

## **Evaluating the Acceptance and Descriptive Usability of the Swahili Coined Terminologies:** an Investigation of the ICT Terminologies

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ABSTRACT

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#### **1. INTRODUCTION**

Information and Communication Technology (ICT) has permeated peoples' daily life for example ICT in financial services, ICT in business sector, ICT in entertainment issues, ICT in education, ICT in government activities and ICT in transportation sector. The integration of ICT in peoples' daily life has led to the introduction of different new ICT terms in different languages. Mazrui & Mazrui (1995) pointed out that most of the modern science and technology have reached Africa through different in science and technology has led to emergence of new

Table 1: Example of Swahili ICT coined terminologies

English	Kiswahili	
Download	Kupakua	
Password	nywila	
Upload	kupakia	
E-mail	barua pepe	
2	our an popo	

Scholars have coined different Swahili terms and some of those terms are accepted and used in the day to day communication. From the example above *barua pepe* is one of the terms that has been adapted and put into use in our daily communication but other words like *nywila* are not very common.

This study aimed at evaluating the acceptance and descriptive usability of the Swahili ICT coined terminologies. Questionnaire, interview and focus group discussion are the tools used in collecting data for this study. The results show that the rate of acceptance and usability of the Swahili ICT coined terms is low where most of the respondents justified that they do not use the Swahili ICT coined terms/words in their daily communication. The study also found that there are different factors for acceptance and usability of the Swahili ICT coined terms which include; lack of community involvement, lack of best strategies to promote the coined terms, coining process for Swahili ICT terms takes long time, presence of competing neologisms which confuse language users, complexity for the coined terms etc. With these findings, deliberate effort should be made to ensure that different factors should be considered in the process of coining different terms in order to avoid having many words which are not used in the daily communication.

concepts that require coining of new terms (neologisms) to the target Languages in Africa. For example, in Tanzania institutions like BAKITA (Baraza la Kiswahili Tanzania), TUKI (Taasisi ya Uchunguzi wa Kiswahili) and Taasisi ya Elimu Tanzania together with individual terminologists have played a great role in the process of coining different Swahili ICT terminologies. In Kenya one of the research institutions Baraza la Kiswahili Kenya (BAKIKE) has also played a great role in coining different terminologies. Some of the Swahili coined words are exemplified in table 1 below:

Despite these efforts, most of the speakers do not tolerate these coinages. The rate of acceptance and usability for these Swahili coined terms is still questionable as it is not related to the effort that has deliberately been made to coin those terms. Mazrui & Mazrui (1995) contend that there is a general tendency for terminology users to have a preference for borrowed terminology over neologisms which to them appears strange and unfamiliar. Furthermore, Petzel (2005) asserts that the English version of the terms is the most frequently used even though a coined Swahili equivalent exists.

The integration of ICT in education sector is very common nowadays where in different learning institutions people always use different terms related to ICT. Things such as phone and its accessories, computer and its accessories, terms related to internet, terms related to software (e.g. Microsoft office such as excel, word, outlook, PowerPoint also Windows XP) are very common in different educational institutions in Tanzania. Although the medium of instruction in secondary and higher learning institutions in Tanzania is English language. still the language used for daily communication is Kiswahili. Therefore, the need to coin different Swahili words for these English new terms used in ICT is very obvious. Thus, scholars have coined different Swahili terms but the challenge is on the acceptability and usability of these Swahili coined terms. This impressed the researcher to conduct the study to evaluate the acceptance and descriptive usability of the Swahili ICT coined terms and find out factors for the acceptance and usability of the Swahili ICT coined terms.

#### **1.1. Statement of the problem**

Despite the deliberate effort of coining different Swahili ICT terminologies made by different research institutes (BAKITA, TUKI, and BAKIKE) and different renowned terminologists such as Nabhany, Kapinga, Kahigi etc, still there is a challenge on the acceptability and descriptive usability of the coined terms in the daily communication. The effort made to coin those terms is not related to the speakers' response where there is a question on the acceptability and usability of most of the coined terms for daily communication. Therefore, the current study is aimed at evaluating the acceptability and descriptive usability of the Swahili ICT coined terms also finding out factors influencing acceptance and usability of these terms.

#### 1.2 Objective of the study

The current is guided by both general objective and specific objectives;

### 1.2.1 General objective

To evaluate the acceptability and descriptive usability of the Swahili ICT coined terminologies.

### **1.2.1 Specific objectives**

- 1. To evaluate the extent to which the Swahili ICT coined terminologies are accepted and used in daily communication.
- 2. To find out factors influencing the acceptance and usability of the Swahili ICT coined terminologies.

