



## Content coverage in local government authority websites in Tanzania: a web content analysis

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### Abstract

This study assessed the content coverage on local government authority websites in Tanzania to establish an understanding of their ability to serve as useful platforms for informing and communicating with the public. Specifically, the study has determined the thematic areas covered by web contents, identified the forms and types of web contents, and determined the intended audience and aims of the web contents on local government authority websites. Content analysis was used to determine the presence of certain words, themes, or concepts within the 11 randomly selected local government authority websites. The study's findings indicate that content coverage on local government authority websites is very low. Moreover, most of the web contents were in less rich media and were specifically for providing news and alerts on current events rather than providing knowledge and complementing experts in the provision of services to local communities. The study concludes that with the low level of content coverage, local government authority websites cannot serve as one-stop information centres. It is recommended that local government authorities should generate more web contents for complementing their services rather than concentrating on news provision.

**Keywords:** *Web content coverage; forms of web contents; local government authority websites; web content analysis; Tanzania*

### Introduction

Websites are useful platforms for informing and communicating with the public. They are online communication channels accessible through computers and phones with internet connectivity. Websites are important communication channels as they provide information to the mass without geographical and time barriers (Sife & Msoffe, 2013). They convey information via links to texts, pictures, sound, video or other web pages (Etienne, 2006). The history of websites can be traced to the 1990s when the first website was created by Tim Berners-Lee (Smith, 2006). From then on, the rate of adoption of these sites in communication has been very fast that today, most organizations use these platforms to market services and disseminate information.

In Tanzania, almost all public institutions have websites (Lupilya & Jung, 2015). Similarly, all ministries, departments, and agencies have their own websites (Sæbø, 2012). Websites are used by ministries, departments, agencies, and local government authorities to disseminate information to the public (Sæbø, 2012). The categories of information disseminated by each government institution through websites relate to the services each of them offers and the activities it performs. In general, websites increase access to information and enhance openness in the provision of public services (Tepani & Mushi, 2015).

In Tanzania, the governance system is divided into central and local government authorities. The country's central government has three organs namely; the executive, judiciary, and the legislature (UN, 2004). Each organ has specific roles: the executive is responsible for the daily administration of the state; the judiciary interprets the law and; the legislature makes laws of the land (Hussein, 2013). On the other hand, the local government

authority is sub-national; a semi-autonomous level of the government that provides its services to a specified area. It is the closest to the people and is responsible for serving both political and material needs of citizens in a particular area (Mongi, 2015).

Being the closest governance system to citizens, local government authorities have staff with different expertise to serve the needs of citizens. The expertise covers areas such as human resources and administration, urban planning, finance and trade, environment and sanitation, education, and community welfare. The other areas of expertise of the staff members are agriculture, cooperatives, livestock, works, planning, statistics, and monitoring. Through these experts, local government authorities can provide different services to meet the social-economic development needs of local communities.

Unfortunately, the number of these experts in different fields in local government authorities is very low compared to the number of local community members to be served (Manzi et al. 2012; Daniel & Elifadhili 2013). This necessitates the use of public media to meet many local community members at a given time. Some of the commonly used mass media tools include the print media (newspapers, leaflets, brochures, and magazines), electronic devices (radio, television, mobile phones, and computers) and internet-based tools like websites and the social media (Dennis 2009; Berger & Iyengar 2013; Klitmøller & Lauring 2013).

The print media has been used in Tanzania since 1888 when it was introduced by the colonialists (Sturmer, 1998). This medium has been used for dissemination of information to the mass in the form of newspapers, brochures, and leaflets (Siyao 2012; Komba & Lwoga 2016). However, the dissemination of print media is limited by poor and impassable roads mostly during the rainy season and the poor courier network (Magesa, Michael, & Ko, 2014). ICTs were introduced partly for the purpose of overcoming the limitations of print media but also lowering the costs of communication processes (Aker, 2011). ICTs offer new opportunities to provide more timely and low-cost information services to the intended audience (Aker, Ghosh, & Burrell, 2016). Depending on the level of interactivity and limiting time and geographical barriers, ICTs can be categorised into traditional and modern ones (World Bank, 2017). Radio, television, and telephone are examples of traditional ICTs while internet, computers, mobile phones, and websites fall under modern ICTs category. In Tanzania, both traditional and modern ICTs are used in enhancing access to information services. Several radio and television stations are broadcasting different programmes to inform the mass (TCRA, 2017). However, broadcasts through radio and television stations are time and geographical bound; they are only accessible during a specified time when they are broadcasted and within certain geographical locations in the ranges of their frequencies.

Unlike the information disseminated through radio and television, web-based information can be self-archived, accessed from any location, retrieved at information seekers' convenient time, and downloaded and saved on a device of choice for future use (Powell, Inglis, Ronnie, & Large, 2011). Moreover, websites support multimedia information resources such that users can access newspapers, leaflets, video, images, audio file, and radio and TV broadcasts through web pages (Gümüş & Okur, 2010). Web contents can be read from a distant and by more than one person at a time, downloaded, saved, shared, and read through multiple devices (Iwhiwhu, 2008). A computer or a mobile phone with web browser software and relevant software for reading multimedia contents are required for reading multimedia contents on websites.

