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## **Coverage of Information and Communication Technology News by Selected Newspapers in Tanzania**

Emmanuel Frank Elia  
Information Studies Programme, College of Social Science, University of Dar es Salaam  
Email: elia@udsm.ac.tz, mklmakala@yahoo.com

Obadia Shadrack Buhomoli  
Directorate of Library Services  
University of Dodoma  
Email: obadia.buhomoli@udom.ac.tz, obadiashadrack16@gmail.com

### **Abstract**

This study explored media coverage of Information and Communication Technology in Tanzania's four print media published between 2009 and 2013. Specifically, the study aimed at; assessing the trend in covering ICTs information from 2009-2013, identifying ICTs themes covered and exploring the geographic coverage of ICTs information from 2009-2013. Data were collected using informetrics method. Microsoft Excel software 2007 and content analysis were used to analyse data. Results revealed 823 articles were published on ICTs in five years. Additionally, despite variation trends in coverage, the year 2013 had highest coverage. Results showed ICTs themes related to mobile technologies were highly reported compared to others. Results indicate international news on ICTs to be highly reported compared to local news. The study concludes that there is still low coverage of ICTs information in Tanzania newspapers. It recommends increased coverage of ICTs information in media by privately owned newspapers and reporting in local language.

### **Key words**

ICT coverage, ICT information, ICT themes, ICT policy, Newspapers coverage, Tanzania

### **Introduction**

Information and Communication Technologies (ICTs) have been defined as the processing, handling and sharing of information using texts, graphics, images, and instructions by using electronic devices such as cameras, computers and telephones (Bello, Emmanuel & Busari, 2013). Over the past two decades, ICTs has become one of the key components in global poverty eradication. ICTs has brought significant impact on a number of sectors which include banking, education, infrastructures, health, agriculture, mass communication, tourism and health it has also improved efficiency and cost saving (Tjoa & Tjoa, 2016)



The importance of ICTs has been emphasized by the United Nations (UN) through the UN sustainable goals.

The goals aim at promoting the implementation of resilient technological infrastructures in order to encourage inclusive and sustainable industrialization and innovations (UN, 2017). ICTs promotes SDGs as it makes easier and cheaper the flow of information and can improve competitiveness, productivity as well as enhance efficiencies (International Telecommunication Union {ITU}, 2017). In fact, ICT has been seen as an essential component which can promote the attainment of all sustainable goals which are to be implemented by 2030. Science, Information and Innovation have been pointed out as additional tools for that achievement. Of recent, these fields of study have embraced and relied on ICTs for their development and in fostering sharing and applicability of knowledge. The UN has lately given attention on ICTs in supporting Science, Technology and Innovation for inclusive development (UN, 2017). ICTs has therefore become a tool for the timely and effective dissemination of information and knowledge concerning key issues on SDGs (Tjoa & Tjoa, 2016). ITU (2017), indicated that, although in the past decade the global economic growth has been observed to be relatively low, the situation could have been shoddier if the usage of ICTs was not in place.

Global trends show that ICT was initially adopted in developed countries which include the United States of America (USA), followed by Europe, Asia and Africa. Lately, ICT has been used in many countries across the globe and has been steering economies (Dutta et al., 2015; Qiang et al., 2004). In Africa, there have been a number of initiatives to adopt and use ICTs for development. For instance, during the Abuja declaration of 2010, African countries agreed to spear head the establishment of ICT broadband in member countries, to increase the budget for ICT infrastructures, to emphasize the development of ICT policies to guide ICT issues and also agreed on the migration from analogue to digital terrestrial (African Union [AU], 2010).

In Tanzania, where this study was conducted, there were a number of initiatives to establish and promote ICT use for sustainable growth of the country. One of the key efforts in the growth and progress of ICT in the country include the establishment of the National ICT policy. The policy became operational in 2003 and was revised in 2016 (The United Republic of Tanzania, 2003). While, generally the first Tanzania ICT policy of 2003 aimed at addressing the 2025 millennium development goals and Tanzania vision, the revised one of 2016 leaned more in application of ICT towards transforming the country into a knowledge-based society. Other efforts undertaken by the government of United Republic of Tanzania in ICT development include the establishment of institutions dealing with ICT such as the Ministry for Telecommunications, Tanzania Communication Regulatory Authority (TCRA), Tanzania Education Research Network (TERNET) and Commission for Science and Technology (COSTECH) (Anatory, 2017; Mulamula, 2016). The ICT institutional framework among other benefits, paved way for the formulation of ICT policy for the basic education in 2007, the establishment of e-government in 2009, establishment of government website, the establishment of national open data portal and more others (Lubua & Maharaj, 2012). Resultantly, the availability and operability of ICT policy Coverage of Information and Communication Technology News by Selected Newspapers in Tanzania Emmanuel Frank Elia & Obadia Shadrack Buhomoli

has become an important tool in the development of ICT infrastructures in almost every sector by improving work efficiency, information and knowledge management and promote electronic business transactions and hence improving the living standards of Tanzanians (Anatory, 2017; Esselaar & Adam, 2013).

