Methods for translating ICTs' survey questionnaire into French and Bambara

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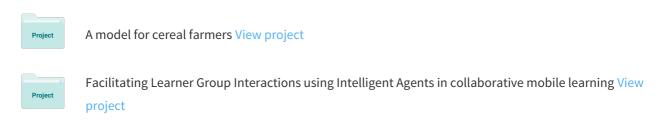**11** PUBLICATIONS **9** CITATIONS

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Methods for translating ICTs' survey questionnaire into French and Bambara

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ABSTRACT:

Researchers have used many instruments to gather data on the use of Information and Communication Technology to disseminate information on agricultural inputs towards farmers. These instruments are in English and based on some theories. The Technology Acceptance Model (TAM), the Diffusion of Innovation Theory (DOI) and the Unified Theory of Acceptance and Use of Technology (UTAUT) are the three most popular contemporary technology acceptance models. For other speaking languages especially French and Bambara, there is a need to translate. The increasing need for non-English data collection instruments and other survey materials has clearly given recent figures. Despite the availability of tools for translation, the DOI's instrument has been barely translated into French and Bambara. In this paper, we used an adaptation method to translate the DOI's instrument into French and Bambara. We produced a method for translating English survey questionnaire into French and Bambara. The method specifies and describes five steps, which are prepare, translate, pretest, revise and document.

Keywords: ICT, Agriculture, Translation, French, Bambara

1. Introduction

Information and Communication Technology (ICT)[1] has seen an exponential development in the dissemination of information especially on agriculture. Researchers have used many instrument to gather data on the subject. These instruments are based on some theories. The most technology acceptance models are : Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DOI) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Woosley & Ashia, 2011). The data collection instrument (questionnaire) of these models are in English. For other speaking languages especially French and Bambara[2], these instruments need to be translated. The increasing need for non-English language data collection instruments and other survey materials has clearly given recent figures (Pan & de la Puente, 2005). Information on ICTs' survey translation methods or procedures is limited on the translation process from English to French and Bambara. For instance, developing a guideline for translation from English to Spanish, a study argued that there are limited information on the translation procedure (Pan & de la Puente, 2005). Therefore, there is need to provide a method to translate ICTs' survey instrument into French and Bambara.

Factors affecting the use of ICTs on agricultural input information in developing countries was provided by researchers (Kante, Oboko, & Chepken, 2016). The Diffusion of Innovation Theory was

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[1] By ICT, we mean Mobile phone and telecentres

[2] Bambara is a language spoken in Mali.

the base of our proposed model. We need to collect data in Sikasso, Mali using the data collection instrument adapted from researchers (Atkinson, 2007; Ventkatesh et al., 2003). Nevertheless, there two remaining questions: a) Can we propose a method for translating this questionnaire into French and Bambara? b) What lessons have we learned?

The literature describes two approaches, which are adoption and adaptation to translate a survey questionnaire. Adoption calls for the direct translation of the data collection instrument from the source language to the target language without regard to linguistic and cultural subtleties that impact the intended meaning of the question (Carrasco, 2003). The second approach, adaptation, uses the existing questionnaire as the basis, but adaptation allows for components of the survey question to be modified or altered (independent of changes made as a result of the translation) in order to make the survey question suitable for fielding in the target language (Hoffmeyer-Zlotnik & Harkness, 2006). Adaptation acknowledges and accounts for semantic, conceptual and other differences that exist across languages.

2. Materials and Method

We used the adaptation method following the guideline of the Census Bureau guidelines (Pan & de la Puente, 2005). The adaptation allowed us to modify or alter the components of the survey question (independent of changes made because of the translation) in order to make the data collection question suitable for fielding in French and Bambara. The guidelines propose five steps in translating a questionnaire which   are: Prepare, Translate, Pretest, Revise and Document (Pan & de la Puente, 2005). But we modified the guidelines to integrate some translating rules from TRAPD (Translation, Review, Adjudication, Pre-testing and Documentation) (Harkness, 2000) and the model ASQ (Ask the Same Question (Harkness, 2000; Presser et al., 2004).

2.1. Prepare

The translation process started by establishing the *statement of work*, *documentation and subject matter contact.*

2.1.1 Statement of work

The purpose of this translation is to transfer the meaning of a questionnaire of fifty-one items in English into French and Bambara. The translation has to preserve the meaning, style and effect of the source text and at the same time respecting the sentence structure, vocabulary and meaning values of French and Bambara languages.

2.1.2 Documentation:

We provided a definition of our keys terms to the translators:
- ICT: This questionnaire refers to ICT as Information Communication Technology such as Mobile phone and telecentres.
- Household head: An individual in one family setting who provides actual support and

maintenance to one or more individuals who are related to him or her through adoption, blood, or marriage. In rural areas and to a large extent in the cities in Mali, domestic units are rarely limited to the nuclear family. Indeed, most often they consist of an extended patrilineal family (that is, they consist of a father, his wife (ves), his sons, their wives and children, and unmarried daughters). The household head will be someone who is leading the agricultural activities of the family and therefore using ICTs in this questionnaire. In other words, it is an informant.