#### **1.3. Research questions**

1. To what extent the Swahili ICT coined terminologies are accepted and used in daily communication?

2. What are the factors that influence acceptance and usability of the Swahili ICT coined terminologies?

#### **1.4. Significance of the study**

The findings from this study can be significant in different angles. One of the significances is to get the feedback of the acceptability and usability of the ICT coined terminologies specifically in SUA community which in turn is to some extent can be useful to different scholars and research institutions.

Also, findings on the factors influencing acceptance and usability of the Swahili ICT coined terms are presented in this study, these factors are useful to terminologists (word coiners) and to those research institutions in the whole process of coining different words. According to the findings from this study, different factors are to be considered in the coining process in order to ensure acceptance and usability of those terms.

#### 2. LITRATURE REVIEW

Different sources related to the current study are reviewed and presented in this section which consists of the following subsections.

# 2.1 Kiswahili in the Information and Communication Technology (ICT).

In Tanzania since 1967 Kiswahili has been given a role to be used as a language of instruction in primary schools and as an official language (Charles, 2012). It is also one of the languages used in different activities in African Union and East African Community. Therefore, these responsibilities increased the importance of promoting its terminologies including coining different terminologies related to science and technology (Sewangi, 2007). As Mazrui & Mazrui (1995) showed that the modem science and technology from the west has reached Africa through European languages, therefore advancement in Information and Communication Technology has triggered the development of new terms in most of the African languages including Kiswahili. Therefore, there is a deliberate effort made to coin different new terminologies in order to fulfill the need of Swahili terms in the ICT and other roles that it has been given.

Moshi (2006) asserts that efforts that have been made to enable the use of Kiswahili in ICT. Some of the efforts include promoting the growing use of Kiswahili in world media such as the voice of America, Radio Deutsche Welle, BBC radio and Television, Asia radio and TV and in different TV programmes. Kamau (2007) (as cited in Wandera 2015) further contends that Kiswahili language is the only African language that is used by international media houses for broadcasting and publishing. Kiswahili is also used in different advertisements by Vodacom and Celtel (Moshi 2006) and in different versions of programmes (Akinyi and Matu 2011) which also increased pressure on a need to coin different Swahili terms instead of using the borrowed ones.

Furthermore, Kamau (2007) (as cited in Wandera 2015) also shows that two renowned computer software developers, Linux and Microsoft, localised their software to Kiswahili language

Mazrui and Mazrui (1999) (as cited in Wandera 2015) argue that Kiswahili is a language which handles technological terminologies much easier through the method of coinage. Also, Ryanga (2002) reports that some Universities and companies have made efforts to develop Kiswahili glossaries for the ICT sector. Thus, these efforts justify the increase of integration of Kiswahili in ICT.

Moreover, there is a project entitled *Ujabinishaji wa* office 2003 na Windows XP kwa Kiswahili sanifu (Kahigi 2011) which was implemented in 2004-2005 and the objectives of this project were (1) to prepare computer terms from English to Kiswahili (2) to translate four Microsoft office programmes into Kiswahili (outlook, excel word and Power point) also to translate Windows XP.

Kiswahili is also used in Google where there is an option which allows users to use either English language or Kiswahili. Similarly, there is a localized phone menu and apps from English to Kiswahili. Mpesa Kiswahili app which is a mobile money application (Wandera 2015) is one of the efforts made to integrate Kiswahili language to ICT. Wandera (2015) also reported that Safaricom Company is said to have altered the Kiswahili menu with the aim of making it less complex and hoping that it could in turn attract more acceptability and usability among its users.

Therefore, these studies justify that there are deliberate efforts that have been made to enable the use of Kiswahili in ICT. After the efforts made to coin these different Swahili ICT terms, it is obvious that acceptability and usability of the concerned terms in daily communication is very crucial. Therefore, the purpose of this study was to evaluate the acceptance and usability of these Swahili coined terms.

#### 2.2 Coinages and word formation process

According to *Cambridge dictionary*, to coin is to invent a new word or expression, or to use one in a particular way for the first time<sup>1</sup>. Also, according to Kinyanjui (2014), coinage is the creation of a totally new word. Therefore, coining is a word formation process that involves creation of a new word or attaching a new meaning to already existing word and coinages are those formed words. Table 2 presents examples of the coined terms.