For more than a decade since the inception of ICT policy, Tanzania has experienced tremendous changes in ICT sector. The notable changes include the installation of National ICT broadband fibre optic cable which was completed in 2016 (Sedoyeka & Sicilima, 2016). This was the great milestone in Internet usage in Tanzania and has extensively transformed the structures, processes and performance of people and institutions (Mulamula, 2016; Sedoyeka & Sicilima, 2016). It has positively improved the telecommunication industry and promoted media use among citizens (Anatory, 2017; Media Council of Tanzania, 2018; Sedoyeka & Sicilima, 2016). For instance, the number of internet and mobile phone has boomed from 39,808,419 in 2015 to 42,961,449 in 2018 (MCT, 2018).

Media plays big role in the dissemination of the timely information and creating public awareness. In such, the media informs the audiences, raises awareness, educate, and impart knowledge on various developmental issues including those on ICTs. The information on ICT disseminated through media is crucial in informing people on various technologies and their applicability for inclusive and sustainable development (International Telecommunication Union, 2017; Chukwu, 2018). A variety of media platforms are used for the dissemination of information which includes that on ICT. The media disseminate information in two major formats, print and electronic.

Print media which include newspapers plays a great role in the dissemination of information. They are highly preferred because they are permanent, offer easy access and storage to the reader, allows flexibility of a reader by going back and forth while reading, it gives the user a flexibility in reading and tend to have a comprehensive coverage on certain subjects (E. Elia, 2018; Siyao & Sife, 2018).

Media have a very significant role in modelling and shaping the individual application of ICT (Geiß, Jakob & Quiring, 2012). They act as a tool for raising awareness and have the contributions to civic life and they also promote social change. Media have the ability of agenda setting and influence the society on the focus of key societal issues including the usage of ICTs. (Hodgetts & Chamberlain, 2006; White & Scheb, 2000). A number of media studies related to ICT have been conducted by scholars and institutions in different places. These studies include those by Suleimanu and Funmilola (2016) in Nigeria; United Nations Educational Scientific and Cultural Organization (2011) in Uganda; Maryann and Udejah (2014) in Nigeria; Khattak, Nasir and Sultan (2012) in Pakistan and Chukwu (2018) in Nigeria. Despite these studies exploring on ICT, they did not cover specifically on newspapers coverage of ICT issues. In addition, despite the recently observed remarkable changes in the ICT industry such as growth of internet and mobile phone use in Tanzania (Anatory, 2017; MCT, 2018) there has been insufficient studies on media to assess the coverage on ICT issues. A number of studies were conducted on media in Tanzania. These studies explored a number of topics such as politics (Killungu, 1998); agriculture (Ogessa



& Sife, 2017); climate change (Elia, 2018; Siyao and Sife, 2018; Elia 2019a; Elia 2019b); human rights (Kallaghe, 1992). Despite their permanence value and reaching a wider audience, studies on newspapers coverage in ICT in Tanzania are limited and not adequately documented. This study therefore sought to specifically assess newspapers trend in covering ICT information from 2009-2013; identify ICT themes covered from 2009-2013; explore geographic coverage of ICT information from 2009-2013.

## **Research Questions**

This study sought to answer the following research questions;

- i. What is the trend in covering ICT information from 2009-2013?
- ii. Which ICT themes were covered from 2009-2013?
- iii. What is the geographic coverage of ICT information from 2009-2013?

## **Literature Review**

This section reviews literature on media and ICT awareness, media coverage and ICTs, global coverage of information on ICT and factors influencing media coverage of information of ICT.

### ***Media Coverage and ICT Awareness***

Mikami, Takeshita and Kawabata, (1998) asserted that, there is a direct link between media coverage and public awareness. These scholars observed that the more issues are covered the more the public become aware on the issues the media covers. Ross (2011) conducted a comparative study for American and Spanish students on knowledge and awareness concerning Brazil issues. The study revealed that American students were very much aware on Brazil matters contrary to those from Spain. The key factor for the difference was that media in America were reported to cover more on Brazilian issues as compared to media in Spanish. Moreover, studies by Arlt, Hoppe and Wolling, (2011); Ghanouni, Wagner and Waller (2019); Sampei and Aoyagi-usui (2009) also showed media to have an influence to the public awareness of various issues such as climate change and ICT.

### ***Impact of Media Coverage on ICT Usage***

Media plays a very significant role in shaping the individual application of ICT (Geiß et al., 2012). According to Hodgetts and Chamberlain (2006), media can also act as a tool for increasing contributions in civic life and promote social change. Media has the ability of setting the agenda and can make the community focus on key societal issues including the ICT application and usage (White & Scheb, 2000). According to Slopen (2007) and Sharma and Sturges (2007), the media plays a pivotal role in raising awareness on ICT issues at both macro and micro level. According to these scholars, at the macro level, media can be used to set agenda and influence decisions about ICT policies and ICT infrastructures. On the other hand, at the micro level, media have an impact on people's interactions on how they have self-conceptions on ICTs. According to Hodgetts and Chamberlain (2006) media plays an integral part in policy formulation and in most cases they

reflect public opinion, so their coverage may influence formulation or amendments of policies including ICT policy. It is imperative to explore media coverage of ICT because, the way ICT topics covered can reflect how the public perceive and understand ICT issues (Geiß et al., 2012; Lubua & Maharaj, 2012). The topics covered on media can also show the gap in knowledge in understanding ICT.