The e-government initiative in Tanzania has helped district councils to have their websites (The United Republic of Tanzania, 2017). According to the E-Government Agency

performance report of 2017, the agency has managed to develop 185 websites for district councils. The general public is free to visit the websites to access information and other electronic services (The United Republic of Tanzania, 2017). On the websites, district councils can disseminate information to citizens in their areas of influence and beyond while citizens can use websites to meet their information needs. However, despite the importance of these websites, the extent to which they serve as useful platforms for facilitating citizens' access to information from local government authorities is not known, particularly in the Tanzanian context. Therefore, this paper has investigated the diversity, quantity, and relevancy of information found on local government authority websites in Tanzania. The primary objective of this paper was to assess content coverage of local government authority websites in Tanzania so as to determine if they are useful platforms for facilitating citizens' access to information from local authorities. Specifically, the study was set to:

- i. Determine the thematic areas covered by web contents on local government authority websites.
- ii. Identify how web contents are repackaged.
- iii. Identify types of information resources found on local government authority websites.
- iv. Determine the intended audience and aims of the web contents.

## **Literature review**

The internet and the web have changed the way information is created and disseminated. They are sources of information to many people. This is attributed to the low set up cost of websites and their capacity to host massive amounts of information resources at a time (Jadhav, Chembe, Strauss, & Van Niekerk, 2017). However, the usefulness of a website depends on its capacity to fulfill the needs of various target groups (Štefko, Fedorko, Bačík, & Fedorko, 2015). In all, websites are cheap and low-cost information sources accessed without time and geographical barriers.

Web-based services can enhance access to weather updates and market information and may facilitate money transfer (Anjum, 2015). Through the web, learning processes are enhanced with the help of online learning services through which learners may have virtual classrooms for their studies (Sanga, Kalungwizi, & Msuya, 2013). The web can also be used to provide health services through creating alerts on disease prevalence (Ahmadi, Nilashi, Shahmoradi, & Ibrahim, 2017) and help in making medical appointments (Zhao, Yoo, Lavoie, Lavoie, & Simoes, 2017). This implies that websites pave way for the development of a wide range of web-based services designed to serve intended audiences. These services can be designed based on the activity at hand or problem to be solved.

### ***Websites as sources of information***

Websites provide information to the intended audience. The information provided via websites is usually determined by the core activities performed and services provided by the organization owning the website. Websites must contain different categories of information relating to activities, strategies, and the identity of an organization (Pina & Tether, 2016). Scholars reveal that information services provided through websites have been useful in preventive health, provision of agricultural extension services, marketing, provision of education services, environment and natural resource conservation, and others (Sanga et al. 2013; AbouHashem et al. 2015; Meurk et al. 2016; Pina & Tether 2016).

In most countries, local government authorities are the closest governance system to citizens. These authorities provide information services related to their core roles and services directly to the society they serve. So, websites of local government authorities can easily facilitate the accessibility of relevant information to relevant communities because it is easy for these authorities to have adequate understanding on the needs of the communities they serve (Karkin & Janssen, 2014). To effectively provide information services, local government authority websites must have relevant and adequate web contents.

A website should be a one-stop information centre for providing up-to-date information about available services (Ryser & Halseth, 2011). Empirical evidence indicates that a government website is used by citizens for submitting applications or renewing licenses and contacting agency officials (Nam, 2012). A study involving 31 cities indicated that websites are known to offer possibilities of engaging citizens in politics and social decisions and providing access to a variety of cultural, educational, environmental, and civil services (Fietkiewicz, Mainka, & Stock, 2017). Empirical evidence from the European Union indicates that websites have improved the transparency and accountability of regional and local governments (Pina, Torres, & Royo, 2007). Therefore, these government websites are good examples of a one-stop-shop where different tasks can be carried out and where information from different institutions is made available (Fietkiewicz et al., 2017). This study is set to determine the content coverage on local government authority websites in Tanzania to determine whether they are one-stop information centres.

### ***Repackaging web contents into different media elements***

Information can easily be consumed if it is repackaged in media elements preferred by potential users. The process of information repackaging involves adding some values to information through information analysis, synthesis, editing, translating, and transforming its symbolic and media formats (Dongardive, 2013). The process involves selecting appropriate information resources needed by potential users, reprocessing and packaging them, and arranging them in the easiest usable way (Iwhiwhu, 2008). Repackaging contents in appropriate forms helps to easily address questions and concerns of specific groups of people (Kampf, Manor, & Segev, 2015). Well repackaged information is more consumable because users can easily comprehend and understand it. When repackaging information, it is important to take into consideration the literacy level of its potential users because the type of media used may influence their ability to comprehend and understand the message carried by the information resource (Iwhiwhu, 2008). Therefore, repackaging optimizes the usage of information resources hence increasing the level of usage of information resources regardless of the literacy level of information seekers (Okoroma, 2014).

Web contents may be repackaged in different media elements. They can be repackaged in text, image, animation, audio, and video media elements (Yusuf, Prasad, & Bhartu, 2016). Media elements differ in terms of richness (ability to convey understanding to person) (Brinker, Gastil, & Richards, 2015). Web contents in texts are the most common because most websites present their contents in text form. Texts have the least amount of richness when compared to other media elements. Usually, a picture is worth a thousand words (Pavithra, Aathilingam, & Prakash, 2019). Animations and videos can be highly effective tools for delivering contents because they have the highest amount of richness (Pavithra et al., 2019; Yusuf et al., 2016). Therefore, the richness of media elements is an important factor influencing the effectiveness of communication via local government authority websites. As

such, this study was set to determine the richness of media elements used in local government authority websites.