- Relative advantage: Relative advantage (or superiority) is the degree to which an innovation is perceived as being better than the idea it supersedes (Rogers, 1983), and is often expressed in this questionnaire in terms of convenience and/ or satisfaction (Adegbidi, Mensah, Vidogbena, & Agossou, 2012).
- Compatibility: It is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters (Rogers, 1983).
- Complexity/Simplicity: complexity is the degree to which an innovation is perceived as relatively easy to understand and use (Rogers, 1983).
- Observability: Observability, also known as communicability, demonstrability or describability, is the degree to which results of an innovation are visible to others (Adegbidi et al., 2012).
- Social Influence: It is defined as the degree to which an individual perceives that important others believe he or she should use the new system (Ventkatesh et al., 2003).

2.1.3: Subject-matter contact: Translators had access to one of the author for further explanation.

2.2. Translate

An approach for survey translation that has recently gained exposure in the literature is the committee or team approach to survey translation (Harkness, 2000; Pan & de la Puente, 2005; Presser et al., 2004). We formed our translation team constituted of two translators for each language. The two translators of each language worked independently to produce the target language translation. The subject-matter contact was the translation coordinator for each one of the languages. The translators documented their work so that we could see their specific challenges and their decisions to deal with these challenges. The two translators and the coordinator reviewed the translation together. Where the translator identified a problem, the coordinator suggested a solution and the three could agree on it or reject it. A first document was then accepted for each language.

2.3 Pretest:

The widely pretesting technique cognitive interview can be applied to the pretesting of non-English language data collection instrument (Pan & de la Puente, 2005). Cognitive interviews are structured, open ended interviews, designed to gather detailed information about the cognitive thought processes respondents use to understand and answer survey questionnaire (Presser et al., 2004). We produced an English language cognitive interview. One respondent, skilled in the field of ICT4D (ICT for Development) studies was selected for each language. He was asked to describe how he understood particular question and response to see if he had difficulty in recalling.

2.4 Revise

With the cognitive interview pretest, we revised the first document to get a new one. That was the second document for each targeted language.

2.5 Document

We described all of these steps in document. A document were produced by each one of the translators, the team coordinator. The minutes of the meetings were also documented.

3. Results

This process led us to produce a questionnaire that could be filled by an English speaker, a French or a Bambara speaker. Our translation process provided some lessons (Table 1).

Table I: Lessons from the translation process

Language	Translation errors	Cultural issues	General problems
French	We had to decide among two or three French words for one English word. The choice was based on the results of our cognitive interview. For instance, the English word 'can' could be translated in French as "can" or "know". We chose can as "can" in some items and "know" in some others based on the results of the cognitive interview. The sentence structure was also an issue during the process. The sentence was constructed in such a way that it was free of spelling and grammatical errors. Doing so, 10 items structure was changed but with the same meaning.	Issues related to differences in cultural viewpoint were infrequent. Only one item made exception. The item was "Using ICTs on agricultural input information makes me feel higher in reputation than those who do not use it". This was not appropriate for the Malian culture. So, we changed it "I feel that using ICTs on agricultural input information gives me a particular status than those who do not use it".	The main problem came out with choice of "article" such as "the", "a"; "determiner/pronoun" such as "this", "those". We used the grammar and vocabulary as well as the cognitive interview to decide which word to use.
Bambara (NKO)	The main issue was that the English or even French "word(s)" does not have	The cultural viewpoints were	The general issue once again was how to

their equivalent in Bambara. For instance, the abbreviation "ICT" is very hard to translate in Bambara, we therefore decided to use the name of the ICT services in the area as ICT. Thereby, "Senekela" or "Ngasene" meant ICT on agricultural input information as these are the only ICTs operating in the area.

As the writing system strongly differs from English or French, the sentence construction also was different. That made all the items sentence structure to change but giving out the meaning intended by the sentence.

frequent in Bambara. While the future tense appeared in an item, we had to add "By God/Allah willing. For instance the item 46 in English was "I intend to use/continue to use ICTs on agricultural input information" and in Bambara we added "By Allah's willing, I intend to use/continue to use ICTs on agricultural input information".

translate the "articles" or "determinant". There is no "article" in NKO used to write the Bambara language in this instrument. The "noun" is divided into two parts and one of it is the "article" (Davydov, 2005).

The main issue coming out from the translators was related to the tense. We adopted wherever needed, the advice from the coordinator.

4. Discussion and Conclusion

We believe that our methods for translating English survey instrument on ICTs into French and Bambara formed an effective translation. It proposed five steps that are Prepare, Translate, Pretest, Revise and Document. The method was different to that of another research (Forsyth, Kudela, Lawrence, Levin, & Willis, 2006). Although, the cognitive interview and reviews were similar to that research. We have improved the guidelines of the Census Bureau Guidelines (Pan & de la Puente, 2005) by integrating in it the method ASQ (Ask the Same Question (Harkness, 2000) and the TRAPD (Translation, Review, Adjudication, Pre-testing and Documentation) method (Harkness, 2000). Our translated instrument in Bambara is one of the rare translated survey instrument on ICTs. We learned that ICTs' survey instruments translation should be done in regard to culture of the target population language. In addition, due to absence of some terms in local languages, the term ICT can be replaced by the name of an ICT's service in the area. We are currently conducting a research in Mali with this instrument. Further line of inquiry could be to test the method or to modify it taking into account some cultural viewpoints of others local languages.

Acknowledgement

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