Dissemination of Information related to ICT is crucial as it can enable the community to understand the scope on ICT applications but also the socio-economic impact. Siyao and Sife (2018) noted that attention given to newspaper coverage has an influence on readers' behaviour and understanding.

### ***Factors Influencing Media Coverage of Information***

Kim, Scheufule and Shanahan (2002) highlighted training as the major factor that affects coverage of information on media. Elia(2019b) found content verification, editorial policy and online information resources to be key factors influencing the coverage of information by newspapers. Uniqueness and attractiveness of a story also tend to influence coverage of ICT related information. Al-Hasani (2008) asserted that journalists are likely to cover news that are perceived to be unique. As such, perceive unique and attractive headlines tend to be positioned in the front page. Kolf and Griswold (2013) explained other factors such as subject matter, trending news, political pressure and usefulness of the news as factors influencing coverage. Other factors include media house culture, nature of the newspaper and chief editor's perception were also raised as the factors that may affect the news coverage (Kolf and Griswold, 2013). Other identified factors which affect media coverage of ICT information include news accuracy, relevancy to the audiences, public interested and entertaining values(Griffiths,2010). Suleimanu and Funmilola(2016) observed journalists knowledge and competences on ICTs, occurrences of ICT events, audiences interest on ICTs and abnormal ICT events such as ICT crimes or ICT innovations are some of the factors which affect the coverage of ICTs by media.

Generally, literature reviewed globally indicate studies focused more on ICT as the means of promoting media coverage and the impact of ICT on the media industry (See Chukwu, 2018; Geiß et al., 2012; Hodgetts & Chamberlain, 2006; Khattak et al., 2012; Malik, 2018; Maryann & Udejah, 2014) and little on how media have covered ICTs. The study sought to research and add new knowledge on media coverage of ICT by specifically exploring the selected media in Tanzanian.

### **Methodology**

The study applied quantitative and qualitative methods in investigating the research inquiry. Specifically informetrics methods which is the study of quantitative aspects of documentation and information(Wormell, 1998)was used to collect data. Informetrics may also be described as a statistical and mathematical study of patterns in information and documentation (Onyancha, Ocholla and Njiraine, 2015). Data was collected from March to August2019. A total of 823 articles



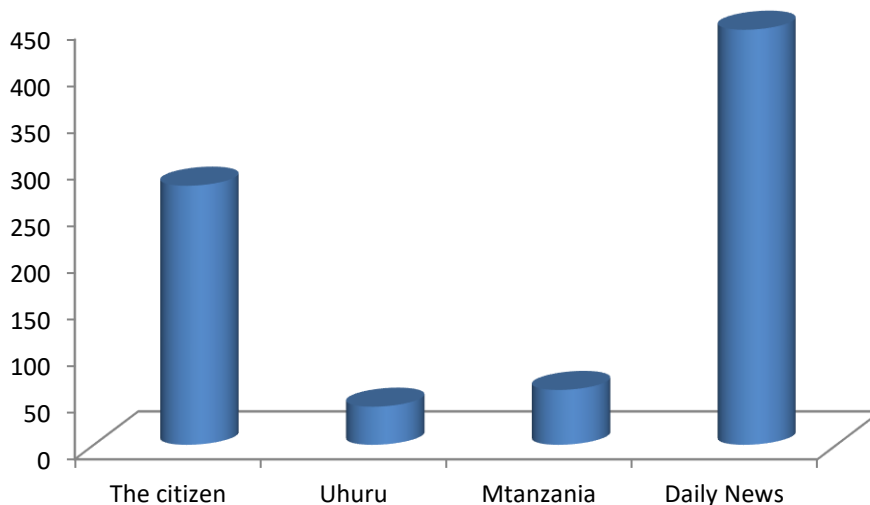
were analyzed from the four Tanzanian newspapers namely Citizen, Daily News, Uhuru and Mtanzania. Purposive sampling was used to select these newspapers. Of the four newspapers, two, that is, The Citizen and Mtanzania are privately owned while Daily News and Uhuru are owned by the government. These newspapers were selected based on coverage, geographical distribution, country circulation, duration of existence, publishing language and ownership (E. Elia, 2018; Siyao & Sife, 2018). The duration of 2009 to 2013 was purposively selected based on the fact that it was five years after the inception of the National ICT policy (2003). The period is sufficient for the public which include the media to be aware of ICT and study its impact in coverage in Tanzania media. Moreover, content analysis was used to delineate themes, type of news article coverage such as editorial articles, news story, letter to the editor, column/commentary and position of ICT articles in newspapers. Analysis of media coverage of ICT followed the ways analysed by Di Gregorio et al. (2012) and Neuman (2014) which portrayed the predefined codes for content analysis. The quantitative data generated from content analysis coded information was analysed using Microsoft Excel 2007.