### ***Information needs of local community members***

Web contents are generated to meet the information needs of potential users of websites. An information need is a state expressed when one perceives that there is inadequate knowledge to solve a problem at hand (Mugwisi, Ocholla, & Mostert, 2014). Individuals have got different information needs which often change with time. Studies indicate that people's information needs are influenced by their occupations, ages, geographical locations, and levels of education, (Msoffe & Ngulube 2016; Buse & Zimmermann 2012; Reddy & Jansen 2008; González-González et al. 2007; Fodness & Murray 1999). Therefore, farmers may need information on land preparation, crop and animal husbandry practices, post-harvest handling of yields, agricultural credits, and marketing (Msoffe & Ngulube 2016; Ronald et al. 2014). On the hand, health professionals need information on illnesses or medical conditions and treatment methods (Clarke et al., 2016). They may also need information on causative agents of illnesses, signs, symptoms, and diagnosis of and treatment for illnesses, nonclinical and supportive interventions, and disease and exposure patterns (Revere et al., 2007).

Likewise, people involved in teaching, learning, and research need information on topics and subjects of interest, answers to difficult questions, and how to set up assessments (Marshall, 2012). Those in production industries and those doing business need information related to customers, consumer behaviours, quality of products, business opportunities, financial sources, current marketing trends, location, sources of raw materials/products, government regulations/policies, and competitors (Kassim, Baharuddin, Ariff, & Buyong, 2017). In the same way, information needs differ by age, level of education, and location of the information seeker. Therefore, information sources including websites must enhance access to different categories of information to meet people's varying information needs.

### **Research methodology**

The purpose of this study was to assess the content coverage of local government authority websites in Tanzania to determine if they can serve as a one-stop information centre for citizens. The units of analysis for this study were local government authority websites. A quantitative content analysis methodology was adopted by the study. This methodology views data as a representation of texts, images, and expressions created to be seen, read, interpreted and analysed (Krippendorff, 2004).

### ***Sampling and sample size***

The population for this study was made of local government authority websites in Tanzania. The local government authority in mainland Tanzania is made up of city councils, municipal councils, district councils, and town councils. The mainland Tanzania has six city councils, 21 municipal councils, 143 district councils, and 13 town councils. Due to the homogeneous nature of the city and municipals councils in the country, one city council and two municipal council websites were randomly selected for the study. Likewise, one district council website was selected from each of the seven zones. Similarly, basing on the homogeneous nature of town councils in the country, one town council website was randomly selected for the study. Websites of the following local government authorities were sampled for the study: Mwanza City Council, Morogoro and Songea Municipal Councils, Bagamoyo, Iringa, and Kasulu

District Councils. Others were: Karagwe, Kongwa, Masasi, and Moshi District Councils, and Korogwe Town Council.

### *Data collection*

Data collection for this study was conducted in March 2019. Content analysis methodology was used in collecting data from websites of selected local government authorities. Through content analysis, contents of written, recorded, or published information resources were determined via objective and systematic procedures (Kim & Kuljis, 2010). This study used a quantitative content analysis approach which usually makes valid and reliable inferences from the data to their context (Kim & Kuljis, 2010). This approach focuses on extracting information about relationships between objects from texts (Van Atteveltdt, Kleinnijenhuis, & Carley, 2007).

A codebook with seven columns was used for data collection (see Figure 1). The name of the local government authority was entered in column one, followed by the titles and keywords of web contents in the second column. The type of the web content was entered in the third column while the form of content was entered in the fourth column, language used in the fifth column, the focus of the content in the sixth column, and the aim of the content in the seventh column.

<b>Local Government Authority</b>	<b>Title and keywords</b>	<b>Type of web content</b>	<b>Form of web content</b>	<b>Language used</b>	<b>The focus of web content</b>	<b>Aim of content</b>
..... .....	.....	.....	..... ....	.....	.....	..... ..

**Figure:** Codebook

Due to the nature of the study, an inductive analysis technique was used to determine the titles and predominant keywords which later were used in developing themes of web contents. The language of the content was pre-determined and included the two official languages in Tanzania (Kiswahili and English). The perceived focus and aim of the contents were induced and determined after a thorough examination of the contents found in local government authority websites.

### *Data analysis*

Titles and keywords used were categorised into groups and those relating to each other formed a theme. The following themes were formed: agriculture, health, education, water and sanitation, general business, land and housing, infrastructure, and administration. After reviewing data on the perceived focus of the contents, it was found that the focus was either 'citizen' (if the content intended to provide some information to citizens) or 'institution' (if the content intended to provide some information to employees). The perceived aim of the contents was categorised into 'provide news', 'train' and 'law reinforcement'. To quantify the data collected, the frequency of occurrence of the themes, type of web contents, form of the content, language used, focus/direction of the contents, and aim of the contents were coded.

The Statistical Package for Social Sciences (SPSS) was used for data analysis. Due to the nature of the study, descriptive statistics were used to calculate frequencies, percentages, and means by content analysis. Analysed data have been presented in tables.

## Findings

### *Web contents by local government authority website*

Findings in Table 1 indicate that there were 794 web contents on the 11 selected websites of local government authorities. Among the 11 websites, the Mwanza City Council website had the highest (13%) number of web contents followed by the Kongwa District Council website with 11.5% of the web contents. The Songea Municipal Council website had 11% of the total web contents. Morogoro Municipal Council website had 9.9% of the web contents, Korogwe Town Council website had 9.3%, Masasi District Council had 9.2%, and the Karagwe District Council website had 8.2% of the total web contents.

