the intended task. They state that the web site must compensate for lack of physical contact experienced by online shoppers and at the same time make the shopping experience easy and enjoyable. The user's impression of the web site's usability impacts the user's impression of the products available at the site.

Although the HCI literature has examined several aspects of web site usability (McKinney *et al.*, 2002), it has only been recently that information systems literature has focused on web site usability in the context of understanding B2C e-commerce. Two studies, Palmer (2002) and Agarwal and Venkatesh (2002), investigated the underlying dimensions of web site usability. Palmer defined usability based on five dimensions derived from usability and media richness literature (download delay, navigability, content, interactivity, and responsiveness), while Agarwal and Venkatesh utilized the Microsoft Usability Guidelines to define web site usability through five different dimensions (ease of use, medium, emotion, content, and promotion). Each study resulted in an instrument that, it was suggested, could be used to assess a web site's usability.

Green and Pearson (2006) found that while both instruments (Agarwal and Venkatesh, 2002; Palmer, 2002) provided some degree of reliability and trustworthiness in measuring web site usability, a modified instrument consisting of navigation, customization and personalization, download speed, accessibility, and ease of use provided a more valid and more robust measure of



web site usability. Interestingly, in their study, content was not a statistically significant predictor of web site satisfaction or intent to return to the website. They concluded that content was not a necessary component of web site usability. However, this researcher is of the view that content was a necessary component of website usability.

The quality of a website is rooted in its usability, which usually results from the adoption of user-centered development and evaluation approaches (Nielsen 1999). He further observed that web usability is about making a website in such a way that website users can find what they are looking for quickly and efficiently. Some research on usability has examined successful websites in order to extract information on the characteristics that make them effective. For example, Tarafdar and Zhang (2005/2006) scrutinized the 40 most successful websites in five different categories—retail, financial services, news and information, search and portal, and entertainment—in an attempt to identify and analyze the characteristics that made them successful. They concluded that there are six critical characteristics and that the relative importance of these characteristics varies among the different categories. This researcher is in agreement with this point of view.

## **2.5 Usability of Government Websites**

Asimwe and Lim (2010) investigated usability of government websites in Uganda. Using the feature investigation method, the study evaluated four Ugandan Government websites according to three perspectives, namely, design layout, navigation and legal policies. Results show that websites are partially usable in the design layout and navigation perspectives but are rather weak in stating legal policies. Evaluation results provide the Ugandan Government with a clear picture of what needs to be improved according to international website design standards such as the World Wide Web Consortium (W3C) and Usability.gov. A similar study by Parajuli (2007) evaluated 17 websites of the Nepal government according to four criteria: transparency, interactivity, accessibility, and usability. Results regarding usability show that it was not so easy to navigate or search information on the Nepal government websites because only 35 percent of websites provided a site map and 29 percent provided a search engine.

Regarding the selection of government websites, West (2008) noted that most existing studies

evaluate the country or city portal to represent the stage of e- government implementation in different countries. West (2008) conducted a comprehensive analysis of 1,667 government websites in 198 nations using 18 measures that focus on the amount of information available and the extent of interaction with users, such as website personalization and email updates of information. Results show that there is much room for improvement. North America and Africa ranked the top and the bottom of the list respectively. Africa had an average score of 26 percent. However, Ghana, an African country, was an exception and had a score of 42 percent and was ranked 13th on the country ranking list. Incidentally, Zambia's ranking is not reflected because it was not part of this survey.

A study by Chete, Udi and Osubur (2008) assessed national government website of South Africa for accessibility and usability. Results indicate that though the website was fully accessible and usable, it was not fully interactive. Further, it was noted that the site was not citizen-centric. Similarly, a study by Onyancha (2007) on the websites of Eastern and Southern Africa observed that although most governments in the region have constructed their own websites, a good number of these sites were not up to date and therefore compromised usability aspects. Charlene (2007) examined Trinidad and Tobago's (TT) 22 government ministry websites to document their technical usability based on six usability dimensions that enhance users' abilities to gain from e-government websites. Usability was qualitatively examined to evaluate the ease of using a website in helping a new user navigate an e-government website to achieve the user's purposes. The results indicate that the component features of the six usability dimensions enhance users' abilities to gain from e-government. A related study by Kaaya (2004) compared 98 government websites among three African countries (Kenya, Tanzania, and Uganda) according to five perspectives: website visibility, website establishment date, website ownership, website freshness, and website usability. The study concludes that all of the East African websites are at the first and second stages of the website development and corresponding e-Government services.

## **2.6 Summary**

This chapter reviewed relevant literature in the area of government website valuation focusing on usability variables. The purpose of the review of literature was discussed at the beginning of

this chapter. The chapter went on to discuss each of the following key topics as they relate to usability of government websites: website usability and usability of government websites.

Internet provides an opportunity for governments to offer services to their citizens via portals/websites. Government websites allow governments to inform and interact with their citizens in that they provide a platform for efficient communication and access to public information. In any case, if the government is going to make effective use of the Internet, one challenge it faces is to develop websites that are usable and that contain content that visitors to the sites will find useful. In order for government to fully utilize the Internet and realize the potential benefits of cyberspace usage, it must provide websites that users find easy to use and that provide useful content. As to whether this is happening in Zambia is what this study sought to discover.

Different researchers covered in the literature review used different methodologies in their studies. The major methodology employed in these studies however, was a mixed methods approach. After considering both the advantages and disadvantages of each methodology used in the literature covered, the researcher decided to adopt a mixed methods research strategy in order to capture most of the desired data from the respondents.

Based on the literature reviewed, this study, therefore, sought to evaluate government ministry websites with a view to filling in the gap that exists on literature and guidelines on designing usable websites. The factors that were identified through literature review contributed to the construction of research instruments that were used in the study.

# CHAPTER THREE

## Methodology

### 3. Introduction

The objective of this chapter is to describe the research methodology for answering the overarching dissertation research questions. To respond to these research questions posed, this chapter overviews the research design, identifies the study population, and addresses measurement of e-government website usability. It articulates a data collection plan, and specifies the techniques deployed for data analysis. Consequently, the Chapter unfolds with sections on research design overview, e-government measurement framework, population, data collection techniques and data analysis.

### 3.1 Research design

Research methodology revolves around two major approaches; quantitative and qualitative. The quantitative approach involves collecting numerical data that can be counted while the qualitative approach involves methods that collect verbal or textual data. Despite the differences between the two, there has been a growing emphasis on combining the two approaches in a single study, which is called methodological triangulation. Methodological triangulation has been described by Denzin in Babbie and Mouton (2001) as the use of two or more methodologies of data collection procedures within a single study. This study therefore used a mixed survey research strategy. The nature of this study was qualitative, with some quantitative elements, as it focused more on obtaining in-depth information about the key issues of usability of e-government websites in Zambia.

### 3.2 A framework in which the study was conducted

In order to evaluate government websites, a framework must be defined. The framework included criteria to address aspects of services targeted towards citizens, businesses as well as other governmental agencies. Stowers (2002) identify and labels six parameters that comprise e-government website usability: (a) online services, (b) user-help, (c) navigation, (d) legitimacy,

(e) information architecture (f) accessibility accommodations. For the purpose of this study, government websites were measured against the following three usability variables:

1. Web content
2. Web interactivity
3. Web accessibility and usability

### **3.2.1 Web Content**

The subsequent website features related to online services were examined in this category: Basic information, documents, downloadable forms, interactive databases, updated content, and the language used should be multilingual and simple

### **3.2.2 Web interactivity**

The following website features related to interactivity were examined: Web media such as feedback forms, discussion forum, chat room, and interactive bulletin board, etc.

### **3.2.3 Accessibility features**

The availability of website features related to accessibility was examined. Such features include multilingual option, frequently asked questions (FAQs), text-only option, and disability features. A multilingual site offers textual content in different languages and permits a user to choose content on needs basis. FAQs educate users by offering answers to the repeatedly asked questions and reduce the support requirements by assure consistent responses. A text-only site offers alternative format requiring less time to load compared to a site with high image density.

## **3.4 Population of the study**

The population of the study consisted of all the twenty three (23) government ministries in Zambia. The target population of this research however comprised government ministries with websites at the time of the study. This study specifically targeted public sector information technology (IT) professionals responsible for e-government websites. According to Leedy (1997) there is little point in sampling a population that is less than 100. Consequently, no sampling was involved in this study. The ministries and departments that were surveyed were: Agriculture and Cooperatives, Communication and Transport, Community Development and

Social Services, Education, Energy and Water Development, Finance and National Planning, Foreign Affairs, Health, Information and Broadcasting services, Labour and Social Security, Local Government and Housing, Mines and Minerals Development, Sports, Youth and Child development, Tourism, Environment and Natural Resources and Works and Supply.

### **3.5 Data collection methods**

A website evaluation form, self-administered questionnaires and semi-structured interviews were used as data collection methods for this study. Ngulube (2007) observed that although no single method is perfect, if different methods lead to the same answer, then greater confidence can be placed in the validity of the conclusion.

#### **3.5.1 Website evaluation**

Using the feature investigation method (Usability home 2009), this researcher evaluated government websites according to three perspectives, namely; web content, accessibility and interactivity. This study used the United Nations (2002: 67) standard website evaluation form. This form has been used elsewhere by several UN member states such as Swaziland in benchmarking government websites and it was found to be applicable to the Zambian context. The evaluation process was based on the usability principles as presented in the evaluation guide. The researcher had the leeway to consider additional usability principles and to describe potential problems he envisaged users might encounter. In surveying each site, the researcher took an approach and mindset of an average citizen user. While it is possible, although implausible, to search the sites meticulously for all content and features, this approach misses the key point that the average user needs to find information and features quickly and intuitively for a site to be “usable.”

There are many other usability evaluation methods such as cognitive walkthrough, pluralistic walkthrough, and perspective-based inspection (Nielsen & Mack, 1994). The problem of these other evaluation methods is that they require involvement of users (Usability home, 2009). This researcher believes that using an expert review method is more practical considering the cost and time implications of the study. Website evaluation was therefore complemented with questionnaires and interviews.

