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## Lost in translation: Qualitative data collecting and translating challenges in multilingual settings in information systems research

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### Abstract

In this paper under-researched methodological issues in information systems research of multilingual interview data collection and translation using translators explored. Observations field notes were collected during the study of the role of ICT for poverty reduction using Participatory Budgeting (PB) in Brazil. A systematic literature search conducted to find the methods used for collecting qualitative data in information systems research from 2010 to 2021. The identified research gap in data collecting and translating presented. Reflexive method used to analyse the researchers' observations field notes. The findings of the research recommended data collecting and data translation framework: single back-translation for data validity and accuracy. The work also presented the key elements of qualitative data collection, timing, follow-up questions, and interpretation. We recommend researchers to make available the data collecting instruments and collected data in the original and target languages to provide transparency, data validity, and provides data access for future research.

Keywords: Multilingual, translation, reflexive method, back-translation, data validity

### Introduction

Collecting qualitative data in multi-language setting in information system is a challenge (Temple & Edwards, 2002). This paper addresses the methodological and practical challenges of information systems research when collecting qualitative data in multilingual research settings. The need for a methodological framework arises from the following two points. In generating insights into the lived experience of people, producing meaning and sense-making in the original language is a challenge, see, for example, Klein and Myers (1999). It is doubly difficult when attempting to translate the original language into a target language. This is because researching in a multilingual setting adds challenges, including (1) interpreting the semantic significance of the narrative; (2) operational and pragmatic challenges. The original language is the language used by research participants, and the target language is the language used by the researchers to publish the result of the research.

Qualitative data collection methodology in information systems research is discussed widely in the literature (Ullah & Ameen, 2018; Westbrook, 1994). The literature review by Ullah and Ameen (2018) surveyed 58 journal papers, but a brief discussion presented on the Lost in translation: Qualitative data collecting and translating challenges in multilingual settings in information systems research

approach of collecting data in a multilingual research setting. Similarly, the study by Westbrook (1994) shows the lack of a methodological framework for qualitative data collection in a multilingual research setting. This paper fills the gap identified by the lack of methodological framework to guide the data collecting and translating processes in information systems research.

The objectives of the research include (1) to examine the published works in selected journals, to find the existence or absence of a framework that guides data collecting instrument in qualitative studies. (2) analyse the collected field data. (3) Suggest a framework if there is no framework identified in step 1 above for future use. The paper is organised as follows: (1) A literature review examines the challenges of researching in multilingual environments; (2) it then presents the method and finally (3) presents the finding, recommendation, discussion, and conclusion.

## Literature review

### *Multilingual qualitative data collection methods*

In information systems research, the literature is very scant on the methodological and operational challenges presented by multilingual data collection, as indicated in the literature (Ullah & Ameen, 2018; Westbrook, 1994). But there is a guideline recommended by Klein and Myers (1999) when conducting qualitative data collection in a monolingual research setting. However, there are exceptions, such as (Temple & Edwards, 2002). The use of formulated data collection methodology ensures data validity in the research process.

One reason for the absence of methodological and operational publications in information systems is the use of monolingual English is assumed. Ellis (Ellis, 2007) argues that, in a dominant international language setting, such as English, the norm is monolingual, and multilingual is the exception. Sometimes, the use of English is expected by researchers and research participants in countries where English is not the official working language. Edwards (Edwards, 2004) calls this “monolingual mindset” and claims that it originates from the dominance of political and economic control.

Another reason for the absence of methodological framework is the limited research conducted in a multilingual research setting. However, this is now changing. The need for a qualitative methodological framework for multilingual research in information system is growing. There are growing requests from funders for collaborative research among researchers in developed and developing countries among institutions in different countries. For example, the recent Global Challenges Research Fund (UK Research and Innovation, n.d.), funding criteria include work to strengthen capacity for research, innovation and knowledge exchange between the UK and developing countries.