**Table 1:** Web contents by local government authority website

<b>Name of a local government authority website</b>	<b>Frequency (%)</b>
Mwanza City Council	103 (13%)
Kongwa District Council	94 (11.5%)
Songea Municipal Council	87 (11%)
Morogoro Municipal Council	79 (9.9%)
Korogwe Town Council	74 (9.3%)
Masasi District Council	73 (9.2%)
Karagwe District Council	65 (8.2%)
Iringa District Council	62 (7.8%)
Bagamoyo District Council	57 (7.2%)
Moshi District Council	51 (6.4%)
Kasulu District Council	49 (6.2%)
<b>Total</b>	<b>794 (100%)</b>

Findings in Table 1 indicate further that the Iringa District Council website had 7.8% of the web contents while Bagamoyo District Council website had 7.2%. Moreover, Moshi District Council had 6.4% and Kasulu District Council website had 6.2% of the web contents.

### *Thematic areas covered contents in local government authority websites*

Findings in Table 2 show the frequency of web contents by thematic areas. Among the web contents, 29.3% were on administration, 19.6% on agriculture, 13.5% on general developmental issues, and 11.5% on education.

**Table 2:** Thematic areas covered by web contents

<b>Thematic area covered</b>	<b>Frequency (%)</b>
Administration	233 (29.3%)
Agriculture	156 (19.6%)
General development issues	107 (13.5%)
Education	91 (11.5%)
Health	76 (9.6%)

Finance and revenues	35 (4.4%)
Natural resources and environment	34 (4.3%)
Water, sanitation and hygiene	31 (3.9%)
Land and housing	28 (3.5%)
Infrastructure	03 (0.4%)
<b>Total</b>	<b>794 (100%)</b>

Moreover, 9.6% of the web contents were on health, 4.4% were on finance and revenues, 4.3% on natural resources and environment, and 3.9% on water, sanitation, and hygiene. The findings also indicate that 3.5% of the contents were on land and housing, and only 0.4% were on infrastructure.

### *Media elements into which web contents are repackaged*

Findings in Table 3 show that web contents were repackaged in text, video, and image forms. Among the web contents, majority (67%) were in text form, 18% were in video form, and 15% were in image form. The findings indicate that none of the web contents were in audio form.

**Table 3:** Media elements of web contents

<b>Form</b>	<b>Frequency (%)</b>
Text	532 (67%)
Images	143 (18%)
Video	119 (15%)
<b>Total</b>	<b>794 (100%)</b>

The findings in Table 3 indicate that majority of the web contents were in form of text while a few were in video form. The findings also indicate that there were no contents presented in audio and animations. Findings in Table 4 indicate that web contents from local government authority websites were repackaged in either Kiswahili or English.

**Table 4:** Language of web contents

<b>Language</b>	<b>Frequency (%)</b>
Kiswahili	788 (99.2%)
English	06 (0.8%)
<b>Total</b>	<b>794 (100%)</b>

Findings in Table 4 indicate that almost all contents (99.2%) were repackaged in Kiswahili while few (0.8%) were in English.

### *Types of web contents*

Findings in Table 5 indicate the types of web contents found on local government authority websites. Among the 794 web contents found on the 11 local government authority websites, 66.1% were news articles, 15.6% reports, and 8.6% were laws/directives.

**Table 5:** Types of web contents

<b>Form of the information resource</b>	<b>Frequency (%)</b>
News articles	517 (66.1%)
Reports	124 (15.6%)
Laws and directives	68 (8.6%)
Statistical data	29 (3.7%)
Training materials	26 (3.3%)
Maps	12 (1.5%)
Contracts	10 (1.3%)
Newsletters	04 (0.5%)
Speeches	04 (0.5%)
<b>Total</b>	<b>794 (100%)</b>

Moreover, 3.7% of the web contents were statistical data, 3.3% were training materials, and 1.5% maps. Furthermore, 1.3% of the web contents were contracts, 0.5% were newsletters and 0.5% were speeches.

#### *Aims of the web contents*

Findings in Table 6 indicate that web contents on local government websites aimed at providing news, training, and enforcing laws. The majority (92.4%) of the web contents were for providing news. Others few, 3.5% and 4% were for training and law enforcement purposes respectively. The findings in Table 6 also indicate that majority (86.3%) of the web contents on administration were for creating awareness, 5.6% for training purposes, and 8.2% for law enforcement. Among web contents on agriculture, majority (98.7%) were for providing news, 0.6% were for training purposes and 0.6% were for law enforcement. Likewise, among web contents on health, majority (98.7%) were for providing news, 1.3% were for training purposes, and none was for law reinforcement. Among web contents on education, majority (96.7%) were for providing news, 3.3% for training purposes, and none for law reinforcement. The findings indicate that all web contents (100%) on natural resources and environment found on the local government websites were for providing news.