### Results and Discussion

The study aimed at assessing the trend in covering ICT information; identifying the ICT themes covered and exploring geographic coverage of ICT information from 2009-2013.

#### *Trends in covering ICT information in Tanzania*

The study sought to investigate the trend in covering ICT information from 2009-2013. The study indicated the majority (54%) of articles on ICT were covered by the Daily news followed by 33.8% covered by the Citizen. Moreover Mtanzania covered 7.2% and least were covered by Uhuru (5%) See figure 1.



**Figure 1:** An overview of Newspapers coverage on ICTs

The findings of the study indicate that ICT related themes were covered by 823 articles in four newspapers for the period of five years. Results indicate English newspapers covered the highest articles on ICT with Daily News having the highest coverage (445; 54.07%) followed by the Citizen (278; 33.78%). English newspapers had a total of 723 number of articles which constitute more than two third of the total number of articles on ICT covered. The results imply that English newspapers cover a huge stake of information related to ICT. There are two reasons which can explain the trend. One is perhaps most information on ICT covered in newspapers is a replication of information from western media which is in English. Since the Tanzania newspapers use English language as the medium of exchange, it becomes easy for journalists to transfer and share information in its current form which is English. This could explain the journalists in Tanzania have a challenge in preparing and sharing information from a source and repackage to suit needs of local users. The results on English newspaper heightened coverage could explain that language is crucial in coverage of ICT related information. Similar studies of Elia(2018) and Elia(2019b) noted that English newspapers were covering issue related to climate change more than local language *Swahili* newspapers.

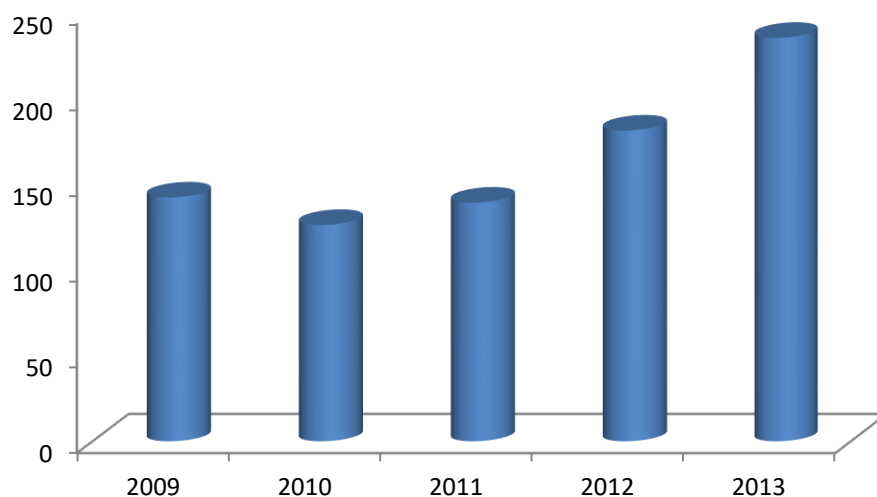
Moreover, the findings from the two English newspapers show the Daily News which is a state media covered nearly twice as much on ICT news compared to privately owned newspaper, the Citizen. One factor which could explain the difference in coverage between the two newspapers is ownership. State owned media tend to be resource privileged which include having more human resources, funds, and access to information compared to private media. The fact that Daily News is the government newspaper, could influence the easy access of journalists link to government officials compared to their fellows from the Citizen, as the results have also indicated that most of the news covered were associated with government officials, incoherent with findings by Radu and Banjac (2012) who also noted government officials have higher influence on the coverage by media. Moreover, those from the Daily News could also have access to resources such as internet which have a significant impact in news coverage (Elia, 2018; Elia, 2019).

Moreover, findings showed that Mtanzania and Uhuru newspapers which cover news in *Swahili* language covered the least (12%) of all articles on ICT covered. It can be explained that journalists who cover in native language experience challenges in unpacking ICT related information to Swahili. One reason could be Swahili, which is a growing language has new terminologies on ICT journalists are not fond of. Similar patterns were noted in Tanzania by Elia(2019b) who noted lack of awareness on Swahili language terminologies to be a barrier in reporting on native language. In fact based on the findings, it is obvious that ownership is not the only factor influencing ICT information reporting, as Mtanzania and Uhuru which are privately and state owned Swahili newspaper scored least compared to the Citizen and Daily News which are privately and state owned newspapers respectively. Similarly, the Daily News, a state owned newspaper scored more than ten times the number of ICT articles Uhuru newspaper, a *Swahili* and government newspaper covered. In such a context, it can be explained that language seem to play a central role in



information sharing of ICT related information. The results indicate that the government newspapers are pioneers in advocating developmental issues including those which are related with ICT. The current findings support a study conducted by Elia (2018) but are contrary to the study by Siyao and Sife (2018) and Suleimanu and Funmilola (2016) who found that government newspapers had a low coverage on development issues which include ICT.