### **3.5.2 Questionnaires**

The quantitative aspect of the study was facilitated by semi-structured questionnaires. The questionnaire was administered to public sector professionals that are concerned with e-government websites in their respective ministries. The participants were conveniently selected to participate in the study. Commenting on the suitability of questionnaires, Bernard (2000) stated that although questionnaires can have reporting errors and completion of the questionnaire by the wrong person, they are still the most popular instruments for data collection in social research. According to Babbie and Mouton (2001), a typical questionnaire has statements and questions. Chifwepa (2006) observed that the questionnaire is used to collect information on facts, attributes and opinions. Questionnaires have advantages over some other formats of surveys in that they are cheap, do not require as much effort from the interviewer as do verbal or telephone surveys, and often have standardised answers that make it simple to compile data. Like any other research instrument, questionnaires too have limitations. One of the disadvantages of questionnaires is that there is lack of control over how respondents interpret questions and a lack of opportunity to probe or correct misunderstanding. This however, was not the case with this study. The questionnaire made use of the multi-point Likert rating scale to measure the strength of agreement against clear statements. Questions focus on information coverage, currency, and ease of finding information on the website.

### **3.5.3 Interviews**

The qualitative aspect of the study was facilitated by semi-structured interviews with Heads of ICT units in a face-to-face setting. The quality of data as observed by Burto (2000) is usually superior to that obtained by other methods. Chifwepa (2006) attests to this by indicating that an interview guide is used to expand the information that was collected through a questionnaire. One of the downsides of using semi-structured interviews is that they depend on the skills of the interviewer. For instance, the ability to think of questions during the interview and articulate them to the interviewee may not be as easy as one may anticipate.

### **3.6 Pre-testing of research instruments**

Before data collection, the questionnaire and the interview schedule were pre-tested to eliminate any ambiguities and mistakes. Babbie and Mouton (2001) warned that no matter how carefully

one designed a data collecting instrument there is always a possibility of error. Pre-testing gave the researcher a chance to identify items (from both the survey questionnaire and the interview schedule) that may not elicit the information needed, poor instructions or missing questions. The interview schedule was pre-tested on one I.T professional at Cabinet Office while the questionnaire was pre-tested on two I.T professionals at Ministry of Education Headquarters. These employees were conveniently selected to participate in the pilot study.

### **3.7 Data analysis**

Data that was collected for this study was largely qualitative with few quantitative elements. Data analysis was therefore carried out differently for both quantitative and qualitative data. Consequently, the analysis of quantitative data from questionnaires was done through the aid of SPSS, a software programme. Data sets from the interview schedule and the open-ended questions from the questionnaires were first analysed theme before they were coded. This analysis constitutes a form of content analysis, which according to Ngulube (2003) is collecting and organising information systematically in a standard format that allows analysts to draw conclusions about the characteristics and meaning of recorded material. Makondo (2002) attests to this by observing that through content analysis, it is possible to go through research questions and interview responses and come up with common themes relating to each of the questions.

### **3.8 Administering the questionnaire and conducting the interview**

Some participants were conveniently contacted individually through office visits to introduce the study and its purpose while others were contacted through snowballing sampling method. They were left with the choice to either take part in the study or not to participate in the study. The researcher left his contact details so that participants could contact him to inform him of their decision. Only when this was done, that appointments were scheduled to administer the questionnaire and the interview schedule.

### **3.9 Evaluation of the methodology**

Social scientists as stated by Babbie and Mouton (2001) use a variety of research designs. Each design has its strengths and weaknesses in terms of its appropriateness in studying certain concepts. According to Sproull (1995) cited in Ngulube (2003) there is no one type of research



design that is better or worse than any other. This study used a mixed methods survey research design. This survey research design was chosen because the objective was to describe, analyse and interpret the findings on the usability of e-government websites. One notable advantage of the survey research strategy as stated by Babbie and Mouton (2001) is its flexibility. Many questions may be asked on a given topic, giving considerable flexibility in the analysis of a particular set of data. Survey research also has several weaknesses as noted by Babbie and Mouton (2001: 263). The Survey research strategy as reflected by Babbie and Mouton (2001) is generally weak on validity and strong on reliability. The weakness in validity of the survey research methodology emanates from its artificiality as observed by Babbie and Mouton (2001). For example, “finding out that a person gives conservative answers does not mean the person is conservative” (Babbie and Mouton 2001). Non-response is also cited as one of the handicaps associated to the survey research strategy. One of the pre-requisites of using questionnaires and interviews as stated by Babbie and Mouton (2001) is making sure that respondents and interviewees are capable of giving reliable responses.

### **3.10 The reliability and validity of the instruments**

An assessment of the data hinges upon determining the reliability and validity of the research instruments used. Cohen, Manion and Morrison (2000) caution researchers against threats to validity and reliability, which can never be eliminated completely. The authors suggest what can be done during design, data gathering, data analysis and data reporting, to try and minimise the threats.

#### **3.10.1 Reliability of Quantitative Data: Questionnaires**

Reliability is described by Babbie and Mouton (2003) as a matter of whether a particular technique applied repeatedly to the same object would yield the same results each time, that is, provides consistent or precise data. The data collection method that was used in this study (semi-structured questionnaires) has been applied in similar studies, where they proved to be reliable. In this study, care was taken to ensure reliability by means of pre-testing the instrument and by using methodological triangulation.

### **3.10.2 Validity of Quantitative Data: Questionnaires**

Validity includes the selection of an appropriate methodology suitable to answer the research questions, selection of appropriate instruments for collecting the data and an appropriate sample (Locke, Spirduso and Silverman 1993). In an attempt to achieve validity in this study, the instrument used to collect the data had an adequate coverage of the research questions guiding the study. Pre-testing of the questionnaire was done.

### **3.10.3 Reliability and validity of Qualitative Data: Semi-structured interviews**

In terms of the semi-structured interviews, rather than using the terms reliability and validity, Guba and Lincoln (1989) prefer the terms credibility, dependability, confirmability and transferability when working with qualitative data. Therefore rather than striving for validity, every effort was made to protect the credibility of the research findings. In order to ensure the credibility of the interview data, a member check was conducted with the participants. After all the interviews and preliminary stage of the data analysis was complete, the researcher synthesised the data from each participant. In qualitative research, reliability is represented by the dependability (or consistence) of the findings. The researcher ensured that the research process was consistent, logical and documented. Dependability was enhanced by the preparation of an interview guide and conducting a member check with the participants.

Confirmability refers to the objectivity of the study. It is concerned that the interpretations of the data, by the researcher, are accurate and correctly describe the reality they set out to portray. In order to enhance confirmability, the researcher consulted with his academic supervisors throughout the research process, continuously questioning the research findings and critically reviewing the data on an on-going basis.

Finally the small sample size affects the transferability (generalizability) of the research to a larger population. However, this is not to suggest that the findings cannot be useful to inform the research. When using qualitative research, transferability is the responsibility of the one doing the generalizing. The individual who is interested in applying the results to a different context or setting is responsible for judging whether or not the transfer is appropriate (Guba & Lincoln, 1989).

### **3.11 Ethical considerations**

The research was conducted in English, the language shared by both the researcher and the participants. This ensured that the accuracy of meaning was optimised. The participants were informed from the outset about the nature and the purpose of the study. The issue of voluntary participation was stated so that the participants could participate in the study willingly, thus enhancing the quality of information provided. Participants were assured that the information given would be treated as confidential and were not obliged to disclose their names. They were also informed of their right to withdraw at any point of the study, for any reason, and without any prejudice, and the information collected was to be turned over to them. Participants were assured that there were no known risks from being in the study.

### **3.12 Limitations of the study**

This study focused on evaluating cabinet ministry websites. Other government agency websites were not part of this study. Also the study purposefully addressed selected measures of web usability variables such as content/online services, user help features and information architecture. It was not meant to be a full-blown assessment of website quality. Lastly, the evaluation of e-government websites using an evaluation form from an expert perspective though quick and cheap does not bring out all the usability problems. The exclusion of other usability evaluation techniques such as lab testing, online user surveys, focus groups, etc was somehow a major limitation.

### **3.13 Summary**

This chapter explained how the study was conducted, that is, what was done in order to collect data to answer the research questions. It articulated the data collection plan, and specified the techniques deployed for data analysis. Its aim was, amongst other reasons, to help other researchers replicate the study if need be. The following chapter presents the findings of the study.

# **CHAPTER FOUR**

## **Presentation of findings**

### **4. Introduction**

This chapter presents the findings of the study collected via questionnaires, interviews and website evaluation. The intent of the study was to evaluate usability of government ministry websites in Zambia, with the aim of contributing towards improving the quality and effectiveness of online information and service delivery by the Zambian Government. The objectives of the study have been generally used to structure reporting of the findings of the study.

### **4.1 Questionnaires and interviews**

#### **4.1.1 Response rate for the two categories of respondents**

Key informant face-to-face interviews were conducted with 9 Heads of ICT units. In addition a total of 64 questionnaires were distributed to ICT staff in 16 government ministries. Out of that number, only 49 were correctly filled and returned representing a response rate of 76.6 percent.

#### **4.1.2 Profile of the respondents**

The key respondents were nine Heads of ICT departments and forty-nine ICT staff working on government websites in ministries. The main attributes of concern under the profile include ministry, gender and professional qualifications.

##### **4.1.2.1 Government ministries**

A total number of 49 respondents from 16 ministries participated in the study. Table 1 below summarizes the data on respondents from government ministries. Since only sixteen of twenty three ministries had dedicated websites, it was noted that 70 percent of government ministries were online.

**Table 1:** Respondents from government ministries

<b>Ministry</b>	<b>Frequency</b>	<b>Percent</b>
Finance	4	8.2
Energy	2	4.1
Tourism	4	8.2
Community	2	4.1
Mines	2	4.1
Transport	3	6.1
Commerce	3	6.1
Science	3	6.1
Education	4	8.2
Health	4	8.2
Labor	3	6.1
Local Government	3	6.1
Information	3	6.1
Foreign Affairs	3	6.1
Agriculture	3	6.1
Works & Supply	3	6.1
Total	49	100.0

#### 4.1.2.2 Gender

Analysis of the data indicated that more men 47 (96 percent) participated in the study than 2 (4 percent) for females. The reason for more women being in the minority as research participants may be attributed to low staffing levels of women in the IT departments.

**Table 2:** Sex of respondents

<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
Male	47	95.9
Female	2	4.1
Total	49	100.0

#### 4.1.2.3 Professional qualifications

The aim of this question was to determine the levels of professional qualification for ICT personnel working government websites as this could have a bearing on the quality of information and online services on these websites. According to the findings, most of the respondents 28 (percent) were first-degree holders and 19 (percent) were holders of a diploma

qualification. One respondent had a master's degree 1 (two percent) while another one had a certificate 1 (two percent).