Table 2: Examples of coined words			
English	Swahili coined word		
Laptop	Kipakatilishi		
Password	Nywila		
Overall	Surupwenye		
Camera	Nyakaso		

Different studies unveiled different criteria that should be used in word coinage for the purpose of depicting the appropriateness, acceptability or rejection of a terminology. For example, a theory of Scientific Terminology which was initiated by Kiingi (1989) has got different criteria that should be considered in a process of coining different words. It includes PEGITOSCA which is acronym of Precision (P), Economy (E), Generativity (G), Internationality (I), Transparency (T), anti-Obscenity (0), Systemicity (S), Consistency (C), and language relative Acceptability (A). Scholars argue that these criteria are used in depicting whether words are formed following scientific methods in order to allow acceptance and usability. The founders of this theory are of the view that if a coinage did not adhere to these criteria (in this case, a word get below 12 marks) it is regarded as not accepted.

However, these procedures fall under the traditional model of coining different terms which is called "expert-out model" where in this model linguists sit in a room and come out with different words following the proposed criteria, this model often results in orphan terminologies (Benjamin, n.d). Also, Benjamin (n.d) pointed out that the real test of a terminology set is not whether the terms are elegant or clever but it is on whether they are adopted by their intended use communities. Therefore, the focus of the current study was to evaluate the acceptance and usability of the coined terms.

<sup>&</sup>lt;sup>1</sup> http//dictionary.cambridge.org/dictionary.english/coin

#### **3. METHODOLOGY**

The current study was conducted at Morogoro, Tanzania in Sokoine University of Agriculture community specifically in Solomon Mahlangu College of Science and Education campus. It adopted mixed-methods research design. Mixed-methods research design is the collection and analysis of both quantitative and qualitative data in a single study, in which data are collected or analyzed concurrently or sequentially (Creswell and Clark 2007) as cited in (Wandera, 2015). This study brings together quantitative data in the case of examining the acceptance and usability of the Swahili ICT coined terminologies and qualitative data in examining the factors influencing the acceptance and descriptive usability of those terms. It involved 50 respondents as illustrated in the table below.

Respondents' information	Number
Employees Administrative staff	10
Lectures Department of Language studies	07
Other departments	13
Students Bsc. Informatics	07
Other programmes	13
Total	50

The study involved both primary data and secondary data. The primary data were collected by using the following methods: Ouestionnaire. in the questionnaire respondents were asked to tick the sentences that contain an ICT word which he/she always use in daily communication. The questionnaire consisted of 80 sentences with 40 Swahili ICT coined words. Respondents were asked to show whether they prefer to use Swahili ICT coined words or they prefer the borrowed terms. Also questions on the factors influencing acceptance and usability of the Swahili coined terms were given to respondents.

After administering the questionnaire, a face to face interview was conducted. The researcher asked different questions related to the area of study. One of the questions focused on the factors influencing acceptance and usability of the Swahili ICT coined terms.

Under the focus group discussion respondents discussed about the acceptance and usability of the Swahili ICT coined terms as researcher asked different questions related to the topic. Different English ICT terms were given and respondents were asked to translate those words to Kiswahili. Also, respondents were given Swahili ICT coined word and asked to say whether they use those Swahili coined terms in their day to day communication. This provided room for a researcher to ask the question on the factors influencing the acceptance and usability of the Swahili ICT coined terminologies.

Secondary data for the current study were collected from different sources (Kinyanjui, 2014; Kahigi, 2011; Akinyi, 2010) which helped the researcher to get different Swahili ICT coined terminologies.

#### 4. RESULTS AND DISCUSSION

The current study sought to answer two research questions; first, to what extent the Swahili ICT coined terminologies are accepted and used in daily communication? Second, what are the factors that influencing acceptance and usability of the Swahili ICT coined terminologies? Therefore, this section presents findings in relation to these questions.

# 4.1 Acceptance and descriptive Usability of Swahili ICT coined terms

The study aimed at examining the acceptability and usability of Swahili coined terms and in order to achieve this objective in the questionnaire the researcher used 80 sentences. A total of 40 Swahili coined words were presented in those sentences; where these sentences were in pairs, each pair had the same sentences but one with the English language borrowed term (bolded) and the second sentence with the Swahili coined term (bolded). Respondents were required to tick the sentence with the term which they always use in their daily communication. Results show that 57.5%, 65% and 67.5% of the Swahili ICT coined words (among 40 Swahili coined terms) were not accepted/not mostly used in daily communication by employees from department of Language studies, employees from other departments and employees who are the administrative staff respectively. Also 62.5 % and 67.5% of the Swahili coined terms were not accepted by students from Bsc informatics degree programme and students from other degree programmes respectively. Therefore, findings justify that most of the Swahili coined terms are not preferred by most of the Swahili speakers Table 4 below summarizes the findings on the acceptance and usability of the Swahili coined terms.