The findings further reveal that, the trend on coverage of ICT information for the five years seem to be varying (see figure 2). Compared to other years, 2013 was the year that recorded higher coverage of ICT information with a total of 235 articles being covered for that respective year.



**Figure 2:** Trend of media coverage of four newspapers 2009-2013

One reason which could explain the high coverage in the year 2013 is the duration/maturity of the ICT (2003) policy which marked 10 years since its inception. Resultantly, more articles could have been written to mark the event. In fact news coverage of important topics such as events, milestones including that on ICT development globally has impact in coverage. For instance, Elia (2018) observed that many articles were covered in Tanzania media in 2015 as a result of presence of a world conference in climate change. In fact Aziz (2014) found Tanzania journalists were more into entertainment and political news than development news. It can therefore be explained that the decade of ICT policy operationalisation could have heightened coverage of ICT information. On the other hand, least coverage of ICT information in 2010 could be influenced by politics. In 2010, Tanzania held elections and for that reason, more news coverage and articles written in all newspapers could have been focusing on politics. As politics (see Killungu, 1998) tend to extensively influence the media coverage of information, perhaps that was a reason for least coverage of ICT information in media and more focus being given to political news. Despite the irregular trends, results from three consecutive years, 2011-2013 have indicated an increase in coverage on ICT related information compared to previous years. Results could indicate that of



late, ICT information coverage seem to been heightening. The ICT (2003) policy seems to have positively contributed in raising awareness and application of ICT among the citizen. Changes in information infrastructure, particularly the mobile phone penetration and internet have influenced the coverage of ICT news.

The two ICT milestones have been attributed by the ICT (2003) policy. In addition, the high ICT information coverage recorded in the year 2009 could be contributed with the awareness and maturity of the ICT (2003) policy which had been operational for more than five years, hence its impact becoming noticeable.

On the whole, the findings on ICT reportage among four Tanzanian newspapers were low and not promising. It is mindboggling that for the five years covered, only 823 newspapers ICT articles were covered, with the average of 164 newspaper articles per year. Results also imply that only 14 articles on average were covered per month and only 3 articles on ICT covered per week for all four newspapers. Similar findings on low coverage of developmental issues were observed in Tanzania by Siyao and Sife (2018). When compared to other topical and development information covered on media, particularly newspapers, it appears climate change to be more covered than ICT information. For example, a recent study on newspaper coverage on climate change in Tanzania by Elia (2018) found for the year 2015, a total of 338 articles were covered by only two newspapers. The results imply on average climate change received more coverage than ICT.

### *ICT themes publishing pattern by newspapers*

Findings of the current study show mobile technology to be highly reported (182; 22.1%), followed by ICT infrastructures (153; 18.6%) and ICT application and usage (82; 10%). Legal and regulatory environment of ICT was least reported (32; 3.9%) as shown in table 1.

**Table 1:** ICT themes covered, 2009-2013

<b>Themes</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Ranking</b>
Mobile technology	182	22.1	1
ICT infrastructures	153	18.6	2
ICT application and usage	82	10.0	3
IT security	81	9.8	4
Electronic transaction and mobile payments	71	8.6	5
ICT innovation	56	6.8	6
Social media	56	6.8	6
ICT literacy and Human Capital Development	55	6.7	8
Media Technology	43	5.2	9
Legal and regulatory environment of ICT	32	3.9	10
Others	12	1.5	11

Findings on increased reportage of mobile technology explain the heightened use of Mobile phones in Tanzania. The period of coverage of the media, is the period on which mobile technologies



raised marked with increased market penetration and use. In most African countries, including Tanzania, communities have been reported to use mobile technologies such as the use of smartphone in their day to day activities. This was also the period of the remarkable ICT infrastructure such the National ICT Backbone(NICTBB) which was established in 2012(Pazi et al., 2013). NICTBB establishment facilitated the growth of other sectors such as banking, economics, education, agriculture, tourism and e-governments which led to most of the media report on tremendous revolutions on Information Technology in Tanzania. Also during this period, Tanzania witnessed a boom in mobile network subscription whereby in 2003 when the first ICT policy was established the total number of mobile network subscribers was only 1,298,000 but raised to 27,442,823 when the first ICT policy was marking ten years (TCRA, 2003, 2013).

On a special note, ICT policy has been fundamental in the recent development in mobile technology and ICT infrastructure. It has improved internet and mobile technology accessibility and use in Tanzania.

The policy has enabled mobile phone service providers to expand their services to remote areas reaching out more marginalized people. The media’s role towards eradicating poverty and informing the society on mobile technology use becomes impetus and its impact in promoting usage cannot be overemphasized.