**Table 3:** Qualifications of respondents

Responses	Frequency	Percent
Certificate	1	2.0
Diploma	19	38.8
First degree	28	57.1
Postgraduate	1	2.0
Total	49	100.0

#### **4.2.1 Primary purpose of government websites**

The study gave ICT personnel a choice of one variable for them to describe the primary purpose of government websites. The findings indicated that 36 (74 percent) of government websites were written for information dissemination while 6 (16 percent) were for marketing the ministries. The study found that 3 (6 percent) of the websites were designed as communication tools and 2 (4 percent) of the respondents said that they were not sure.

The interviews revealed that government ministries developed websites in order to provide general information about government programmes to the target audiences. One key informant remarked that:

*The aim of establishing this website is to enhance your access to the much needed information about the Ministry and Zambia on a daily basis. It will be a conduit through which the Ministry and you our clients will share various information of mutual interest on matters related to Zambia and its relations with the International Community.*

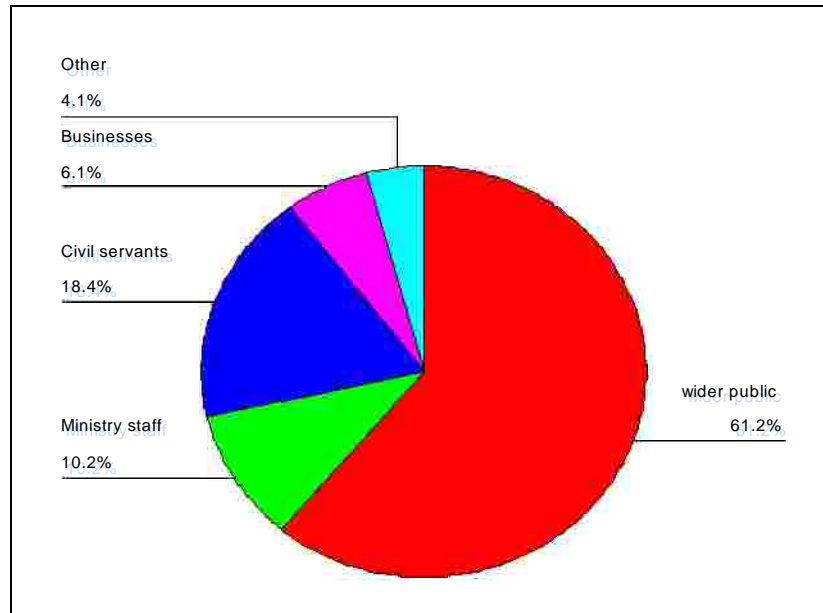
**Table 4:** Purpose of government websites

Responses	Frequency	Percent
Information dissemination	36	73.5
Market the ministry	6	16.3
Communication tool	3	6.1
Not sure	2	4.1
Total	49	100.0

#### 4.2.2 Target audience for government websites

The study showed the following results: 61.2 percent of the respondents said that websites were designed for the general public; 18.4 percent were for civil servants, 10.2 percent were for ministry staff, six percent were for businesses and four percent stated other user-groups.

Key informants unanimously stated that government websites were targeted primarily at the general population as shown in figure 1.

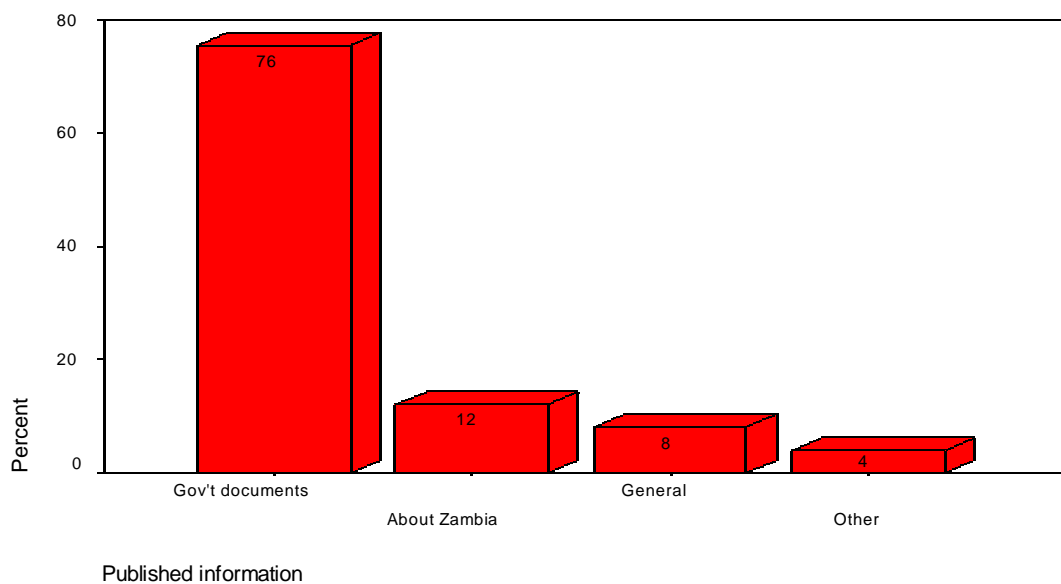


**Fig. 1:** Target audience (s)

### 4.2.3 Nature of information posted on government websites

The aim of this question was to find out the nature of information posted on government websites. Among all respondents, government documents were found to be the most important type of information resource posted on government websites (76 percent). Information about Zambia was second at 12 percent, while general information came in third at eight percent. Other information types came in fourth at four percent. See figure 2.

Key informants explained that information on websites varied across ministries and was of a general nature, but oriented toward promoting government programs.

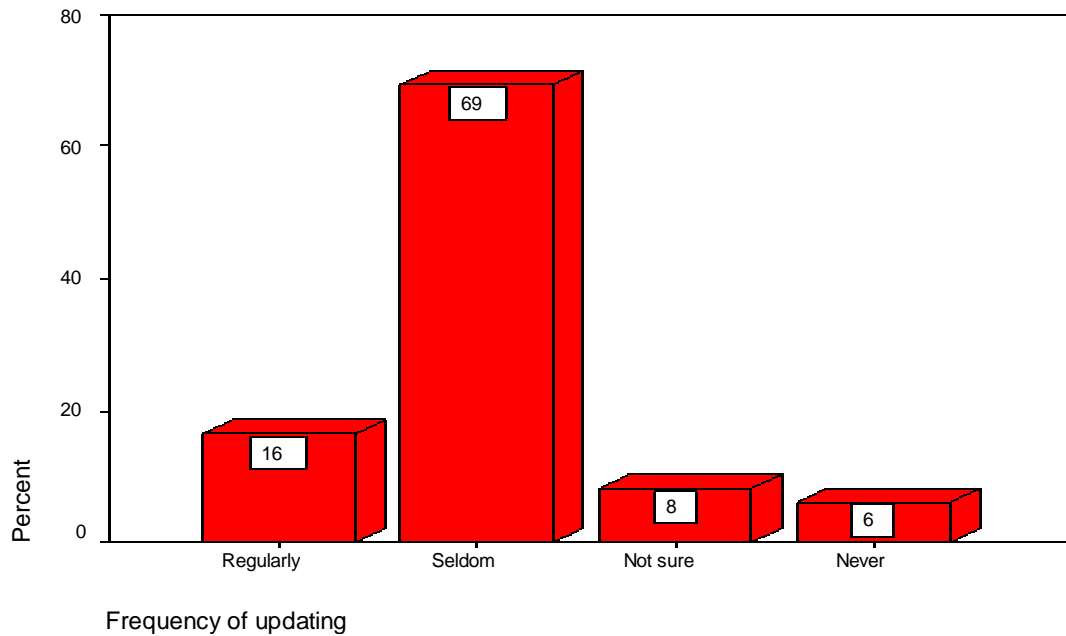


**Fig. 2:** Information posted on government websites

### 4.2.4 Frequency of updating content

The aim of this question was to establish whether government ministries paid attention to content on their websites. The study found that 69 percent of government websites were seldom updated while 16 percent were updated regularly. Eight percent of the respondents stated that they were not sure about the frequency of updating websites while six percent said that it was never done. From the researcher's point of view, these findings are an indication that government does not pay much attention to issues of content management on its websites. See figure 3.





**Fig 3:** Frequency of updating content on web pages

In order to establish a stronger analysis, the study sought to investigate the relationship between web page update and usability. This was done by initially cross-tabulating the two variables and secondly by conducting a chi-square test. The result from the cross-tabulation indicated no correlation between the two variables. The results are presented in Table 5 below.

**Table 5:** Cross tabulation of frequency of updating and usability of websites

			Usability of websites		Total
			Good	Poor	
Frequency of updating	Regularly	Count	4	4	8
		Expected Count	5.6	2.4	8.0
	Never/Seldom	Count	19	6	25
		Expected Count	17.4	7.6	25.0
Total		Count	23	10	33
		Expected Count	23.0	10.0	33.0

Secondly, a chi-square test was conducted in order to establish if there was a relationship between web page update and usability. The two formulated hypotheses were that:-

1.  $H_0$  = There is no relationship between web page update and usability.

2.  $H_1$  = There was a relationship between web page update and usability.

The plan of analysis formulated was that the significance level to be used was 0.05 in order to maximize the accuracy of the findings. With this analysis, if the test statistic probability (p-value) was less than the significance level, the null hypothesis would be rejected. Conversely, if the p-value was greater than 0.05, then the null hypothesis would be accepted. The results of the analysis are presented in Table 6.

**Table 6: Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.940	1	.164		
Continuity Correction	.904	1	.342		
Likelihood Ratio	1.841	1	.175		
Fisher's Exact Test				.205	.170
Linear-by-Linear Association	1.881	1	.170		
N of Valid Cases	33				

$a = 0.05/2 = 1.940$ ;  $df = 1$ ;  $p = 0.205$  since  $p > 0.05$ .

a Computed only for a 2x2 table

b 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.42.

Since the p-value is less than the agreed significance level, the null hypothesis is accepted. The interpretation of the result is that there is no relationship between frequency of web page update and usability of websites.

#### **4.2.5 Responsibility for updating content**

Regarding the responsibility for updating content on web pages, the study established that ICT personnel 22 (44.9%) were responsible for updating content followed by webmasters 17 (34.7 percent), IT Managers 8 (16.3 percent) and other staff 2 (2 percent). The result indicates that government has no policy framework on website content management.

