Exploring Information Needs of Swahili Speakers in Tanzania

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Abstract. Studies investigating the information needs and search behaviour of Swahili speakers are rare, and this correlates with little Swahili information available online and few tools to support its access. In this study, we explored the information needs of Swahili speakers to understand their search behaviour – search language and preferences on language of information among professional and ordinary citizens. We interviewed 11 library/information experts and Swahili language specialists from Tanzania. The results indicate that Swahili speakers are increasingly searching for information from the Web. Despite the fact that many of them are not competent in English, they preferred English to Kiswahili as their search language due to the relevant results they get. They claimed, furthermore, that outdated Swahili information and scarcity of Swahili documents on the Web were other reasons for them to prefer English.

Keywords: Swahili · Tanzania · Information Needs · Search Behaviour · Information Retrieval.

1 Introduction

Though not counted as one of the human basic needs, information is yet another important need for humans; they need it for socio-economic development. The best way to deliver it is arguably through the common language of people. Kiswahili (or Swahili), the only African language among the official languages of the African Union, is the national (official) language of three East African countries: Tanzania, Kenya and Uganda; and spoken in Burundi, D. R. Congo, Malawi, Rwanda, Mozambique, Zambia, Somalia and Comoros [14]. It is estimated to have up to 100 million speakers. Thus, this population and their use of information warrants study because of the scarcity of Swahili information online. We used the case study of Tanzania because of its potential large number of speakers compared to other countries. The survey of information needs and search behaviour from key informants presented in this paper was done with the broader aim of developing a Swahili information retrieval system. In particular, we wanted to: (1) uncover the search language preferences and the associated reasons from the people being investigated; and (2) discover the language of information preferences and reasons among professionals and citizens using opinions of the people under investigation.

2 Related Work

A number of works related to information needs and search behaviour exist for mobile users [2, 9, 8]; for nurses, medical doctors and physicians [3, 15]; for rural residents [7]; and for entertainment [4, 10]. However, the available literature on Swahili speakers are based on specific sectors such as agriculture [11, 1, 5]; informal sectors [6]; health [13]; and rural societies [12]. These works' foci were to identify the types and sources of information people want without paying attention to the language of information or assuming the language of information as an obvious variable. To the best of our knowledge, there is no study that analyzes the general information needs with respect to Swahili language or with the ultimate intention of developing an information retrieval system as an intervention, except for music IR [10]. Lack of comprehensive literature on the general public of Swahili speakers was the reason for us to conduct this survey.

The paper contributes threefold to the literature: (1) raising awareness on the information needs from the Web for Swahili speakers; (2) uncovering the search behaviour, based on language preferences; (3) and establishing grounded evidence of the need for building Swahili information retrieval systems.

3 Methodology

3.1 Participants

The study involved a total of 11 participants - 9 librarians/information scientists from 3 public and 2 university libraries as well as 2 Swahili experts from the National Council of Kiswahili (Baraza la Kiswahili la Taifa - BAKITA, in Kiswahili). Librarians/information scientists were presumed to represent the general public of information searchers; assumed to have detailed knowledge about information and searching practice and are well-informed about their customers of information in libraries. On the other hand, Swahili experts represented the general public of Swahili speakers.

3.2 Data Collection and Analysis

Participants were recruited through emails and phone calls and finally interviewed using Skype. The interviews were all conducted in Kiswahili, taking an average time of 25 minutes per participant; and recorded using a third party freeware tool called MP3 Skype Recorder. The interview schedule consisted of three major parts (see Table 1). The conversations were transcribed manually as there are no compelling tools for Swahili transcription, then translated to English. We followed a qualitative text analysis procedure, to group responses, code them and generate themes.

Table 1. Major Parts of the Interview Schedule

Category	Variable	Measurement
Demographic Information	Job title/position	Open-ended
	Work experience	Open-ended
	Previous job	Open-ended
	Relation of the previous job to the current job	Open-ended
Search behavior	Search language	English/Kiswahili
	Reasons for the choice of such language	Open-ended
	Relevance of Swahili results	Open-ended
	Reasons for such results	Open-ended
Needs and uses of Swahili information	Swahili information needs among professionals	Open-ended
	Swahili information needs among ordinary citizens	Open-ended

4   Results and Discussion

4.1   Demographic Information

Out of the 9 librarian participants: 3 had administrative positions such as regional librarians and head of section; 2 undertook teaching in library and information studies programs; and 4 were librarians library officers. Meanwhile, the 2 language experts identified themselves as language investigators. Only 1 participant had less than 5 years of working experience; 5 had up to ten years; 3 had between 10 and 20 years; and the other 2 had worked for over 20 years.