When researching in a language different from the researcher’s primary language, the researcher’s world is significantly structured by the possibilities and constraints on the translation and interpretation (Kalantzis et al., 1989). Some researchers assume that translation and interpretation are ‘value free’. However, they are influenced by interpreters’/translators’ outlooks (world view), roles and social positions (Temple & Edwards, 2002); as a result, the views of interpreters/translators significantly structure the world of researchers.

The significant importance of methodological framework plays an important role in validity of qualitative data. Santos *et al.*, (Santos et al., 2015) argue that any change in research processes brings methodological challenges. They also point out that the timing and the process of interpretation from an original language to a target language have methodological implications in cross-cultural research. In other academic disciplines, such as anthropology, there are well established data-collection methodologies (Duranti, 1997). Data accuracy is central to validity,

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replicability, and rigour of research processes. Transcription and translation protocols, as part of research method, are aimed at formalising the details of transcription, completeness, and data-accuracy. Using systematic construction of meaning and sense-making for transparency and reproducibility of scientific methods are essential elements of research (Clark et al., 2017).

There is an assumption or expectation by some researchers that research participants can express themselves in English in most parts of the world. Because English is the de facto scientific lingua franca (Roth, 2013), participants tend to try to express their lived experience in English, even if they have limited competence in that language. Baumgartner (Baumgartner, 2015) argues that the depth of engagement of respondents is diminished when English is used as the research language rather than the respondents' mother-language.

The use of the original language for data collection is a preferred choice for generating qualitative data. The interpreters/translators are an essential part of translating the collected data to the target language. The importance of language in understanding and making sense of phenomena under investigation is well known (Roth, 2013). From the constructivist point of view, interviews are the generation of meaning by the interviewer and interviewee (Gubrium & Holstein, 1995). Temple and Edwards, (2002) argue that the production of meaning should include interpreters/translators when interviews are conducted in a multilingual environment. Edwards (1998) goes further, suggesting interviewing of interpreters/translators to reflect on the views and the results of the research to enrich the data and provide a lens on the observed phenomena.

The role of language is more than a medium of communication; it is a tool that constructs, shapes and re-produces the social world of a specific society (Duranti, 1997). Interpreters/translators attempt to recreate meaning and understanding expressed in one language and culture into another language and culture. The construction of meaning and understanding vary across cultures; as shown by (Roth, 2013), there is no third language that can be used as a bridge between two languages. Roth (Roth, 2013) also suggests that a dead language, such as Latin, can be used as a proxy reference language because it no longer changes. Language is continually evolving meaning and understanding are modified and reconstructed by culture. This implies that generated meaning and understanding have shelf-life.

The challenge for translators/interpreters is the search for meaning and understanding generated in one culture into another language and culture. The role of translators/interpreters is geared towards the need for collaboration with researchers and research participants in the production of meaning in these two worlds (Gubrium & Holstein, 1995). This generation of meaning is not information exchange; it is a co-operative attempt to reconstruct what is expressed in one language into another to provide a close meaning and understanding.

Reflection plays a significant role in checking if the translation captures the lived experience of the research participants. Such assessment is critical in several ways: (Roth, 2013) argues that current scientific culture assumes that 'meanings' are carried across from one language to another by translation (the concept of 'translation as a bridge or a medium') but actually 'meanings' cannot be converted between English (*the* language of science) and other languages. (Roth, 2013) further argues that qualitative social research should be concerned with research participants' lived experiences. In multilingual research settings, translation is central to making meaning and sense-making. Hence, translation becomes part of the research methodology.

When working on sensitive areas such as health or legal matters, trust becomes a significant issue when translating from an original language to a target language. Research participants may not be willing to discuss sensitive issues such as health with strangers

(Huisman et al., 2020), so the collected data may not be a true reflection of reality. Hence, another methodological issue is that there must be a trusting relationship between research participants and translators to get accurate data.

### ***Translation and sense-making***

One method of verification of translation is ‘back-translation’. For example, in the research that inspired this paper, data collecting instruments would have been translated from English to Portuguese by one of the Brazilian partners. The Portuguese would then have been translated back to English by another partner. Then the original and ‘back-translated’ data collecting instrument in English would have been compared and discussed to improve the accuracy of the translation process (Baker et al., 1991). Werner and Campbell (Werner & Campbell, 1970) argue that back-translation is the most powerful method available for assessment and checking translation.