**Table 6:** Aim of the content

<b>Thematic areas</b>	<b>Aim of the web content</b>		
	<b>Providing news</b>	<b>Providing training</b>	<b>Reinforce law</b>
Administration	201 (86.3%)	13 (5.6%)	19 (8.2%)
Agriculture	154 (98.7%)	01(0.6%)	01 (0.6%)
Health	75 (98.7%)	01(1.3%)	00 (00%)
Education	88 (96.7%)	03 (3.3%)	00 (00%)
Natural resources and environment	34 (100%)	00 (00%)	00 (00%)
Water, sanitation and hygiene	28 (90.3%)	03 (9.7%)	00 (00%)
Finance and revenues	34 (97.1%)	00 (00%)	01 (2.9%)
General development issues	97 (90.7%)	07 (6.7%)	03 (2.8%)
Land and housing	21 (75%)	00 (00%)	07 (25%)

Infrastructure	02 (66.7%)	00 (00%)	01 (33.3%)
<b>Total</b>	<b>734 (92.4%)</b>	<b>28 (3.5%)</b>	<b>32 (4.0%)</b>

According to the findings, majority (90.3%) of the web contents on water, sanitation, and hygiene were for providing news while few (9.7%) were for training purposes. It can further be seen from Table 6 that 97.1% of the web contents on finance and revenues were for providing news while few (2.9%) were for law enforcement. Moreover, among web contents on general development issues, 90.7% were for providing news, 6.7% for training purposes and 2.8% for law enforcement. Furthermore, majority (75%) of the web contents on land and housing were for providing news while few (25%) were for law enforcement. Likewise, 66.7% of the web contents on infrastructure were for providing news and 33.7% for law enforcement.

### *The intended audience of the web contents*

Findings in Table 7 indicate that web contents were both for the local communities and the authorities themselves. Specifically, the findings indicate that more web contents (73.4%) were for the local communities while few (26.4%) were for the authorities. Findings in Table 7 indicate that majority (88.5%) of the web contents on agriculture were intended to reach local communities while few (13.7%) were for the authorities. Among web contents on health, majority (96.1%) were for local communities while few (3.9%) were for the authorities.

Likewise, among the web contents on education, majority (91.2%) were for the local communities while few (8.8%) were for the authorities. Moreover, among web contents on natural resources and environment, majority (94.1%) were for the local communities and few (5.9%) were for the authorities. The findings further indicate that all (100%) the web contents on water, sanitation, and hygiene aimed at reaching local communities.

**Table 7:** Intended audience of the web content by thematic area

Thematic areas	Frequency by audience category	
	Local community	Institution
Agriculture	138 (88.5%)	18 (11.5%)
Health	73 (96.1%)	03 (3.9%)
Education	83 (91.2%)	08 (8.8%)
Natural resources and environment	32 (94.1%)	02 (5.9%)
Water, sanitation and hygiene	31 (100%)	00 (00%)
Finance and revenues	34 (97.1%)	01 (2.9%)
General development issues	86 (80.4%)	21 (19.6%)
Land and housing	26 (92.9%)	02 (7.1%)
Administration	78 (33.5%)	155 (66.5%)
Infrastructure	02 (66.7%)	01 (33.3%)
<b>Total</b>	<b>583 (73.4%)</b>	<b>211(26.6%)</b>

The study has also found that majority (97.1%) of the web contents on finance and revenues were for local communities while few (2.9%) were for the authorities. Apart from that, 80.4% of the web contents on general development issues were for local communities while 19.6%

were for the authorities. Likewise, majority (92.9%) of the web contents on land and housing were for local communities while 7.1% were for the authorities. The results also show that 33.5% of the web contents on administration were for local communities while 66.5% were for the authorities themselves. Moreover, 66.7% of the web contents on infrastructure were for local communities while 33.3% were for the authorities.

## Discussion of the findings

Findings in Table 1 indicate that there were 794 web contents on the 11 local government authority websites involved in the study. Some websites had more web contents than others. These findings imply that each website had an average of 72 web contents. Local government authority websites are sources of information for local communities and staff of the authorities. As information sources, they must provide the required information to users. Unfortunately, these websites have few web contents. The limited number of web contents may limit their potential as information sources. Usually, information sources with few information resources discourage users because they may not access what they need to meet their information needs (Ford & Korjonen, 2012). Therefore, local government authority websites have to present adequate contents on different subjects to meet the varied information needs of customers.

Findings in Table 1 also indicate that websites from urban local government authorities had slightly more web contents than those found in semi-urban areas. This may be explained by better access to ICT resources (ICT tools and personnel) in urban areas than in semi-urban areas. This is in line with a study by Choung & Manamela (2018) which found that differences in terms of access to ICT resources between urban and semi-urban areas affect the contribution of rural and semi-urban areas in generation and the usage of online information resources.

Web contents from local government authority websites were related to activities performed by local government authorities. These activities were carried out by different departments of local government authorities. Findings in Table 2 indicate that the activities were categorised into 10 thematic areas (with 794 web contents). These findings show that there were 79.4 web contents for each thematic area. Moreover, this implies that each local government authority website had an average of seven web contents per thematic area. This, in turn, tells that very few web contents were generated under each thematic area. It also implies that local government authority websites had limited ability to meet the information needs of the communities they serve.

Findings in Table 3 indicate that web contents were in text, video, and image forms. These are common types of electronic contents used for presenting information to intended audiences. However, majority of web contents were in text form. Compared to images and video forms, contents in texts are easily created, shared, and presented (Gümüş & Okur, 2010). Therefore, local government authorities created more contents in texts because it is the easiest way to present electronic information. However, texts are less rich in terms of being successful in conveying information to the intended audience. Contents in video and image are richer than those in texts (Jiang & Benbasat, 2008). Therefore, local government authorities had less rich contents as messages carried in texts might be hardly understood by some users.