**Table 7:** Responsibility for updating content

Responses	Frequency	Percent
Webmaster	17	34.7
IT manager	8	16.3
ICT personnel	22	44.9
Other	2	4.1
Total	49	100.0

#### **4.2.6 Decision making on website content**

Regarding decision making on what information to post on the web pages, it was reported by a majority 34 (69.4 percent) of the respondents that this was a preserve of the Permanent Secretaries, followed by Departmental Heads 10 (20.4 percent) and Ministers 5 (10.2 percent). This question was asked, as it was necessary to determine who had control over the information that was placed on the web page given the importance of avoiding misleading information being placed on the website.

**Table 8:** Decision making on web page content

Responses	Frequency	Percent
Minister	5	10.2
Departmental Heads	10	20.4
Permanent Secretary	34	69.4
Total	49	100.0

#### **4.2.7 Commitment from government concerning website development**

With reference to government commitment vis-à-vis website development, it was established from the interviews that there was some measure of commitment from government. They further observed that a lot needed to be done in terms of funding and policy guidelines. When further pressed to specify what notable steps government had taken to promote website development, key informants revealed that the enactment of an ICT policy was one of the indicators that government was committed to website development. One respondent observed that:

*Although the ICT policy had created an enabling environment for government initiatives, the lack of coordination across government agencies was impacting negatively on website development.*

#### **4.2.8 Budgetary allocation for government website maintenance**

To establish the levels of funding toward website maintenance in government ministries, key informants were asked to explain the question of budgetary allocation in their respective ministries. The findings showed that, out of the nine interviewees, eight could not state for sure the funding levels in their units while one disclosed that his unit received an annual budgetary allotment of about K2 billion. He, however, disclosed that this amount was not enough since it catered for all ICT related issues such as computer hardware, software, website maintenance and promotion.

#### **4.2.9 Challenges to website development**

Respondents were asked to indicate one major challenge to website development in their ministry. The Responses came out as follows: Poor funding 24 (49 percent), lack of qualified ICT personnel 13 (27 percent), poor Internet connectivity 7 (14 percent) and lack of adequate ICT infrastructure 5 (10 percent).

The data obtained from key informants revealed that a number of challenges to the development of websites existed such as limited availability of financial resources and Internet access limitations.

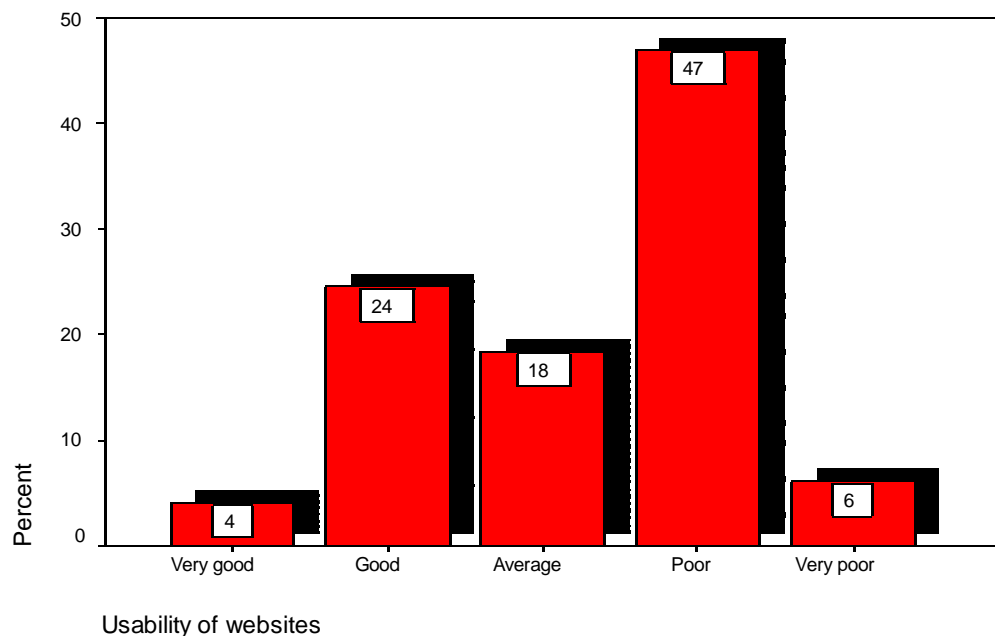
**Table 9:** Challenges to website development

<b>Responses</b>	<b>Frequency</b>	<b>Percent</b>
Poor funding	24	49.0
Lack of ICT staff	13	26.5
Poor connectivity	7	14.3
Lack of infrastructure	5	10.2
Total	49	100.0

#### 4.2.10 Usability of government websites

Using a Likert scale, respondents were asked to rate usability of their websites by the target audience. The findings show that: 47 percent of the respondents indicated poor usability of websites while 24 percent stated good website usability. 18 percent asserted average usability; six percent indicated very poor usability and four percent mentioned very good usability.

The data obtained from the key informants demonstrated that overall website usability was quite poor across the government web system. The high percentage (47 percent) of poor usability is an indication that there was a problem with government websites.



**Fig. 4:** Website usability

In order to ascertain a stronger analysis, the study sought to investigate the relationship between web professional qualifications of ICT personnel in government ministries and usability. This was done by firstly cross-tabulating the two variables and secondly by conducting a chi-square test. The result from the cross-tabulation indicated no correlation between the two variables. The results are presented in Table 12 below.

**Table 10:** Cross tabulation of Professional qualifications and Usability of websites

			Usability of websites		Total
			Good	Poor	
Qualifications	Certificate	Count	0	1	1
		Expected Count	0.3	.7	1.0
	Diploma	Count	6	13	19
		Expected Count	6.3	12.7	19.0
	First degree	Count	9	18	27
		Expected Count	9.0	18.0	27.0
	Postgraduate	Count	1	0	1
		Expected Count	0.3	0.7	1.0

To test whether professional qualifications could explain usability of websites by the target audience, chi-square test was used. The two formulated hypotheses were that:-

1.  $H_0$ : There is no significant association between professional qualifications and usability.
2.  $H_1$  = There was a significant association between professional qualifications and usability.

The test revealed that there was no relationship between professional qualifications of ICT personnel and usability of websites.

The plan of analysis formulated was that the significance level to be used was 0.05 in order to maximize the accuracy of the findings. With this analysis, if the test statistic probability (p-value) was less than the significance level, the null hypothesis would be rejected. Conversely, if the p-value was greater than 0.05, then the null hypothesis would be accepted.

Table 11: Usability of websites

**Chi-Square Tests**

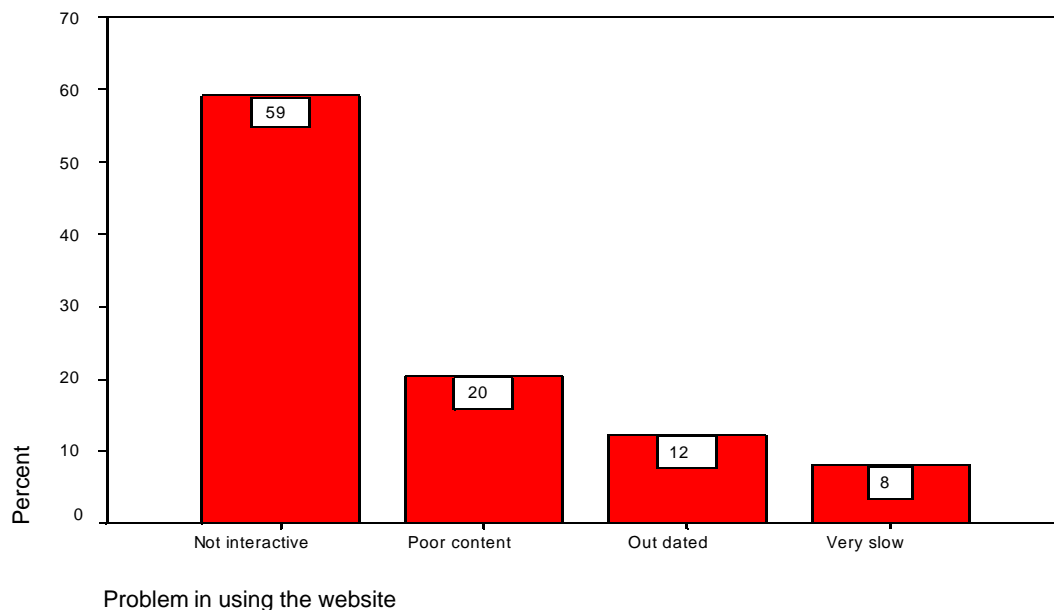
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.526 <sup>a</sup>	3	.471
Likelihood Ratio	3.035	3	.386
N of Valid Cases	48		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .33.

Since the p=value is less than the agreed significance level, the null hypothesis is accepted. The interpretation of the result is that there was no relationship between professional qualifications of ICT personnel and usability of websites. This means that professional qualifications did not positively influence usability of websites.

#### 4.2.11 Factors affecting usability of government websites

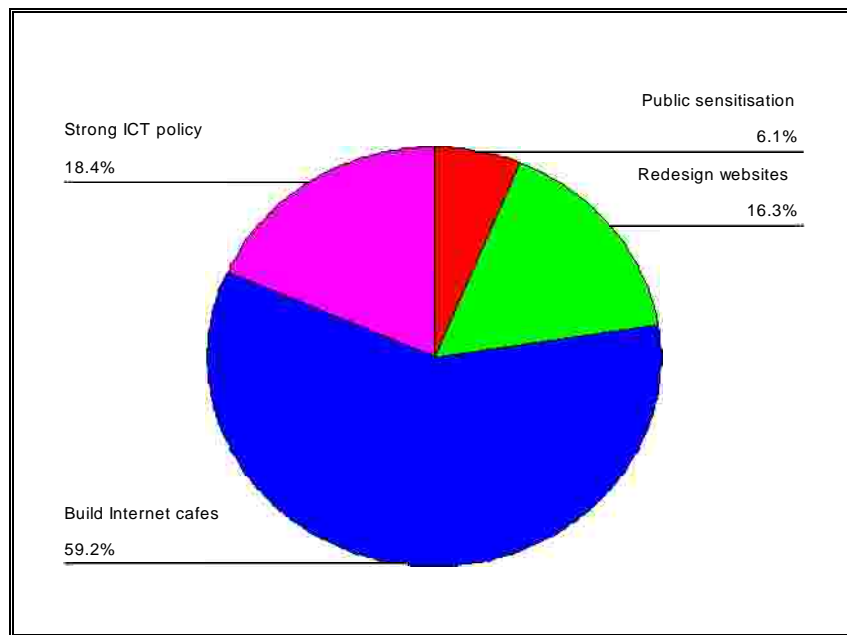
The study established that 59 percent of the respondents said that government websites did not have interactive features while 20 percent blamed poor quality content on lack of web usability. 12 percent of the surveyed websites were said to contain out dated information and eight percent of the respondents observed that websites were too slow to load web pages.