Table 4: Acceptability/usability of the Swahili ICT Coined words

Responde	ents		No. of respondents involved	No. of Swahili ICT coined words involved	No. of Swahili ICT coined words mostly used/accepted	Percent age	No. of Swahili ICT coined words not accepted	percent age
Employee	es				-			
a. L	Lecturers							
i.	Department Language studies	of						
ii.	Other departments		7	40	17	42.5%	23	57.5%
b.	Administrative staff		13	40	14	35%	26	65%
Students			10	40	13	32.5%	27	67.5%
a. E	Bsc. Informatics Other programmes		6	40	15	37.5%	25	62.5%
0.0	suidi programmes		14	40	13	32.5%	27	67.5%

Source: Current study

Table 4 above shows the rate of acceptance and usability of the Swahili ICT coined terms which seems to be low. Generally, 64% of the ICT coined words were not accepted/not mostly used and the accepted words constitute 36%. The percentages of the accepted words in different groups of respondents are also low. The lowest percentage is 32.5% from two groups; namely administrative staff group and the group of students from different degree programmes.

Furthermore, the findings show that most of the Swahili coined terms were not known by majority of the respondents. In the focus group discussion, the respondents reported that it was their first time to see some of the Swahili ICT coined words. For example, the following Swahili ICT words in table 5 were reported to be unfamiliar to most of the respondents.

Table 5: Examples of unfamiliar Swahili coined ICT words

Swahili ICT word	
	English word
Kidhulishi	
	highlighter
Sanidua	
a	uninstall
Sanidi	1 <b>11</b>
Sasaisha	install
Sasaisha	update
Kiwaa	upuuto
	monitor
Zinzo	
	display

Despite low acceptance and usability of Swahili ICT coined words, there are some few words which were accepted by almost all groups. Table 6 below provides some of the Swahili ICT coined terms that are mostly accepted as per the findings of this study:

Table 6: Examples of the mostly acceptable Swahili ICT coined words

Swahili ICT term	English word		
Barua pepe	e-mail		
Pakua	download		
Pakia	upload		
Tovuti	internet		
Runinga	television		

Most of the respondents pointed out that most of these terms are common because they find them used in different situations including in the media. Therefore, according to the findings, this is one of the major reasons which made these terms to be adopted and used in daily communication

# 4.2 Factors influencing acceptability and usability of the Swahili ICT coined terms

Most of the respondent (64%) showed that they do not prefer to use Swahili ICT coined terminologies in their daily communication. Moreover, findings show that most of the people are not aware of some of those terms. Respondents provided different reasons to why most of the coined ICT Swahili terminologies fail to be adopted/ used or not accepted;

#### 4.2.1 Lack of community involvement

While providing factors that influence acceptance and usability of Swahili ICT coined terminologies one of the respondents had the following to say:

> .....most of the language experts sit in the rooms and form different terms without involving different language users as if the only consumers of those terms are language experts as a results we get terms that we cannot use in our daily communication... (ELL1)

This assertion shows that most of these terms are coined without involving community members for soliciting their views. It is possible to open a forum through internet or any other way in order to allow other members to contribute through that platform, for example giving them time to suggest the suitable terms. These findings concur with the study by Benjamin (n.d) which also revealed that community participation in terminologies development is very crucial. Although is absolutely clear that sometimes the process of forming different terminologies is governed by different rules in lexicography (so it needs language experts /terminologists), findings in the current study show that to involve community members is equally important.

# 4.2.2 Lack of best strategies for promoting ICT coined terms

Findings show that most of the respondents are not aware of most of the Swahili ICT coined terminologies. In the focus group discussion respondents reported that it was their first time to see some of the Swahili ICT coined terms. One of the respondents said:

Although language users are supposed to read different sources for widening their knowledge about the formed words, there is a need to promote those formed terms by using different media like newspaper, radio, television etc. (ELO 6)

When explaining about the same point another respondent had the following to say:

.....you know what! Sometimes we use few Kiswahili ICT words because we find them used in different media....but most of the media instead of using the formed terms they also use borrowed ones......(ELO 3)

These findings show that the promotion of the coined terms is questionable where media are not used to promote the coined terms. Also, a situation of not being aware of different Swahili coined ICT terms for most of the respondents is one of the indicators of lack of best strategies for promoting ICT coined terms.