However, there is no proof that the Portuguese (in this case) provide the same meaning as the original English. A single word may evoke a personal experience in one culture or language that is not necessarily evoked in the other culture or language (Eco, 2003). This raises whether back-translation guarantees the provision of equivalent meanings and evocation of similar experiences in different cultures or language. That is, does back-translation present rich experiences in the translated language?

Sherry Simon’s definition of communication across cultures, quoted by Temple & Edwards (Temple & Edwards, 2002) describes the challenge of translation as:

*‘The difficulty with such statements is that they seem to presume a unified cultural field which the term inhibits; the translator must simply track down the precise location of the term within it and then investigate the corresponding cultural field for corresponding realities. What this image does not convey is the very difficulty of determining “cultural meaning”. This meaning is not located within the culture itself but in the process of negotiation, which is part of its continual reactivation. The solutions to many of the translator’s dilemmas are not to be found in dictionaries, but rather in an understanding of the way language is tied to local realities, to literary forms and to changing identities. Translators must constantly make decisions about the cultural meanings which language carries and evaluate the degree to which the two different worlds they inhabit are “the same.” These are not technical difficulties; they are not the domain of specialists in obscure or quaint vocabularies. They demand the exercise of a wide range of intelligence. In fact, the process of meaning transfer has less to do with finding the cultural inscription of a term than in reconstructing its value.’*

Klein and Myeres (Klein & Myers, 1999) suggested a set of principles in collecting qualitative data collection in monolingual research settings. However, there is a gap or absence of methodological framework to guide qualitative data collection in a multilingual information systems research.

### ***Models of interpreting/translating***

The literature on interpreting/translating and the role of interpreters/translators can be viewed from two models (Edwards, 1998). Edwards’ (1998) first model is making the interpreter visible, and the second model is about controlling the invisible interpreter. In the first model, the interpreter is an active participant in the interview processes. In such research, the interpreter attempts to deliver meaning and understanding in a language different from the interviewee’s language. This is an active process of selection from a variety of possible path

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of enquiry through follow-up questions by the active translator. The selection of a particular line of enquiry has implication on the direction of how the research is guided. The selection of a particular path of enquiry does not always align with the aims of the researchers' line of enquiry.

Edwards' (Edwards, 1998) second model considers translators as simple conduits that transfer whatever interviewees say to the target language. The translator, researcher, and research participants are considered undertaking active engagement and negotiation in search of meaning. In this model, the interpreter is passive, merely searching for words that have the same meaning in the participant's and researcher's languages. However, such a 'word-for-word' translation process easily delivers a 'translation' that contains all the necessary words but at times makes no sense (Krzywoszynska, 2015).

## **Methodology**

The first part of the methodology presents the context of the data collection. It is then followed by on how data is collected for this research, finally the reflexive approach presented. The analysis is based on two sources: (1) the researchers' observation field notes compiled when collecting qualitative data when researching participatory budgeting in Brazil. Data collections conducted using multiple languages from academics and other research participants in the city of São Paulo. The collected researchers' observations field data were analysed using a reflexive method. (2) A systematic search, to verify the research gap, of selected journal papers conducted to find the methods used when collecting qualitative data in multilingual settings from 2010 to 2021.

## ***Context***

The research context is the background to any piece of research. Below, it is explained how data on Participatory Budgeting (PB) in São Paulo were collected using different languages, including working with interpreters/translators. The Brazilian partners arranged the interviews and focus-group. The Brazilian partners also generously provided voluntary interpretation/translation. In total, three languages (English, Portuguese, and French) were used to collect data; three interpreters were used to translate eight interviews and one focus group data collection with eight participants.