Almost all web contents were repackaged in Kiswahili. In Tanzania, both Kiswahili and English are official languages; however, Kiswahili is a national language spoken by every citizen while English is spoken by a few and mostly by the elite. Repackaging web contents

in a language most known by the intended audience makes it easy for the audience to understand the messages carried by information resources (Armstrong & Ferguson, 2010).

Findings in Table 5 indicate that web contents on local government authority websites were in the form of news articles, reports, laws and directives, statistical data, training materials, maps, contracts, newsletters, and speeches. These are the common types of information resources found in most organizations in both print and electronic formats.

Findings in Table 6 indicate that web contents aimed at providing news, for training, and for enforcing laws. However, most of the web contents were for providing news. News is the information or reports about recent and important events (Cambridge University, 2016). News creates awareness about recent events and lets people know about what has recently happened. News is different from scholarly information because the later contains serious and detailed information on a subject of interest (Cambridge University, 2016). While news is meant to provide general information about a recent event, scholarly information provides adequate knowledge on a topic of interest (Oxford University, 2017). For local government authority websites to be useful sources of information, they must disseminate information that may help local communities in performing their day to day activities instead of just reporting what has happened. They should contain information resources that can support the livelihoods of the local communities in their local area of authority.

Findings in Table 7 indicate that web contents targeted both local communities and then authorities themselves. However, more contents were for informing the communities served by local government authorities. Unfortunately, most of the contents were for providing news rather than subject contents useful for supporting day to day operations of the community members. Conducting information needs assessment can help local government authorities have an adequate understanding of the specific information needed by local communities and other users of their websites.

### **The implication of the findings**

Local government authorities respond to and solve the day to day challenges facing local communities. Websites eliminate the challenges of time and location when it comes to accessing multiple services. These findings have great implication on the future of local government authority in terms of the coverage, relevance of contents, and the richness of the media elements into which contents are repackaged. The findings will help content developers know the coverage of the contents concerning the needs of the communities they serve and wisely decide on the media elements to use.

### **Conclusion**

Despite focusing their contents on local communities, the number of web contents in local government authority websites is too low, making it impossible for the websites to be one-stop information centres. This may discourage users from visiting such sites hence depriving local communities of services offered through them. Keeping in mind that most local government authorities are understaffed, instead of using websites to complement the provision of services to local communities, the platforms were being used for reporting recent events. Moreover, the majority of the few available contents are repackaged in less rich media which may limit some local community members' understanding the carried messages. It is therefore recommended that local government authorities should have more ICT resources for generating and repackaging web contents. They should conduct information needs assessments to establish an understanding of what users of their websites need in terms

of contents. They also should generate adequate web contents because users of their websites have varying information needs. Lastly, it is recommended that contents on the websites should be repackaged in rich media because media richness tells more about the ability to convey an understanding of the content.

## References

- Ahmadi, H., Nilashi, M., Shahmoradi, L., & Ibrahim, O. (2017). Hospital Information System adoption: Expert perspectives on an adoption framework for Malaysian public hospitals. *Computers in Human Behavior*, 67: 161-189.
- Aker, J. C. (2011). Dial 'A' for agriculture: A review of information and communication technologies for agricultural extension in developing countries. *Agricultural Economics*, 42(6), 631–647. <https://doi.org/10.1111/j.1574-0862.2011.00545.x>
- Aker, J. C., Ghosh, I., & Burrell, J. (2016). The promise (and pitfalls) of ICT for agriculture initiatives. *Agricultural Economics (United Kingdom)*, 47: 35–48. <https://doi.org/10.1111/agec.12301>
- Anjum, R. (2015). *Design of mobile phone services to support farmers in developing countries*. Master thesis. University of Eastern Finland. <https://doi.org/http://dx.doi.org/10.1016/j.jelectrocard.2013.02.013>
- Armstrong, E., & Ferguson, A. (2010). Language, meaning, context, and functional communication. *Aphasiology*. <https://doi.org/10.1080/02687030902775157>
- Brinker, D. L., Gastil, J., & Richards, R. C. (2015). Inspiring and Informing Citizens Online : A Media Modalities. *Journal of Computer-Mediated Communication*, 20: 504–519. <https://doi.org/10.1111/jcc4.12128>
- Cambridge University. (2016). *Cambridge Dictionary*. Cambridge: Cambridge Univeristy Press.
- Choung, M. E., & Manamela, M. G. (2018). Digital Inequality in Rural and Urban settings: Challenges of Education and Information in South African Youth Context. *Bangladesh E-Journal of Sociology*, 15(2), 186–197. Retrieved from <http://www.bangladeshsociology.org/Digital15.2.12.pdf>
- Clarke, M. A., Moore, J. L., Steege, L. M., Koopman, R. J., Belden, J. L., Canfield, S. M., ... Kim, M. S. (2016). Health information needs, sources, and barriers of primary care patients to achieve patient-centered care: A literature review. *Health Informatics Journal*. <https://doi.org/10.1177/1460458215602939>
- Daniel, E. (2013). *Assessment of agricultural extension services in Tanzania. A case study of Kyela , Songea Rural , and Morogoro Rural Districts*. Internship Report in Plant Sciences. Crops Systems Analysis Group. Wageningen University and Research Centers (WUR). Retrieved from <http://www.parasite-project.org/wp-content/uploads/2013/12/Elifadhili-2013-Internship-report-final.pdf>
- Dennis, A. R. (2009). Media Richness Theory. *Encyclopedia of Communication Theory*. <https://doi.org/10.4135/9781412959384>
- Dongardive, P. (2013). Information Repackaging in Library Services. *International Journal*, 2(11), 204–209. Retrieved from <http://www.ijsr.net/archive/v2i11/MDIwMTM0MDM=.pdf>
- Etienne, Z. (2006). Emergence in the World Wide Web, 1–11.
- Fietkiewicz, K. J., Mainka, A., & Stock, W. G. (2017). eGovernment in cities of the knowledge society. An empirical investigation of Smart Cities' governmental websites. *Government Information Quarterly*, 34(1), 75–83.