4.2   Respondents Behaviour on Web Search

All the 11 participants admitted to using Web search engines in searching for information. They further unveiled that, provided the results are in the language they understand, they do not care about the language of the engine's interface. All participants, except one, use both English and Swahili languages in their searches for information on the Web, though admitting to prefer English to Swahili. One participant never used Kiswahili in any of his searches on the Web. The reasons for preferring English to Kiswahili, as stated by most of the participants, are that: English has *reviewed and standard information*[08]; it is quick to get English information that is relevant, compared to Kiswahili that results to the waste of time in searching. Kiswahili was said to be mostly used when: the context of information sought is local; searching for information not related to profession/jobs; and the searcher has difficulty with English terminology.

Participants identified the driving forces for the dynamics in the language of search as: the information need at hand; nature of the task, and the information context. One participant noted that a language switch can be a search technique, *But you can search things in English and you feel like, I cannot get enough materials that I want or they are almost irrelevant, especially when the search context is in Tanzania. In that situation you simply have to switch to Kiswahili and see if you can get relevant information*[08].

Findings: Web is an important source of information to many information searchers of today, and the general Swahili speaking public is interested in Web search engines. Further, searchers are typically interested in language of the results (content) and not the interface language of search engines. Both English and Swahili languages are used in searching, with users preferring English to Kiswahili, believing that English information is up to date and relevant. Context of information sought and language competence influences the search language.

4.3   Searching using Swahili Language

3 participants were very convinced that they get relevant results when searching using Kiswahili. The remaining 7 had mixed views on the relevance of the results; some saying it depends on the precision of the query and others saying the results are insufficient, imprecise and sometimes completely irrelevant.

Scarcity of Swahili documents on the Internet was viewed as the major reason for unsatisfying results. There are a few authors in Swahili, most especially in specialized disciplines such as medicine - *sometimes those who write do not publish their works online*[07]; probably *the authors and experts have not seen the importance of making books in Swahili*[07]. Again, *forget about documents on the Web, look at the books for instance, when you come to our library, there are a few Swahili books as if we are not Swahili speakers*[07]. Hence, searchers have very limited choices to explore. Search techniques and query formulation skills were identified as other reasons; searchers do not know what exactly they are searching for, so they create vague queries. Language proficiency of the searcher; outdated Swahili information; and searching from dedicated sources such as library directories, which have absolutely no or few Swahili documents were identified as other reasons.

Findings: Many Swahili searchers do not get relevant results or are not satisfied with the results because of: scarcity of Swahili documents on the Web; poor search techniques; language incompetence; and outdated Swahili information on the Web. Further, there are few Swahili authors on professional Swahili contents and/or they do not publish their works on the Web.

4.4   Needs and uses of Swahili Information in the Society

Assuming they were professionals in other fields - such as accountants, medical doctors or engineers - or having attended such people, participants were asked their thoughts on whether they would need English or Swahili information in their jobs. 3 participants strongly argued that there is no place for Swahili information. The remaining 8 needed a combination of information in both languages with the preference for English information, just like the search language. Stated reasons for English information preference include the fact that professionals acquired their training in English; it is hard to learn new professional terminology in Swahili for use in their searches; there is no or little scientific and professional

information in Swahili; as well English is also an official language, with lots of government documents and communications. Kiswahili information was said to be desirable when there is a need to deliver information to the public - popular science - in which a simple or indigenous language is required; and works that require writing reports in Kiswahili.

On the other hand, participants were asked their views on their requirements for Swahili information as ordinary citizens. Interestingly, none of them wanted English information! Moreover, in a multilingual country such as Tanzania, all participants perceive that Swahili information is more important and needed than English. *If you want to verify that, look at daily English newspapers, they are very few! And the number of copies they publish is relatively small, if they print much, they will get loss*[10]. The major reason stated by most of our participants that support the requirement of Swahili information among citizens is poor English competency, *because of your low education and maybe many terminologies you know are in Kiswahili. So, what you do is searching for Swahili information most of the time. Your English terminology are limited*[01].

Findings: Many professionals use both English and Swahili information, preferring English the most. Getting Swahili information for expertise practice is hard, however, it is needed by professionals in undertaking popular science and delivering services to the public. Swahili information is highly needed by ordinary citizens who are competent in Swahili.

5   Conclusions

We explored the information needs and search behaviour of Swahili speakers in Tanzania, focusing on: identifying their search language preferences and their preferences on language of information in daily use. The results indicate that the demand for Swahili information from the Web is high, most especially among the ordinary citizenry. Unfortunately, they find themselves mostly using the English language in searching for information. Relevant results are among the factors motivating them to use English. However, participants reported that many ordinary citizens are less educated with limited English vocabulary to enable them search effectively in English. Highly education Swahili speakers successfully code-switch to English to find relevant information to meet their professional needs, unlike the less formally-educated. The latter group is the focus of future work, to develop specific interventions to bridge this gap, especially in human developmental contexts.

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