**Fig. 5:** Factors affecting usability of government websites

#### 4.2.12 Actions taken to encourage increased usage of websites

The study established that a majority of respondents (59 percent) noted that government was encouraging the opening up of Internet cafés country wide while 18 percent said a strong ICT policy was a major catalyst. 16 percent stated that some government ministries had started to redesign their websites to make them more user-friendly and six percent said that government had embarked on national wide sensitisation campaigns regarding website usage. It was established from the interviews that steps were in place to try and encourage usage of websites. These measures are a pointer in the right direction but more is required in term of policy guidelines and standards.



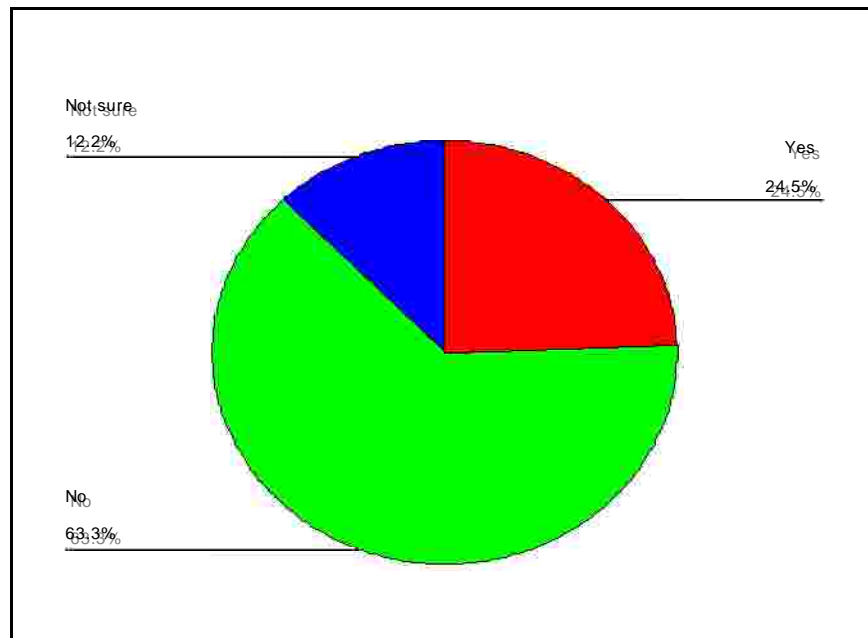
**Fig. 6:** Actions taken to increase usage of websites

#### 4.2.13 Monitoring and evaluating website usage

This question was asked in order to ascertain whether or not website usage was being monitored. It was established from the interviews that monitoring and evaluating website usage was rarely done. Out of the nine key informants, seven (78 percent) disclosed that they could not tell whether it was being done while two (22 percent) stated that it was being done. When pressed further to give reasons for not monitoring and evaluating website usage, they disclosed that



technical limitations, staffing problems and time were the main limiting factors while the two (22 percent) respondents who claimed that they were monitoring and evaluating website usage stated that they relied on hit counts.



**Fig. 7:** Monitoring and evaluating website usage

#### 4.2.14 Desired improvements on government websites

With regard to changes and improvements on government websites, it was discovered that 28.1 percent of the respondents wanted to redesign their website while 13.6 percent expressed satisfaction with the present status of their websites. Seven percent could not state their position with regard to the desired changes on their web pages.

Other than issues which were covered by the questionnaire, the key informants were given an opportunity to provide any additional information about website usability. They observed that a lot of work needed to be done on bringing the websites to acceptable standards. One interviewee observed that:

*Redesigning and adding interactive features to the website would make it more usable.*

### **4.3 Website evaluation results**

To establish the usability aspects of government websites, 16 ministerial websites were evaluated for the presence of various features dealing with information availability, service delivery, and public access. In looking at specific features of the government websites, the study intended establishing the amount of material available that would inform citizens. Each website was evaluated for the presence or absence of different features. The study used the United Nations (2002: 67) standard website evaluation form to examine the presence of a number of features such as: such as online publications, online databases, audio c video clips, foreign language or language translation, advertisements, premium fees, restricted areas, user payments or fees, measures of actual disability access (W3C), several measures of privacy policy, presence of online services, the number of online services, digital signatures, credit card payments, email addresses, comment forms, automatic email updates, website personalization, PDA accessibility, currency of information and readability level.

Table 12: Government Ministry Websites

Website evaluation variables	A G R I C L T U R E	C O M M E R C E	C O M M U N I C A T I O N	C O M M U N I T Y	E D U C A T I O N	E N E R G Y	F I N A N C E	F O R E I G N	H E A L T H	I N F O R M A T I O N	L A B O U R	L O C A L G O V T	M I N E S	S C I E N C E	T O U R I S M	W O R K S
1. Site links to all ministries																
2. National e-govt strategic plan available online			v													
3. Downloadable & printable laws, bills, form etc.		v	v		v	v	v			v		v		v	v	v
4. Availability of contact details online	v	v	v	v	v	v			v	v		v		v	v	v
5. Access to specialized databases	v								v							
6. Search features easy to use and accurate	v	v				v	v	v	v	v	v	v	v	v		
7. Site offers feedback									v							
8. Availability of security features		v					v									
9. Availability of e-application forms																
10. Ability to make appointments with officials online																
11. Payment of tax obligation & fines online																
12. Information includes: Govt reports, newsletters	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
13. Documents in PDF format			v											v		
14. Participation in chat rooms																
15. Acceptance of digital signatures																
16. Website links to private sector sites																
17. Website links to advertisement of any kind																
18. Website offers streaming media																
19. Website offers push technology																
20. Content of the website mainly informational	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
21. Website interactive																
22. Website transactional (pay for services online)																
23. Content updated regularly												v			v	
24. Privacy policy on-line		v					v									
25 Disability access																

v = presence of a variable in a web page

The evaluation results depicted in Table 12 above shows that most of the aspects expected to be found in any government website according to the UN and ASPA (2002) are still lacking or infrequent within most of all the government ministerial websites. Almost all the websites contained basic and static information relating to the ministry and a number of downloadable forms and many sites are not frequently updated.

Further, the audit revealed that information is mainly in text on all the sites making it hard for

vision-impaired people to use and access the websites. It was further noted that web designers placed emphasis on the presentation of departmental organizational structures and activities, and especially the provision of documents, speeches and media statements, in contrast to the presentation of projects and programmes and value-added features such as online publications, online databases, audio and video clips, disability access, user payments, frequently asked questions (FAQs), site maps, interactivity features, etc.

#### **4.4 Summary**

This chapter dealt with the analysis and presentation of the findings from the data obtained from the field survey. Usability of ministerial websites was measured against four variables. The study was informed that, although the majority of ministerial websites had started to embrace the Internet for information dissemination, they were still far from becoming true online service providers. The study helped in identifying the gaps and barriers by the policy makers and ICT professionals in government to find a way of building their capacity to make them better able to respond to expressed needs. Views of some Heads of ICT units solicited on desired changes to the websites confirmed that there was a need for government to re-think its initiatives relating to government websites.

# CHAPTER FIVE

## Discussion

### 5. Introduction

This chapter discusses the findings that have been presented in Chapter 4. From the foregoing data, it is possible to draw some generalizations about the usability of government websites in Zambia. The discussion highlights the significant aspects based on the following specific research questions:

1. How effective are government websites as information communication channels?
2. How useful is the content posted on government websites?
3. Is monitoring and evaluation of government websites being undertaken? If not, what are the hindrances to the processes of monitoring and evaluation of website usage?

In order to address the above research objectives, data were collected via a website evaluation form, questionnaires and interviews. However, it is essential to firstly bring the data into perspective by discussing it vis a vis findings from other studies and/or literature.

### 5.1 Usability of government websites

The W3C eGovernment Interest Group (2009) has observed that governments world over have been striving to find better ways to connect with their constituents via the web. By putting government information online, and making it easily accessible, readily available, accessible, understandable, and usable, people can now interact with their government in ways never before imagined. For democratic governments, the web can be one of the best tools to engage users and disseminate information in a manner that promotes transparency and citizen satisfaction. With the rising importance of government websites as a communication tool, many studies have been conducted to evaluate their usability. For instance, West (2008) conducted a comprehensive analysis of 1,667 government websites in 198 nations using eighteen measures that focus on the amount of information available and the extent of interaction with users, such as website

personalization and email updates of information. Results show that there is much room for improvement. A study by Chete, Udi and Osubur (2008) assessed national government website of South Africa for accessibility and usability. Results indicate that though the website was fully accessible and usable, it was not fully interactive. Similarly, ancha (2007) surveyed the websites of Eastern and Southern Africa and observed that although most governments in the region have constructed their own websites, a good number of these sites were not up to date and therefore compromised usability aspects. Findings of similar studies by Asiimwe and Lim (2010) and Ngulube (2007) allude to the same.

If government websites are to become user friendly, the issues of usability raised in the study should be addressed. Appropriate international guidelines on webpage development provided by World Wide Web Consortium (W3C) to help website administrators develop usable websites need to be adopted. This will contribute enormously towards the success of government websites in Zambia.

## 5.2 Primary purpose of Government Websites

It is expected that since a government website is a tool that facilitates interaction between government agencies and the public, a high proportion of these websites would show a well and clearly written vision and mission statement with its focus based on what the website will accomplish and what the users will get from it. It was therefore necessary to determine the primary purpose of government websites.

The findings presented in section 4.2.3 of chapter 4 showed that 77.6 percent of the respondents said that government websites were designed for information dissemination to the wider audience. These findings were further augmented by responses from key informants who stated that government websites were written to provide general information about government programmes to their target audience. Nonetheless, an inspection of each website revealed that although all government websites shared this common goal, they varied widely in the information they provided, the services they provided, how they provided services, and the way the sites were designed. The variations are attributable mostly to the vast differences among ministries, the missions that define them and the many varied and unique issues they faced.