- <https://doi.org/10.1016/j.giq.2016.08.003>
- Fodness, D., & Murray, B. (1999). A model of tourist information search behavior. *Journal of Travel Research*. <https://doi.org/10.1177/004728759903700302>
- Ford, J., & Korjonen, H. (2012). Information needs of public health practitioners: A review of the literature. *Health Information and Libraries Journal*. <https://doi.org/10.1111/hir.12001>
- Gümüş, S., & Okur, M. R. (2010). Using multimedia objects in online learning environment. In *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2010.03.838>
- Hussein, T. (2013). *The Dimensions of the Doctrine of Separation of Power Towards Promotion of Good Governance in Tanzania the Dimensions of the Doctrine of Separation of Power Towards Promotion of Good Governance*. Mzumbe University.
- Iwhiwhu, E. B. (2008). Information Repackaging and Library Services: A Challenge to Information Professionals in Nigeria Enemute Basil Iwhiwhu Delta State University. *Library Philosophy and Practice*, 2008, 1–6.
- Jadhav, A. S., Chembe, D. K., Strauss, J. M., & Van Niekerk, J. L. (2017). Status of Solar Technology Implementation in the Southern African Developing Community (SADC) Region. *Renewable and Sustainable Energy Reviews*. <https://doi.org/10.1016/j.rser.2017.01.113>
- Jiang, Z., & Benbasat, I. (2008). THE EFFECTS OF PRESENTATION FORMATS AND TASK COMPLEXITY ON ONLINE CONSUMERS ' PRODUCT TASK COMPLEXITY ON ONLINE CONSUMERS '. *MIS Quarterly*, 31(3), 475–500.
- Kampf, R., Manor, I., & Segev, E. (2015). Digital Diplomacy 2.0? A Cross-national Comparison of Public Engagement in Facebook and Twitter. *The Hague Journal of Diplomacy*. <https://doi.org/10.1163/1871191X-12341318>
- Karkin, N., & Janssen, M. (2014). Evaluating websites from a public value perspective: A review of Turkish local government websites. *International Journal of Information Management*. <https://doi.org/10.1016/j.ijinfomgt.2013.11.004>
- Kassim, N. A., Baharuddin, K., Ariff, N. Z. Z. M., & Buyong, S. Z. (2017). Business Information Needs of Small and Medium-Sized Enterprise Managers. *International Journal of Academic Research in Business and Social Sciences*. <https://doi.org/10.6007/ijarbss/v6-i10/2343>
- Kim, I., & Kuljis, J. (2010). Applying Content Analysis to Web-based Content, 369–375.
- Krippendorff, K. (2004). *Content Analysis - An introduction to its methodology*. *Physical Review B* (Vol. 31). <https://doi.org/10.1103/PhysRevB.31.3460>
- Lupilya, E. C., & Jung, K. (2015). E-Government Transformation in Tanzania: Status, Opportunities, and Challenges, 30(1), 147–184.
- Magesa, M. M., Michael, K., & Ko, J. (2014). Agricultural Market Information Services in Developing Countries: A Review. *Advances in Computer Science: An International Journal*. [https://doi.org/10.1016/S0014-5793\(98\)01575-0](https://doi.org/10.1016/S0014-5793(98)01575-0)
- Marshall, A. (2012). Dissertations into practice. *HEALTH INFORMATION AND LIBRARIES JOURNAL*. <https://doi.org/10.1111/j.1471-1842.2012.00987.x>
- Meurk, C., Leung, J., Hall, W., Head, B. W., & Whiteford, H. (2016). Establishing and Governing e-Mental Health Care in Australia: A Systematic Review of Challenges and A Call For Policy-Focussed Research. *Journal of Medical Internet Research*. <https://doi.org/10.2196/jmir.4827>
- Mongi, J. (2015). *Perception of Local Government Authorities ' Stakeholders on Centralised*

*Recruitment and Selection Function in Mbeya District Council , Perception of Local Government Authorities ' Stakeholders on Centralised Recruitment and Selection Function in Mbeya Di.* Mzumbe University.