Despite adequate coverage of ICT on mobile technology, least was reported on ICT application, ICT innovation and Legal and regulatory environment of ICT. These themes being least reported perhaps indicate a lack of awareness on ICT application, innovation and frameworks to govern application of ICT for development. It appears that the lack of policy on innovation in Tanzania and limitations of the ICT policy of 2003 were a setback in the process of effective use of ICT policy for development. The coverage of ICT information on the least reported themes explained thereof is expected to change as the newly introduced ICT (2016) policy seem to have much addressed on these topics.

### **Position and Type of ICT Information Reported**

**Table 2:** Position of ICT information, 2006-2013

<b>Position of the story</b>	<b>Frequency</b>	<b>Percentage</b>
Lead story	30	3.6
Other front story	8	1.0
Inside story	780	94.8
Back pages story	5	0.6
Total	823	100

Most of the ICT related themes appeared to be located as inside stories (780) and least (38) from front pages. From the four newspapers, each seems to have only covered on ICT news in the front page only nine times in the period of five years. This is an average of two articles per year being on front page. The position of an article on a newspaper and frequency of reporting has an impact Coverage of Information and Communication Technology News by Selected Newspapers in Tanzania Emmanuel Frank Elia & Obadia Shadrack Buhomoli

on readership (Darnton, 1975). Based on the results, it appears that ICT related information could have a fairly high impact to readers as less attention is being given to ICT issues in headlines albeit most ICT information was covered as inside stories. Results could imply ICT reporting is less of a priority to media and country development at large, as the position of the story has a direct association with the priority of the story (Al-Hasan, 2008; Kim et al., 2002). Despite its critical role in poverty reduction, current findings explain that ICT has not been given sufficient priority in coverage. The present findings could also imply there is a lack of access to ICT information to be reported. It could also mean there is less local ICT related innovation to be reported. Even with the minimal coverage of ICT in headlines, ICT related articles which were reported as top stories mostly appeared to be from English language newspapers. For example, the Daily News had 20 articles and the Citizen 8 articles. Only 2 articles originated from Swahili newspaper, Uhuru. The results are mindboggling as the Swahili newspapers which perhaps have a wider impact to readers considering the fact that they communicate information using a native language used by most Tanzanians seem, did not to give attention of ICT stories on headlines.

Moreover, of the 30 articles on ICT related stories reported as the leading story at the front page, the main themes which were covered were mobile technology (8), IT security (7), ICT literacy (4), ICT innovations (4) and media technology (3). A total of eight themes which were reported in the category of other front page stories were on; media technology (3), ICT infrastructures (1), IT security (1), legal and regulatory environment of ICTs (1), Social media (1) and ICT application and usage (1). It was noted that, all front page articles were reported as news story. The results suggest that the ICT related issues which were reported at the front pages were associated with government officials or events related to ICTs which led to the headlines, Radu and Banjac (Radu & Banjac, 2012) also noted government official have the influence on the position of the news story. These findings laments on previous explanation that information related to ICT which is covered appear to be more skewed to politics which covers ICT related events from the government.

### **Types of ICT information covered by newspapers**

The study assessed types of ICT information presented in the four newspapers understudy. See Table 3.

**Table 3:** Output on categories of ICT information

Newspaper	Types of ICT information					Total
	News story	Editorial	Feature article	Column/ commentary	Letters to the editor	
The Citizen	95	02	58	123	00	278
Daily News	183	02	184	57	01	445
Mtanzania	25	00	13	15	06	59
Uhuru	28	00	05	08	00	41
<b>Total</b>	<b>331</b>	<b>04</b>	<b>260</b>	<b>221</b>	<b>07</b>	<b>823</b>



Findings revealed in the four newspapers only four ICT related themes appeared under editorial column, which surprisingly all came from the English newspapers. More ICT related themes were found under news story (331; 40.2%), feature article (260; 31.6%), column/commentary (221; 26.6%) and letters to the editor (7; 0.8%). Themes given attention by editors were on ICT infrastructures, ICT application and usage, media technology, and mobile technology. Results indicate each theme was only covered once in the editorial section.

Findings reveal that for the past five years, newspaper editors of the two English newspapers have only covered twice issues which are related to ICTs in newspapers. This shows less attention and priorities are given by the editors to the ICTs related issues. One reason which could contribute to this problem could be lack of interest among editors on ICT. Editors' interest has an influence on the news coverage (Griffiths, 2010; Kolf & Griswold, 2013). The other reason could be lack of awareness and understanding on role of ICT in development. Moreover, it was revealed that all four ICT related themes which were covered under the editorial section were from Daily News (2) and the Citizen (2) which are English newspapers. Only seven articles appeared to be letters sent by readers to the editors.