- Portuguese, used by Brazilian partners and most participants. The data-gathering events noted as using Portuguese were conducted by the researchers asking questions in English, then Brazilian partners translating them 'on the fly', then similarly translating responses to English.
- French used—in one interview – by the research fellow and an academic. French was used when this participant was not confident that she had understood the questions or that she could reply in English. The research fellow also translated answers in French to English – the research leader could not speak French.

## ***Survey of selected journal papers***

The aim of collecting selected journal papers data is to find if there is a methodological framework that guides the collection, translation in a multilingual research setting. If there is a methodological framework gap when collecting qualitative data in a multilingual research

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setting, the result must be available on the published works. To verify this gap, we surveyed published work in selected information systems journal published in the last decade. The survey criteria include papers published in the last 10 years, starting from 2010 to 2021. Ten years is selected to see if there are frameworks that are used in the recent years by researchers to guide their study. The second criteria include to find research conducted in multilingual research setting where translators are used to collect and translate the collected data. The selection of the information systems journals depends on two factors: (1) where journals have high ranking and (2) journals that report a high number of research conducted in multilingual settings.

The following search keywords were used: translate, interpret, multilingual, and qualitative to collect journal papers from databases and journals websites. The data, See Table 1, indicates that there were 335 journal papers and 44 satisfied the inclusion criteria.

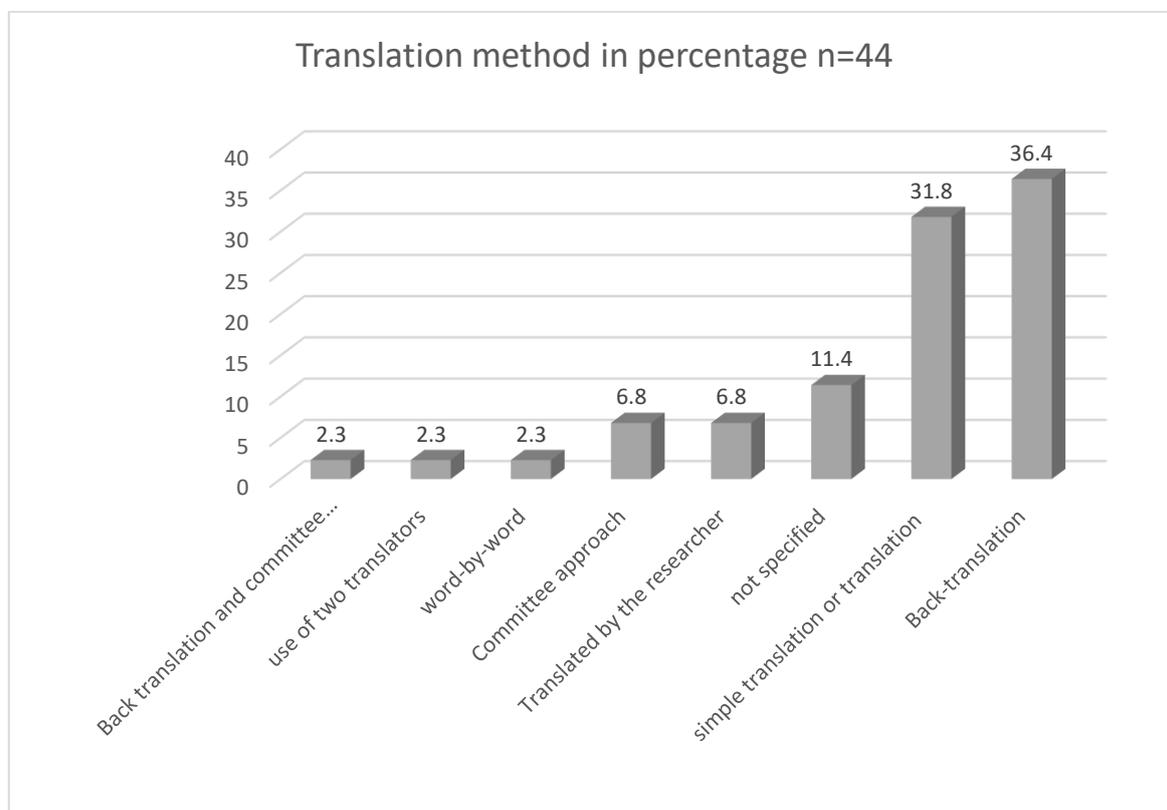
**Table 1: Selected journal papers were interpreters/translators used to collect data**