- Mugwisi, T., Ocholla, D., & Mostert, J. (2014). An overview of the information needs of agricultural researchers and extension workers in zimbabwe. *Libri*, 64(1), 85–108. <https://doi.org/10.1515/libri-2014-0008>
- Nam, T. (2012). Citizens' attitudes toward Open Government and Government 2.0. *International Review of Administrative Sciences*, 78(2), 346–368. <https://doi.org/10.1177/0020852312438783>
- Okoroma, F. N. (2014). Information repackaging to target groups for a fee : A strategic plan, 3(5), 308–315. <https://doi.org/10.11648/j.edu.20140305.17>
- Oxford University. (2017). *Oxford English Dictionary Online*. Oxford: Oxford University Press. Retrieved from <http://dictionary.oed.com>
- Pavithra, A., Aathilingam, M., & Prakash, S. (2019). Multimedia and its applications. *International Journal for Research and Development in Technology*, 10(5), 271–276.
- Pina, K., & Tether, B. S. (2016). Towards understanding variety in knowledge intensive business services by distinguishing their knowledge bases. *Research Policy*. <https://doi.org/10.1016/j.respol.2015.10.005>
- Pina, V., Torres, L., & Royo, S. (2007). ARE ICTs IMPROVING TRANSPARENCY AND ACCOUNTABILITY IN THE EU REGIONAL AND LOCAL GOVERNMENTS ? AN EMPIRICAL STUDY. *Public Administration*, 85(2), 449–472.
- Powell, J., Inglis, N., Ronnie, J., & Large, S. (2011). The characteristics and motivations of online health information seekers: Cross-sectional survey and qualitative interview study. *Journal of Medical Internet Research*. <https://doi.org/10.2196/jmir.1600>
- Revere, D., Turner, A. M., Madhavan, A., Rambo, N., Bugni, P. F., Kimball, A., & Fuller, S. S. (2007). Understanding the information needs of public health practitioners: A literature review to inform design of an interactive digital knowledge management system. *Journal of Biomedical Informatics*. <https://doi.org/10.1016/j.jbi.2006.12.008>
- Ronald, B., Dulle, F., & Honesta, N. (2014). Assessment of the Information Needs of Rice Farmers in Tanzania: a Case Study of Kilombero District, Morogoro. *Library Philosophy & Practice*, 1–33. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=97212802&site=ehost-live>
- Ryser, L. M., & Halseth, G. R. (2011). Communication Mechanisms for Delivering Information to Seniors in a Changing Small Town Context. *Journal of Rural and Community Development Communication*, 6(1), 49–69.
- Sæbø, Ø. (2012). E-government in Tanzania : Current Status, 198–209.
- Sanga, C., Kalungwizi, V. J., & Msuya, C. P. (2013). Building an agricultural extension services system supported by ICTs in Tanzania: Progress made, Challenges remain. *International Journal of Education and Development Using Information and Communication Technology*, 9(1), 80–99. <https://doi.org/10.1007/s00445-010-0387-2>
- Sife, A. S., & Msoffe, G. E. (2013). User-perceived Quality of Selected Tanzanian Public University Websites. *Library Philosophy and Practice*.
- Siyao, P. O. (2012). Barriers in a Ccessing Agricultural Information in Tanzania With a Gender Perspective : the Case S Tudy of S Mall -Scale S Ugar Cane. *Electronic Journal of Information Systems in Developing Countries*, 1–19.
- Smith, B. (2006). *Creating Web Pages for dummies*. <https://doi.org/hdl.handle.net/10400.19/2273>
- Štefko, R., Fedorko, I., Bačík, R., & Fedorko, R. (2015). AN ANALYSIS OF PERCEIVED TOPICALITY OF WEBSITE CONTENT INFLUENCE IN TERMS OF

- REPUTATION MANAGEMENT. *ANALIZA POSTRZEGANEJ AKTUALNOŚCI WPŁYWU ZAWARTOŚCI STRONY INTERNETOWEJ POD WZGLĘDEM ZARZĄDZANIA REPUTACJĄ*. <https://doi.org/10.1016/bs.pbr.2015.06.001>
- Sturmer, M. (1998). *The Media History of Tanzania*. Dar es Salaam: Ndanda Mission Press.
- TCRA. (2017). Licensed Operators and Contractors: Retrieved 18 October 2017, from <https://www.tcra.go.tz/index.php/licensing/licensed-operators>
- Tepani, N., & Mushi, A. (2015). *Improving Citizens ' Access to Information on Public Services in Tanzania*. Retrieved from [http://live-ogp.pantheonsite.io/sites/default/files/case-study\\_Tanzania\\_Nifanyeje\\_0.pdf](http://live-ogp.pantheonsite.io/sites/default/files/case-study_Tanzania_Nifanyeje_0.pdf)
- UN, (United Nations). (2004). *United Republic of Tanzania: Public Administration Country Profile*.
- United Republic of Tanzania, U. (2017). *E-Government Agency Performance 2012/13-2016/17*.
- Van Atteveldt, W., Kleinnijenhuis, J., & Carley, K. (2007). RcaDF : Towards a Relational Content Analysis Standard. In *Proceedings of the 4th European conference on The Semantic Web: Research and Applications* (pp. 1–22). [https://doi.org/10.1007/978-3-540-72667-8\\_16](https://doi.org/10.1007/978-3-540-72667-8_16)
- World Bank. (2017). *ICT in agriculture: connecting smallholders to knowledge, networks, and institutions. Updated edition*. Washington DC: World Bank. <https://doi.org/10.1596/978-1-4648-1002-2>
- Yusuf, J., Prasad, D., & Bhartu, D. (2016). The Integration of Multimedia for Online and Blended Learning at the University of the South Pacific. In *Eight Pan Commonwealth Forum on Open Learning (PCF8)*,. Kuala Lumpur, Malaysia.: Pan Commonwealth Forum on Open Learning (PCF8). Retrieved from <http://oasis.col.org/bitstream/handle/11599/2499/PDF?sequence=4>
- Zhao, P., Yoo, I., Lavoie, J., Lavoie, B. J., & Simoes, E. (2017). Web-based medical appointment systems: A systematic review. *Journal of Medical Internet Research*. <https://doi.org/10.2196/jmir.6747>