Every website must have a purpose. Purpose drives everything: the audience, the design, the navigation, the content, and the marketing. If purpose of a website is not defined, everything else will be wasted or at best a watered-down effort (Gaudet, 2007). It is therefore essential to describe the purpose of a government website as one of the first steps in the planning process. A purpose statement should show focus based on what the website will accomplish and what the users will get from it. A clearly defined purpose will help the rest of the planning process as the audience is identified and the content of the site is developed (Stowers, 2002).

The study discovered that some ministries did not even include vision and mission statements on their home pages, an indication that probably there was no proper planning at the time of writing these websites. This therefore calls for website strategic planning on the part of public sector website developers. Suffice to say defining the goal of the website is essential.

### 5.3 Target audience of Government Websites

According to the findings presented in sub section 4.2.2 of chapter 4, the responses were: general public (61.2 percent), civil servants (18.4 percent), ministry staff (10.2 percent), businesses (six percent) and other user-groups (four percent).

From these results the study has established that government websites were written for the wider audience (61 percent). It was also found out that for all the websites involved, the target audience was quite large and therefore not clearly defined. This finding is confirmed by the results of a similar study done by Theresa (2004) who emphasized the need for web developers to clearly define the target audience of their websites. The researcher was interested in learning whether or not the information provided was for or about a specific group, as this explicitly and implicitly demonstrates whose information needs the authors of the websites are hoping to meet. The loss of this most fundamental aspect of any website may lead to a meandering design that tries to appeal to everyone, thus lacking focus and in reality appealing to very few. Being too broad in scope may draw occasional visitors, but risks being so vague and bland that it connects with only a very small readership.

Nevertheless, some websites take it in the other direction choosing to focus so strongly on their target audience that they narrowly pinpoint too particular a demographic or segment in their

design, therefore ostracizing other possible audiences. This can in turn leave their audience too small to support the site. Defining a user group is important because every website must be designed and content customized for the specific target audience taking into consideration their cultural backgrounds, usability skills and interest. Equally, knowing the target audience will allow a citizen-centric website to be created that will deliver the desired content to the users (UNESCO, 2005, UN, 2002).

#### 5.4 Accessibility and usability of government websites

It was established from the theoretical framework and literature review that the importance of website accessibility and usability cannot be overstated. UNESCO (2005) noted that accessibility refers to the extent to which the website and its contents are available to a wide range of users with varied levels of physical capabilities/skills and technology. This means that a portal being universally accessible would imply that a broad range of software, hardware and audiences, including physically challenged citizens cannot only access the online content and services on the website but are also able to effectively make use of it.

Results from the website audit have ascertained that all government websites were not accessible to people with visual impairments. The study did not focus on the entire Web Accessibility Initiative (WAI) guidelines but some basics such as text description of image or use of ALT text and transcript of audio. None of the sites provided those features to allow citizens with disabilities to participate in e-government initiatives. This suggests that the government needs to enact Disability Discrimination Act (DDA) to propel development of websites accessible to those with disabilities as well (Parajuli, 2007, UNESCO, 2005). Further, the evaluation established that frequently asked questions (FAQs) that answer the recurring questions related to the site and its content were missing in most (87 percent) of the ministerial websites. Only the Ministries of Local Government and Housing and Commerce presented the FAQs feature on their websites. Since the majority of Zambians are new to the Internet and web technologies, absence of FAQs is likely to hinder less-experienced citizens in comprehending the applicability of government's online presence. The connotation is that these citizens are less likely to participate in the e-government processes compared to the few that are experienced in the use of web facilities and services.



The Working group on e-government in the developing world (2002) argued that creating a website may be a benchmark in terms of implementing e-government, but it does not guarantee performance or customer usage. This might be true in societies that have high rates of Internet penetration, but even then it is only true for some websites. "In places where Internet access is cost prohibitive for the average citizen, or not widely available, there is even less reason to tout the creation of general websites, or assume they actually deliver services just because they exist" (Working group on e-government in the developing world 2002).

### 5.5 Major problems affecting usability of government websites

The study has revealed a number of problems affecting usability of government websites. According to the findings in sub section 2.4.3 of chapter 4, these problems were lack of basic interactive features (59 percent); poor quality web content (20 percent); out dated content (12 percent) and web pages taking long to (eight percent). As noted from these results, the key obstacle to usability of websites identified in the study was lack of basic interactive features such as email capability. The findings of this study authenticate earlier findings by Parajuli (2007), Chete, Udi and Osubur (2008) and (West, 2008) who found that most government websites in Africa were not interactive. This finding point to the fact that accessibility and usability features, namely user help features, are not effective in most government websites and are a source of frustration to many users.

Therefore, in order for government websites to be user friendly, government agencies must incorporate enhanced, user-focused, and interactive features into websites. Apparent instant messengers, chat rooms, discussion forums, and bulletin boards can add newer dimensions in government-government interactivity and will be beneficial in understanding citizens' voice.

West (2005) attests to this by indicating that the static nature of a billboard approach to websites limits a visitor's ability to use interactive technologies. Citizens can see information, but not alter it to their own ends. Government websites utilizing this approach offer the advantage of access to information, but do not allow citizens to search the site, send feedback, or order government services. Without the ability to "engage" a government website, citizens cannot take advantage of the technology's capacity for two-way communications or personalize the website to their own

specific interests. Ngulube (2007) attests to this by indicating that many government websites are not fully functional and are populated with information that does not enhance service delivery and participatory democracy. This is a picture of what is happening in Zambia with regard to public sector websites.

These findings are a sign that though international guidelines on web page development are provided by World Wide Web Consortium (W3C, 2009) to help website administrators develop usable websites, these guidelines are not often followed by web developers. Besides, this could be an indication that ICTs have not been fully exploited to ensure democratic outreach and to comply with the requirement of two-way communication between government and the public (West, 2005).

#### 5.6 Actions taken to increase usability of government websites

The results as presented in sub section 4.2.13 of chapter 4 indicated that 59 percent of the respondents noted that government was encouraging the opening up of Internet cafés country wide while 18 percent said a strong ICT policy was a major booster. In addition, 16 percent stated that some government ministries had started to redesign their websites to make them more user-friendly and six percent observed that government had embarked on national information sensitisation campaigns regarding website usage. The above findings especially government's policy to encourage the proliferation of Internet café was a positive indicator that government was serious about promoting e-government via websites albeit at a very slow pace. UNESCO (2005) noted that websites cost money and hence the need to encourage their usage. However, as to whether this move by government will lead to increased accessibility and usage of government websites remains to be seen.

In a related development, 18 percent of the questionnaire respondents attributed the positive changes in web developments in the country to a strong ICT policy while key informants affirmed in section 4.2.7 of chapter 4 that government had created an enabling environment for website development by enacting a national ICT policy. It should be noted therefore that an ICT policy is a critical instrument to effectively manage the complexity of the emergent e-government environment. As noted by the Ministry of Communication and Transport (2008), the

cornerstone of this particular policy is to achieve sustainable development in the ICT sector. The ICT policy for Zambia promises to enable e-government in ways that would address the expansion of ICT applications (information services) in government, promoting a better life characterised by representative and participatory democracy, transparent, open and collaborative decision making, close relations between government, business, and citizens, enhanced service delivery, new infrastructure, info-structure, integrated and seamless government services that cut across departmental boundaries providing a convenient and timely service to the citizens, and equity in the provision of government services. The primary objective is to enhance national socio-economic development by encouraging the beneficial activities of ICT in all sectors through the provision of a conducive environment that will progressively maximize the quality and security of the life of the people of Zambia and make the best use of the country's human and natural resources, and promote multi-layered co-operation and knowledge sharing nationally, regionally and globally (Ministry of Communication and Transport, 2008).

The United Nations (2002) noted that strategic goals of any national policy should, most importantly, reflect the needs and expectations of the citizens, not necessarily the dreams of policy advisors or promises of the political leadership. Apparently, judging from the discussion above, if all concerned stakeholders put this policy into good use, the country may be able to properly develop and implement e-government in ways that may not exacerbate the digital divide and further marginalize those without access to ICTs.

### 5.7 Usefulness of web content

The real purpose of government websites gets served when the citizens do not have to run-around government offices and wait in queues to get application forms and other relevant information regarding various schemes and services. Such services should be made available on the website itself so that one may easily download and make use of them.

In the study of reviewed literature, it was established that for government websites to be usable, they must contain information and online services that are tailored toward the user (UNESCO, 2005, Stowers, 2002). It is vital that website content be text rich, succinct and well written to appeal to the live visitors as well as search engines (Gaudet, 2007).

The findings of the study from questionnaire respondents showed that most government websites (76 percent) contained government documents and related publications. This was followed by documents about Zambia (12 percent). Information of a general nature was at eight percent while other information types were at four percent. During the interviews ICT personnel revealed that content varied across ministries and was of a general nature, but oriented toward promoting government programs. These results therefore suggest that government was using the web to try and reach its constituents regarding its policies, programmes and services. However, the challenge is whether the intended audience was able to access these government programmes and services to their own advantage.

This study has shown that all the sixteen ministries provided general, policy, and organisational information in the web. Most of them provided links to the other related agencies, and some offered downloadable forms. This is consistent with the first phase of the implementation plan, “information provision”. However, this should not be seen as an automatic improvement in service delivery. Setting up a website as Trusler (2008) observed often leads to complacency about e-government in that it is easy for an agency to believe that just because it has created a website then it has electronically delivered a service.

This finding attests to the United Nations (2002) report which, noted that in the developing world, citizen focused online services barely exist as website content remains static and politicized. According to the United Nations (2002) 88 percent of the United Nations member states had made a legitimate effort to commit to some form of e-government, that is, 169 countries had an established online presence with official government websites. However, in 2001, for over 25 percent of the countries, the content of official websites consisted of static and insufficient information often of a public relations nature and consistently with strong political overtones. The United Nations (2002) stated that such can hardly be described as service delivery or considered citizen centric since they are not a medium to elicit useful feedback. The United Nations (2002) noted that such a trend is predominant in several emerging countries in Asia, the Caribbean and throughout Sub-Saharan Africa where countries exploit the web for very singular purposes. According to the United Nations (2002) limited resources are an obvious explanation, but a collective lack of confidence and/or creativity on the part of the ICT strategists

could be another reason. The implication for content managers is for them to effectively present content in a way that reflects the needs of the public rather than the organizational structure.