<b>Journal</b>	<b>No of papers search result using the selected keywords</b>	<b>No of papers selected satisfying the given criteria</b>
MIS quarterly	10	2
Information Systems Management	20	5
Library and information science research	4	2
Information Systems research	25	3
Journal of the association of information Systems	15	9
Electronic journal of information systems in developing countries	261	23
<b>Total</b>	<b>335</b>	<b>44</b>

The collected survey journal papers show creative method of collecting and analysing qualitative data. For example, (Alanezi et al., 2012) collected data in Arabic (original language) and conduct the analysis in Arabic. The findings of the research are then back translated into English. On the other hand, Audunson *et al.*, (Audunson et al., 2011) use three languages, the first to collect data from research participants in the participants' language then the data translated and analysed using a Norwegian language and finally the findings were translated into the English language to report the findings of the research. The use of a chain of languages to collect, analyse, interpret, and report the findings of research and the implication on the impact of multiple translation requires further research. The survey of the journal papers indicates that twenty-two languages used to collect data from research participants.

The methods used to translate/interpret the collected data is shown below in Figure 1. The result shows that 36.4% of the identified journal papers use back-translation to translate data collecting instrument from English to research participants' languages. However, this is not the case for the data collected in the original language, that is normally translated by one translator or by the researcher. The data also indicates that 43.2% use translation, that cannot provide a reliable translation in all cases. Furthermore, 11.4% of the identified published work did not state the method used for translation from the original to the target language. This indicates that enough attention has not been given to the methodological importance of translation when conducting research in a multilingual research setting. The committee

approach method, 6.8% of the result, is where a translation by one translator is checked by several bilingual researchers and translators for accuracy and validity of the translation.



**Figure 1: Translation Methods Used in the Surveyed Journal Papers**

The use of different methods for translation of qualitative data as shown above in Figure 1 indicates that the accuracy of translation will affect the validity of the findings of the research. (Twinn, 1997) argues that translation influenced qualitative research-findings.

### **Observation's data-collections**

One of the data collecting methods that is not frequently used in information systems research is observation. In this research, the researchers observe as well as participate in the qualitative data collections. The key elements that are observed during this research are:

- What are the problems of collecting and translating qualitative data when the researcher does not speak the original language used for data collection?
- What are the drivers of dynamic interactions among the researchers, interpreters, and research participants?
- The challenges of follow-up questions, pose, length and timing of interpretation.
- To what extent translation affects data accuracy, replicability, and interpretation of data?

- Discussions with interpreters, their role, and their worldview and implications on the process of the translation/interpretation of qualitative data.

The observations data collected used as an input for the systematic reflective analysis for this research. In this data collection, private information had been collected but not reported in this research (Creswell & Creswell, 2018). The collected observations data informed the discussion on data accuracy, replicability, and knowledge-generation. The collected observations data during the collections of eight interviews were analysed using the reflexive method, that formulate the themes developed and discussed below in the discussion part.

### ***Reflexive method***

Reflexive method is a contextualised reflective form of research. It is founded on the recognition that all data result from translation, interpretation and systematic reflection on research process and their outcomes. Reflexive method is a tool for formulating understanding of the construction of meaning and sense-making in qualitative research (Alvesson & Skoldberg, 2009).

In information systems research involving generation of qualitative data, the process of interpretation/translation in multilingual contexts is assumed to have data accuracy. Alvesson and Skoldberg (2009) argue that researchers must challenge such assumptions, i.e., ‘taken-for-granted assumptions and blind spots in their own social culture, research community and language’ (Alvesson & Skoldberg, 2009 p.6). Reflexive method will assist information systems researchers working in multilingual contexts in collecting and translating qualitative data. This further helps to maintain data accuracy, replicability and knowledge-generation through the collection and translation of data in a multilingual research context. In this research, a reflexive method used to formulate the main themes discussed below in the findings and discussion part below.