The letters were on electronic transaction and mobile money services (3), mobile technology (2), ICT literacy (1) and IT security (1). This shows that, most of the newspapers readers were interested to learn on electronic transaction, mobile money, internet banking and cyber security services. These ICT information covered on newspapers reflect on the progress and transformation in ICT infrastructure in most developing countries like Tanzania in using ICT for economic growth and poverty reduction. In addition, the results surprisingly showed that, only one letter was reported in the English newspapers while six letters were reported in Swahili newspapers. This shows that, though the coverage of ICT related issues was mostly reported in English, but the audience which gave the feedback used the Swahili newspapers indicating a wider readership. Thus, although the Swahili newspapers least covered on ICT, more feedback to editors was from Swahili newspapers. This trend could indicate the role of language in communicating ICT information and fostering innovation.

### ***News article Length***

Information news covered in newspapers can be full page,  $\frac{3}{4}$  page,  $\frac{1}{2}$  page,  $\frac{1}{4}$  page and  $\frac{1}{8}$  of a page (Elia, 2018). The study therefore sought to identify and measure the size articles on ICT covered by the four newspapers. Table 4 indicates.

**Table 4:** Newspaper articles lengths

Name of the newspaper	Page Cover Size of the article					Total
	1 page	¾ a page	½ a page	¼ a page	1/8 a page	
The Citizen	48	00	106	84	40	<b>278</b>
Daily News	06	73	87	241	38	<b>445</b>
Mtanzania	19	01	10	24	05	<b>59</b>
Uhuru	07	00	10	24	00	<b>41</b>
<b>Total</b>	<b>80</b>	<b>74</b>	<b>213</b>	<b>373</b>	<b>83</b>	<b>823</b>

The findings show that the majority (373) of articles on ICTs occupied ¼ whereas the least (74) covered ¾ of a page. Based on the findings, a total of 367 articles published on ICT were not less than a half of a page for the selected newspapers. ICT seems to receive more space on coverage when compared to other topical issues in Tanzania. For instance, a study by Elia (2018) on climate change information covered on newspapers found very few articles (2) were published in the front page and a total of 105 articles covered with space between a half and a page. Despite the variation on page coverage of ICT information, a general overview indicates that the Daily News and the Citizen had more space allocated to the coverage of ICT information. In addition, the Citizen although least covered compared to Daily News, had more news on front page compared to the Daily News. However, in total the two newspapers had almost similar space covered between half a page and one page. Highest number of articles in the Citizen was half a page while those from Daily News were quarter a page. On Swahili newspapers, Mtanzania had allocated more space on coverage than Uhuru and interestingly had more news (19) covered as a full page higher than Uhuru and Daily News. As such, Daily News, the Citizen and Mtanzania seem to have an extensive impact to readers on ICT news. Generally, based on the current findings and a similar study by Elia (2018), it is indicative that newspapers in Tanzania allocate more space for coverage of information on ICT and climate change in ¼ and 1/8 of a page news than other sizes.

In addition, articles which reported on ICT as a full page, covered more stories which were related with ICT infrastructures (17), Mobile technology (11) and social media (10). The findings on size of newspaper articles on ICT suggests that, more attention was given to these themes as the ICT infrastructures was given much attention at the national and highly on mobile industry development which has been observed to soar in recent years. The growth of mobile industry is being contributed by advent of mobile technologies, social media applications and the internet in the society. Furthermore, synthesis of the findings revealed English newspapers published more lengthy ICT articles compared to Swahili newspapers. Three reasons could contribute to the observed trend. One is the fact that English newspapers are wide and lengthy compared to Swahili newspapers. The second reason could be journalists covering English news are prominent and have a wider access to information on ICT from sources, particularly the internet and government officials and compared to those covering Swahili newspapers. Also journalists covering in English newspapers could be having a better ability to synthesize ICT related stories compared to their counter ones, as indicated by Velden (2008), who narrated that in order to be competent on writing



on science and technology, journalists must first be transformed and have to be aware on issues that they would be reporting.

### *Lengthy of a story versus story type*

The study further assessed the size of an article with the type of story covered on each newspaper. The aim was to discover which category of stories on ICT were given more coverage space. See Table 5.

**Table 5:** Size of newspaper articles in relation to type of the story

Type of stories covered	Size of the article					Total
	Full page	$\frac{3}{4}$ a page	$\frac{1}{2}$ a page	$\frac{1}{4}$ a page	$\frac{1}{8}$ a page	
News story	05	45	69	192	20	<b>331</b>
Editorial	00	00	01	03	00	<b>04</b>
Feature article	17	22	73	119	29	<b>260</b>
Column/Commentary	58	00	70	53	33	<b>221</b>
Letters to the editor	00	07	00	06	01	<b>07</b>
<b>Total</b>	<b>80</b>	<b>74</b>	<b>213</b>	<b>373</b>	<b>83</b>	<b>823</b>

Findings indicate the type of ICT stories which narrated articles with full page were mostly reported in commentaries/columns (58),  $\frac{3}{4}$  page articles were mostly reported in news story (45),  $\frac{1}{2}$  page articles were mostly reported in feature articles (73),  $\frac{1}{4}$  page were mostly covered by in news story (192) and  $\frac{1}{8}$  page was largely covered in commentaries/columns (33). Results also show more articles on ICT that were covered as news story (331) followed by features (260) and columns/commentaries (221). Least was reported on letters to editor (07) and editorial (04).