As for currency of information (freshness of information) on websites, the study has established that about 70 percent of government websites have not been updated in months showing the one off attempt on behalf of the ministries to go online. The disclaimer on the bottom of some pages shows that the web pages were designed only for the sake of having a website and not for having an actual functional purpose. Assessment of the website's freshness gives a general picture of how serious a government agency considers e-government services by committing necessary resources for costly updating of the website (La Porte et al. 2002). Suffice to say websites need to be regularly updated to provide current information to the general public. Outdated information is to be avoided because it creates a poor impression with users. West (2005) observed that government officials treat websites much in the way highway billboards are used, that is, static mechanisms to display information. Stowers (2002) and UNESCO (2005) noted that high quality content was crucial to usability of a government website. A problematic example of this situation was plainly seen on the web pages for the Ministries of Information and Broadcasting Services and Community Development and Social Services. Equally, some websites still reflect Cabinet Ministers that were long reshuffled. Owing to this situation, information is not only stale, but misleading as well to the general public.

The findings of this study indicate that apart from the ministerial websites of Local Government and Housing, Education, Health, Tourism and Transport, all the other government websites did not indicate the dates when they were last modified. This finding might suggest that most of these websites were not regularly updated. Even a perfectly designed website can turn out to be a disappointment for the audience if the information on the website is not regularly updated. A regularly updated website is a measure of a government's seriousness in providing current information to its citizens. Since a website is a reflection of an institution before the audience, it is expected that current information about the activities, events, schemes, and programmes of the institution is placed on the website. It should be noted that regularity of updating information on a web page is vital to its usability. Therefore, there is need for guidelines on the frequency of updating websites.

The findings of this study have reinforced what is already known from findings of earlier researchers like Kaaya (2004), Onyancha (2007) and West (2004) who noted that most government websites suffered from the problem of stale information which compromised usability aspects. From these findings one would argue that it is either the affected ministries have no qualified ICT personnel to manage the sites or the controlling officers do not understand the value of government websites. Therefore, stakeholders need to come up with policy guidelines on how often their websites should be updated so that users are provided with accurate and current information.

#### 5.8 Monitoring and evaluating website usage

Monitoring is an important way of ensuring that websites meet the business needs of ministries as well as those of users. The study has established that 95 percent of the respondents were not sure if monitoring and evaluating website usage was being done. This response was an indication that the process of website usage monitoring and evaluation was not being undertaken and consequently these ministries do not know whether the target audience was using their sites or not. On account of these findings it is difficult to explain whether or not government websites were meeting their intended goal since they were rarely monitored and evaluated. Therefore, as government make plans for website development, it should also incorporate guidelines on monitoring and evaluation (UNESCO, 2005). The challenge for ministries is to justify their presence in cyber space. This can only be done if monitoring and evaluation were being done.

The findings of this study validate findings by previous researchers like Kaaya (2004) and Ngulube (2007) who stated in their findings that government websites in East Africa and Sub Saharan Africa respectively were rarely monitored and evaluated for usability. According to UNESCO (2005) website usage monitoring involves the collection of information about how a website is being used. The process is an important way of ensuring that websites meets the business needs of agencies as well as the needs of users.

The lack of monitoring and evaluation is a serious weakness on the part of government ministries. Public sector websites need constant monitoring and evaluation for usability in order to reduce the risk of budget or scope blow-out by helping to target and refine the scope of

websites activities, such as redevelopment and site marketing, to ensure that the site delivers maximum benefits at an acceptable cost (UNESCO, 2005). From these findings, it seems many sites have been set up without a clear reason, or a way of evaluating their success. There is need for stakeholders to justify their agencies' presence in cyber space through regular and systematic monitoring and evaluation of web usage. This study has therefore exposed a need on the part of government ministries to have strategic plans for their websites.

### 5.9 Website audit

One of the most promising aspects of e-government is its ability to bring citizens closer to their governments. In the examination of government websites, the researcher looked for several key features within each website that would facilitate this connection between government and citizens. Websites using these features allow citizens and government employees alike to read and respond to others' comments regarding issues facing the agency.

The evaluation has established that most of the aspects expected to be found in a fully functional government website as outlined in the United Nations (2002) website evaluation form are still missing or rare in government websites. Features that would qualify the websites for advanced stages on the e-government model according to West (2005) are not available. Such features include: audio clips, video clips, security features, disability access, user payments, and non-native languages or foreign language translation. The United Nations (2002) noted that despite the highly visible and multi functional sites, many governments continue to “flight test” their programmes in an attempt to find the right combination of services, features, content and entry points that are efficient, cost-effective and truly citizen centric that would go into their websites. On that note the Zambian Government might still be trying to find the right combination of services, features, and content that would be truly citizen centric.

### 5.10 Summary

This chapter presented the discussion and interpretation of the results of the research. The chapter also integrated the results in chapter four with the information in chapters one and two. The main trends and patterns in the results as earlier stated in section 5.0 of this chapter were discussed with reference to the research objectives outlined in section 1.8 of chapter one.

The overall findings of the study drawn from questionnaires, interviews and an audit of government ministry websites showed that although the majority of government ministries had embraced the Internet through websites for information dissemination, these websites generally did not conform to the basic principles of good website design according to the W3C. Furthermore, emphasis was placed on the presentation of departmental organizational structures and activities, and especially the provision of documents speeches and media statements, in contrast to the presentation of projects and programme and value-added features such as FAQs, site maps, indexes and interactivity features. Some government ministries have started to provide some services online, but they were still far from becoming true online service providers.



# **CHAPTER SIX**

## **Conclusion and recommendations**

### **6. Introduction**

This chapter presents conclusions and recommendations based on the findings of the study. The chapter is in two parts: the conclusion and recommendations. The purpose of this study was to evaluate usability of government ministry websites, with the aim of contributing towards improving the quality and effectiveness of online information and service delivery by the Zambian Government. Its focus was on web content, interactivity and accessibility features. Although the functional determinants used in the study may not have been completely exhaustive, they can at least serve in epitomizing the overall impression of government websites in Zambia.

### **6.1 Conclusion**

Following West (2005) and his four-stage model of e-government development, this researcher argues on the basis of the 16 government websites discussed above that although government ministries have adopted the Internet by way of websites, these sites are at varying stages of development. Consequently, they varied in the amount of content, the degree of currency, accessibility and levels of interactivity. It can also be further maintained that 80 percent of the surveyed government websites were still in the billboard stage or first stage while 15 percent were in the partial service-delivery stage or second stage. Only 5 percent were found to be in the third stage. The implication for this scenario is that much still remains to be done in order to have government websites that are professional, usable and effective and which are effectively sustained.

In relation to the purpose of government websites, the study has shown that they were primarily written for information dissemination to the wider audience. Nonetheless, an inspection of each website revealed that although all government websites shared this common goal, they varied widely in the information they provided, the services they provided, how they provided services, and the way the sites were designed. The variations are attributable mostly to the vast differences

among ministries, the missions that defined them and the many varied and unique issues each ministry faced.

On the subject of the target audience for government websites, the study established that they were designed for the general public. It was found that for each of the surveyed website, the target audience was quite large and therefore not clearly defined. Defining a user group is important because every website must be designed and content customized for the specific target audience taking into consideration their cultural backgrounds, usability skills and interest.

This study has ascertained that website content on most (75 percent) of the surveyed websites was not citizen centric. It should be emphasized that although all the sixteen sites offered downloadable forms and other online services; this should not be construed as an automatic improvement in service delivery.

Regarding the currency of information, the study has established that even though 70 percent of government ministries in Zambia have constructed their own websites, a majority (75 percent) of these sites were rarely up dated and thus compromised usability aspects.

Relating to website interactivity, the study has established that lack of web interactivity was a major factor affecting website usability across government ministries. This result is particularly essential because as West (2005) concluded, websites offering interaction between governments and citizens are considered to be essential in promoting electronic government. Therefore ICTs should be exploited to ensure democratic outreach and to comply with the requirement of two-way communication between government and the public.

With regard to website accessibility and usability, this study asserts that overall; government websites were partially accessible and usable in that they lacked significant features that would assist citizens in their interaction with government. Such features include: online databases, audio clips, video clips, security features, disability access, user payments, and non-native languages or foreign language translation.

The study has found that government is encouraging website usage by way of promoting the proliferation of Internet cafés/kiosks. In addition, the study has revealed that a national ICT

policy has had a positive influence on the development of the web system in Zambia. However, it remains to be seen as to whether these measures would encourage usability of public sector websites.

Pertaining to monitoring and evaluation of government websites, the research findings revealed that monitoring and evaluation was rarely done. Consequently ministries do not know whether their intended audience was using their sites or not. The challenge for ministries is to justify their presence in cyber space through regular and systematic monitoring and evaluation of website usage.

The study concludes that by and large, government ministry websites in Zambia were partially effective as information communication channels. This is on account that web content was not fully citizen centric and in most cases information was out dated, a good number of web interactive features were missing and web accessibility and usability features were not presented on at least three quarters of government websites.

## 6.2 Recommendations

The findings of the study brought out a number of issues and approaches that would bring about improvement of government websites. These were as follows:

### Web content

There is need to have government websites that are citizen centric and with content provided in other formats other than text only. This is to facilitate accessibility and usage by visitors including people with disabilities.

### Currency of information

Improvement of the currency (freshness) of information on government websites should be a priority. As government websites contain rapidly changing information, care should be taken so that the most current information is posted as soon as possible after it becomes available. Outdated material should be removed and government institutions should make better use of the opportunity to post government news and comments, and government's reaction to key issues

relevant to the institution. A regularly updated website is a measure of a government's seriousness in providing current information to its citizens.

#### Web interactivity

To enhance interactions between the government and citizens, it is so vital for ministries to add interactive tools such as feedback forms to their websites. ICTs should be exploited to ensure democratic outreach and to comply with the requirement of two-way communication between government and the public. The ability to communicate appointed and elected officials may make the difference between passive information delivery and a site that provides dynamic interaction.

#### Web accessibility and usability

Government should make an effort to ensure that these websites are developed according to international usability and accessibility guidelines such as those provided by the W3C to help overcome the identified usability problems.

#### Promoting website usage

Since websites cost money, government should come up solutions to try and address web usability issues. This is critical because government websites are for the general public and therefore the intended audience should be encouraged to access and use these sites for its own benefit.

#### Monitoring and evaluation

For existing websites, it is important for government to periodically monitor and evaluate their performance since they cost money. The processes are important ways of assessing the performance, impact and citizen-centricity of government websites.