# 4.2.3 Coining process for Swahili ICT terms takes Long time

It is also found in this study that most of the terminologists take long time to coin different Swahili ICT terms after the introduction of new concepts and ideas which calls for new terms. This leads to adaption of the terms borrowed from English language therefore when those Swahili coined ICT terms are introduced, it becomes difficult to be adopted because the earlier terms (borrowed one) have already been put into use (adopted). When commenting on this factor one of the respondents said;

> .....most of the formed terms are introduced when we have already adopted the English terms, therefore it is very difficult to shift to other term while we already have the term denoting the same concept which is still in use...... (SI 4)

This is common to different speech communities where there is no need to shift to another term which refers to a same concept while there is another term which is already adopted. Therefore, people prefer to use the borrowed terms because they have adopted it and the coined one appears to be new to them. These findings concur with the study by Mazrui (1995) and King'ei (1999) which also revealed that the most accepted/adopted words are the borrowed one instead of the coined one as exemplified in table 7 below.

EnglishKiswahili (Suggested)Accepted/adoptedComputerNgamizi/tarakilishikompyutaTelephoneRununusimuTelevisionruningatelevisheniRadiomwengoyaredio

Table 7: Suggested Swahili ICT coined terms vs. accepted/adopted terms

Source: Nabahany (1998) and Chime1a (1998) as cited in King'ei (1999)

Table 7 shows clearly that borrowed terms are mostly adopted than the coined terms; as per the findings of this study, the adoption of the borrowed terms is done because of the long time taken to coin Swahili terms.

## 4.2.4 Lack of harmonization among terminologists/research institutions

Findings show that there is a competing neologism where there are different Swahili terms which represent the same concept in English (different terms coined for one concept). Competing neologisms refer to a presence of the multiple technical terms that refer to the same concept which are a result of uncoordinated creation of neologisms (Kinyanjui, 2014). In relation to competing neologisms the respondents had the following to say: Sometimes I fail to understand the correct term to use for the formed Swahili ICT words because a same thing in English can have multiple neologisms (SI 2) Sometimes the word mouse is used as kipanya sometimes it is used as *puku*.....*it is confusing* (SO 5) I am confused by the formed words for password. whether is nvwila ornenosiri......I cannot tell which is the most appropriate.....therefore I always use the term pasiwedi instead of these coinages (ELO 6)

This is also evident from literature where there are different Swahili ICT coined terminologies which focus on the same concept. Table 8 bellow is illustrative;

Table 8: Swahili ICT competing neologisms

English ICT terms	Swahili ICT competing neologisms	
Monitor	Kiwaa	
	Kiwambo	
Recycle bin	Kisuduru	
	Kijalala	
	Urejelezaji	
Printer	Kichapishi	
	Chapishiyo	
Inbox	Kisanduku pokezi	
	kikasha	
	kikasha pokezi	

Source (Kinyanjui, 2014)

In table 8 above examples of competing neologisms are clearly presented, these examples justify that there is a great confusion caused by these word coiners. There must be a harmonization in coining these terms that is they should agree on one concept/entity, one term instead of different terms for the same concept/entity.

#### 4.2.5 Complexity

It is also found that some of the Swahili coined terms are more complex compared to the English terms. The argument in this factor is that some of the coined terms are complex compared to the English terms which make it difficult to be used. There are some simple English words with few syllables that are translated into complex Swahili ICT words. One of the respondents commented:

> Sometimes it is difficult to use the a complex word while we have simple word to use......therefore we normally opt for the word which is somehow simple to pronounce (ELL 5)

There are different Swahili coined terms that are complex compared to English language terms. Table 9 below exemplifies such terms

Swahili ICT word	English word		
Mubashara	live		
Safu ulalo	row		
Safu wima	column		
Kibonye epuka	ESC key		
Tarakilishi	computer		
Kichapishi	printer		

Table 9:	Examples of Swahili ICT coined terms	
		_

Language users prefer simple words which are articulated easily compared to compound words. A word with few syllables can be preferred for speech simplification compared to a word with many syllables. Speakers may prefer to use *row* or *live* which are words with one syllable instead of *safu wima* and *mubashara* respectively which have four syllables. Therefore, findings also show that complex words are not normally used for daily communication.

# 5. CONCLUSION AND RECOMMENDATION FOR FURTHER STUDIES

The aim of coining different Swahili ICT terms is to make sure that those words should be adopted and used in the Kiswahili speech community. Findings in this study have shown that the rate of acceptance and usability of the Swahili ICT coined terms is low where people do not always use the Swahili ICT coined terms in their daily communication. The study also has provided different factors for low acceptance and usability of those terms. The study has made a contribution in the aspect of morphology and word coining by revealing the rate of acceptance and usability of the Swahili ICT coined terms and provided the pertinent examples. With these findings, deliberate effort should be made to ensure that different factors should be considered in coining different terms in order to avoid having many words which are not adopted and used in the daily communication. The researcher recommends further studies to be done to explore the Swahili ICT terms borrowed from English and finding out the rationale of including them into formal Kiswahili.



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