The findings show most ICT related information which received a lengthy space and perhaps higher impacts on readership were the commentaries, features and news stories. Adequate space given for an article on a newspaper gives a reader a wider scope to understand on the subject. Moreover, findings revealed that most ICT information was covered from news stories.

It appears that journalists cover more from news generated from local sources on various ICT developments. Findings, therefore, explain that ICT has recently been receiving attention from the government which is reflected on the coverage. Although few articles were reported in full page, the space given to other types of ICT stories were generally promising. It can therefore be explained that the size of news provided by newspapers could have an impact in readership and transfer of information and promoting understanding among readers on ICT issues. On the whole findings indicate that ICT is allotted adequate space for readers to comprehend the news.

### **Geographical ICT information coverage**

The study sought to find out on the geographical coverage of ICT related information in four selected newspapers. Findings indicate that the stories covered were mostly international (450; 54.7%) than the local news (373; 45.3%). See Table 6.

**Table 6:** Geographical coverage of ICT news

Newspaper Geographical coverage	Newspaper	Lead story	Position of a Story			Total	Grand total
			Other front story	Inside story	Back story		
Local	The Citizen	08	01	106	00	<b>115</b>	<b>373</b>
	Daily News	20	05	154	01	<b>180</b>	
	Mtanzania	00	01	42	03	<b>46</b>	
	Uhuru	02	00	30	00	<b>32</b>	
International	The Citizen	00	00	162	01	<b>163</b>	<b>450</b>
	Daily News	00	01	264	00	<b>265</b>	
	Mtanzania	00	00	13	00	<b>13</b>	
	Uhuru	00	00	09	00	<b>09</b>	

Although findings generally showed international ICT news was covered more than local ICT information in the newspapers, contrary to the results by Suleimanu and Funmilola (2016) who reported more coverage of local ICT news than international one in Nigeria, it was surprising to find out no newspaper published international ICT news as lead story. Moreover, it was observed that English newspapers had more (28) leading local ICT news unlike the Swahili newspapers which had only (2). Only one international article was covered in the front page unlike seven local articles which were published in the front page. Generally, Swahili newspapers covered less on both local and international ICT news. Moreover, although Daily News covered more local stories in front page than the Citizen, prior findings showed the Citizen covered full page stories (48) than the Daily News (06). In addition, the majority (780) of the articles in both international and local ICT news were published as inside stories and few as back stories (5). The findings imply that newspapers which use local Swahili language gave little attention and space to lead or front stories ICT news covered. Additionally, English newspapers seem to extensively cover on ICT information compared to Swahili newspapers. Two factors might be contributing to the trend. One is that most information on ICT is in English language and thus journalists find it easy to access the information and report on the same language. Journalists covering on Swahili newspapers could be more conversant with the local language hence facing challenges to unpack the stories from English to Swahili language. The situation is more problematic to such journalists as Swahili language has recently developed many new terminologies which are not common to most journalists resulting into low coverage.

Moreover, in terms of information content covered in local and international contexts in the newspapers, results showed a varying proportional of ICT themes coverage. Four themes which were leading in the local news were ICT infrastructures (73), mobile technology (52), ICT application and usage (47), electronic transaction and mobile payments (45). In the international context, mobile technology (130), ICT infrastructures (80), IT security and Social media (40) were the themes leading in coverage. These findings explain on the economics and demand for ICT information at both local and international context. Local news seem to concentrate more on creating awareness to the public on ICT changes on infrastructure, mobile technology and mobile



money transfer. Findings show that Tanzania has significantly transformed in ICT infrastructure towards using ICT in communicating, money transfer and banking, On the other hand, international news appear to target on informing the public on global trends on ICT infrastructure, IT security, particularly cybercrime and application of social media in information sharing and business. On the whole, findings reveal a paradigm shift in media reportage of ICT news and public application of ICT in improving the quality of life in all strategic sectors including banking, governance, communication and education for poverty eradication.

### **Conclusion and Recommendations**

This study explored newspapers trends in covering ICT information by using four newspapers for the period of five years from 2009 to 2013. Despite the fact that ICTs are very significant and have the enduring significance in almost all sectors, the findings of this work indicate that less attention has been given to its coverage by the Tanzanian print media. In fact, the coverage of ICTs related issues in Tanzanian print media was generally very low. The study concludes that language used in reporting have an impact in sharing of ICT information whereas English newspapers were observed to report more on ICT than native Swahili language newspapers. On the whole, international news was covered more than local news. Moreover, local newspapers received and accommodated more feedback from readers than English newspapers. The study also concludes that 10 years of the ICT policy being operational has made significant revolution and transformations in the banking, mobile industry, education and development. This study suggests more reporting and coverage of ICT in Swahili language by newspapers as it may have a wider audience and perhaps have more impact to the audience than English newspapers. The study suggests more training to journalists in local newspapers to increase coverage and promote ICT information use by the public.



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