#### 6.3 Recommendation for further study

The researcher proposes that a study should be conducted to assess usability of government websites from the perspective of real users (target audience). It does the government little good to build websites if they are not used. Future studies could use surveys, interviews, focus groups and other techniques to learn about how the target groups use government websites.

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## **Appendices**

Appendix 2 Questionnaire for public sector ICT professionals working on government websites

Appendix 3 Interview schedule for Heads of ICT units

Appendix 4 Website Evaluation Form

Appendix 5 List of surveyed ministerial websites

## Appendix 2: Questionnaire for public sector ICT professionals in government ministries

### Section A: Personal information

1. Gender..... 2. Qualifications.....

### Section B: Website information

3. Name of ministry.....

4. Website (URL).....

5. The primary purpose(s) of the website:

- a) Is to disseminate information ☐ b) Is to market the ministry ☐  
c) It is a communication tool ☐ d) other (specify) .....

6. The target audience for the website is:

- a) Ministry staff ☐ b) General public ☐ c) Government personnel ☐  
d) Other: (Specify).....

7. How often is the content on your website updated?

- a) Regularly ☐ b) Seldom ☐ c) Not sure ☐ d) Never ☐

8. Who is responsible for updating the content on your website?

- a) Webmaster ☐ b) IT Manager ☐ c) Any IT staff ☐ d) Other: .....

9. Who makes the decision to place specific content on the website? (Tick one)

- a) Minister ☐ b) Individual Departmental Heads ☐  
c) Permanent Secretary ☐ d) Other: .....

10. What kind of published information is available on the site? (Tick one)

- a) Official government reports, newsletters & press releases; news alerts ☐  
b) Publications available for purchase ☐ c) Constitution ☐  
d) E-Government policies ☐ e) other: .....

### Section C: Government commitment toward website development

11. Which of these statements best describes your ministry in terms of promoting website development? (Tick one)

- a) No one is responsible for promoting website development in the ministry ☐  
b) Different units play a role in promoting the website and it is not clear which if any has overall charge ☐  
c) The web is mainly an IT issue and so the computer services department has primary



responsibility for promoting Web or Internet developments ☐ ]

d) Website development is coordinated by computer services department with the involvement from others and a clear overall management line exists ☐ ]

f) Other reason(s).....

12. What is the main challenge hindering website development in your ministry?

13. In your opinion, how high of a priority is your ministry's commitment to government website development? a) Very High ☐ ] b) High ☐ ] c) Low ☐ ] d) Very low ☐ ]

#### **Section D: Accessibility and usability**

14. From your experience, does the intended audience use your website?

a) Yes ☐ ] b) No ☐ ] c) Not sure ☐ ]

15. If your answer in question 14 above is yes, how do you know?

16. If your answer in question 16 above is no, what do you find to be the major problems in using your website by your audience? (Please tick one)

a) Poor quality content ☐ ] b) Lack of interactive features ☐ ]

c) It takes too long to view/download pages ☐ ] d) Out dated content ☐ ]

e) Having problems with the web browser (e.g. freezing up, poor interface, getting disconnected, timing out) ☐ ]

f) Other: (specify).....

17. What actions has your ministry taken to encourage increased citizen usage of the website for accessing government services? (Tick one)

a) Government sponsored training programmes for the public ☐ ]

b) National public information campaigns ☐ ] c) Local citizen awareness programmes ☐ ]

d) Public information kiosks ☐ ] e) Not sure ☐ ]

18. How would you rate the usability of your website?

a) Very good ☐ ] b) Good ☐ ] c) Average ☐ ] d) Poor ☐ ] e) Very poor ☐ ]

19. What improvements would you like to see in order to increase usability of your website by the citizens?

**Thank you very much for your time**

### **Appendix 3: Interview schedule for the Head of ICT department**

1. Ministry.....
2. Website (URL).....
3. Gender.....
4. Qualifications.....

#### **QUESTIONS**

##### **5. Purpose(s) of government websites**

5.1. Describe the purpose(s) of your website?

##### **6. Target audience(s)**

6.1. Does your website clearly identify its audience(s)?

##### **7. Usability**

7.1 What kind of published information is available on your website?

7.2 How would you describe the quality of content posted on your website?

7.3 What online services does your website provide to its audience(s)?

7.4 In your opinion, does the intended audience use your website?

7.5 If yes, how do you monitor usability of your website?

7.6 If no, what factors are hindering the audience from using your website?

7.7 What steps have you taken to promote usage of your website?

##### **8. Government commitment toward website development**

8.1. What measures has your ministry taken to promote website development?

8.2. Approximately how much in Kwacha (Zambian currency) is being allocated annually to the website maintenance in your ministry?

8.3 What do you consider to be the most critical challenges hindering website development in your ministry?

##### **9. Final comments**

What changes / improvements would you like to see on the ministry website?

**Thank you for your time**

## Appendix 4: Website Evaluation Form

### General questions

1. Does the site link to any or all of the following?
  - a) Ministries: Y [ ] N [ ] How many?
  - b) Private sector sites: Y [ ] N [ ]
2. Can the user download or printout national laws; bills; judicial decisions? Y [ ] N [ ]

### Site questions

3. Does the site's content include?
  - a) Links to minister: Y [ ] N [ ]
  - b) Links internal divisions, units, staff: Y [ ] N [ ]
  - c) Links to specialized programmes: Y [ ] N [ ]
  - d) Links to the online services offered: Y [ ] N [ ]
  - e) Links to other related services provided by government: Y [ ] N [ ]
4. Does the site's content include the following?
  - a) Name of contact individual(s): Y [ ] N [ ]
  - b) Telephone numbers, addresses, etc: Y [ ] N [ ]
  - c) Directories: Yes Y [ ] N [ ]
  - d) Site index or map: Yes Y [ ] N [ ]
  - e) Help feature: Y [ ] N [ ]
  - f) Contact us: Y [ ] N [ ]
  - g) FAQs: Y [ ] N [ ]
  - h) What's new link: Y [ ] N [ ]
5. Does the site offer access to specialized databases?  
(i.e. job banks, hospitals, legislation, etc.) : Y [ ] N [ ]
6. Is the site multi-lingual? Y [ ] N [ ]
7. Does the site offer a search feature that is accurate and easy to use? Y [ ] N [ ]
8. Does the site allow the user to post comments or offer feedback? Y [ ] N [ ]
9. Is there a site security feature? : Y [ ] N [ ]

### Services questions

10. Does the site offer the following online services?
  - a) e-application forms requesting a specific service: Y [ ] N [ ]

- b) Download or print forms or applications: Y [ ] N [ ]
11. Can the user pay fines or other government obligations online? : Y [ ] N [ ]
12. What form or method of online payment is used (for any transaction)?
- a) Credit card: Y [ ] N [ ]
- b) Bank or debit card: Y [ ] N [ ]
- c) Bill the users home: Y [ ] N [ ]
13. Is there a direct link to specific individual services? Y [ ] N [ ]
14. Is there a direct link to all available online for s? Y [ ] N [ ]
15. What kind of published information is available?
- a) Official government reports: Y [ ] N [ ]
- b) Publications available for purchase: Y [ ] N [ ]
- c) Newsletters: Y [ ] N [ ]
- d) Press releases; news alerts: Y [ ] N [ ]
- e) Specialized publications on critical topics: Y [ ] N [ ]
16. Can the documents be saved or downloaded? Y [ ] N [ ] is there a fee? : Y [ ] N [ ]
17. Are the documents mostly in PDF format? : Y [ ] N [ ]

### **Advanced features**

18. Can the user participate in a chat room or e-town hall? Y [ ] N [ ]
19. Does the site accept digital signatures? Y [ ] N [ ]
20. Does the site offer streaming media like live video or audio of events, etc? Y [ ] N [ ]
21. Does the site offer push technology? : Y [ ] N [ ]

### **Commentary**

22. Would you describe the type of content and service available as predominately: (select one)
- a. Informational (basic) [ ]
- b. Interactive (users can e-mail, offer feedback, etc) [ ]
- c. Transactional (user can pay for service(s); taxes; fines [ ]
- d. Purchases [ ]
23. Would you say the content was updated? (Select one)
- a. Frequently (weekly) [ ]
- b. Regularly (monthly or bi-monthly) [ ]
- c. Seldom (six months or longer) [ ]

24. How user-friendly was the site? (Select one)

- a. Extremely user friendly with content well presented [ ]
- b. User friendly with content adequately displayed [ ]
- c. Somewhat user friendly with room for improvement [ ]
- d. Not at all user friendly; content was disorganized [ ]
- e. Site was poorly developed [ ]

**Adapted from the UN ASPA standard Web Site Evaluation Form (2002, 67)**

Appendix 5: List of surveyed ministerial websites in Zambia

<i>Sn</i>	<i>Ministry</i>	<i>URL</i>
01	Agriculture	<a href="http://www.moac.gov.zm">http://www.moac.gov.zm</a>
02	Commerce	<a href="http://www.mocti.gov.zm">http://www.mocti.gov.zm</a>
03	Communication	<a href="http://www.moct.gov.zm">http://www.moct.gov.zm</a>
04	Community Development	<a href="http://www.mocdss.gov.zm">http://www.mocdss.gov.zm</a>
05	Education	<a href="http://www.moe.gov.zm">http://www.moe.gov.zm</a>
06	Energy	<a href="http://www.moewd.gov.zm">http://www.moewd.gov.zm</a>
07	Finance	<a href="http://www.mofnp.gov.zm">http://www.mofnp.gov.zm</a>
08	Foreign Affairs	<a href="http://www.mofa.gov.zm">http://www.mofa.gov.zm</a>
09	Health	<a href="http://www.moh.gov.zm">http://www.moh.gov.zm</a>
10	Information	<a href="http://www.moibs.gov.zm">http://www.moibs.gov.zm</a>
11	Labour	<a href="http://www.molss.gov.zm">http://www.molss.gov.zm</a>
12	Local Government	<a href="http://www.molgh.gov.zm">http://www.molgh.gov.zm</a>
13	Mines	<a href="http://www.mommd.gov.zm">http://www.mommd.gov.zm</a>
14	Science	<a href="http://www.mostvt.gov.zm">http://www.mostvt.gov.zm</a>
15	Tourism	<a href="http://www.motenr.gov.zm">http://www.motenr.gov.zm</a>
16	Works	<a href="http://www.mows.gov.zm">http://www.mows.gov.zm</a>