## **Findings**

### ***Data collecting processes key elements***

The data from the published journals survey showed that there are gaps identified on stages to follow on practical processes when preparing and collecting qualitative data and translating data in multilingual research settings. There are three stages suggested in the recommended data collecting framework. (1) Preparing and translating data collecting instruments from the target language to the original language (the language of the research participants). It is recommended that both the original and the target languages of data collecting instruments to be archived and available for verifying data validity and make available both versions of the data collecting instruments. (2) Data collecting in the original language and translate the results into the target language. (3) Data storing and sharing of the data collected in the original and target language. During data collection processes, three key themes developed from the collected data, (1) timing, (2) Follow-up questions and (3) interpretation. The key themes are presented and discussed below.

### ***Timing***

During the live interview translation, there is coordination between the researcher, the translator, and the research participant. The interpreter translates the question to the research participant and waits for the response. The research participant completes the answer or poses

to give time for the translator to translate from the original language to the target language. The data indicates that the interpreter and research participant synchronise the decision when to intervene to interpret. The body language, the glance, the pose by the research participants provides a signal for the interpreter to start interpreting what they said. At times, the interpreter may not interrupt the research participant out of a curtsy, even if the answer is long. The length of waiting time by the translator depends on the relationship between the translator and the research participant. If the research participant has a higher social, political status, the translator waits until the research participant completes the answer.

This coordination may not always work, the research participant may provide longer answer that the translator translates part of what was said or summarise the answer, this truncate what was expressed by the research participant. The summarisation of the statements is influenced by how the information is understood, conceptualised based on the experience and outlook of the interpreter. The summarisation is the process of moulding, constructing of meaning and understanding of the presented information. It seems that the same information can be summarised differently by a different translator with different background or viewpoint. The outlook of translators on the subject understudy can influence on how the information from the original language is constructed into the target language. For example, in this study, translator with different political leaning can understand and summarise the same information differently. Social and political outlooks influence the construction of meaning and understanding of information in the original language of the society. These generate competing narrative based on the same information. The addition of the world view of translators to the collected qualitative data provides on how the view of the translator construct and mould the translation (Temple & Edwards, 2002).

### ***Follow-up questions***

Follow-up questions are the key to get further insight or get clarification on points that are not clear. Conducting follow-up questions is one of the challenging activities on collecting data during live interview. The role of asking follow-up questions depends on the prior arrangement between the researcher and interpreter. The arrangement provides the interpreter to take a more active or passive role in conducting the follow-up questions. During these data collections there were interactions between the translator and research participants, in conducting follow-up questions or clarification. It seems that there is a good deal of discussion going on between the translator and research participant, and that leaves the researcher as an observer and not able to contribute or understand the discussion.

Sometimes it was not possible to organise follow up interview meetings to conduct follow-up questions; because of having research participants' other commitments. Consequently, the researchers tried to explore the areas discussed with follow-up questions during the interview; but this is not possible all the time. It becomes apparent, after the completion of the interview, that there were areas that require further clarification using follow-up questions, but these were not possible to conduct within the available time.

### ***Interpretation***

The results of the data analysis indicate that, when interpreters interpret live interview, they tend to switch between word-to-word interpretation and equivalent meaning between the original language and the target language. The use of different interpretation methods varies depending on the interpreter and research participants. With word-to-word interpretation, this

is a search for the equivalent word in the two languages. On the other hand, providing meaning expressed in the original language is a search for meaning in different culture and context of the target language. Providing meanings is not value free. The meaning is a construction of reality by the interpreter based on their worldview. The same words can mean different things when constructed with different interpreters who have divergent views, can be political, social, or other elements that have a direct relationship to the subject under study.

The reflection on these observations shows that interpretation is one of the key elements that affects data validity and accuracy. When collecting qualitative data, it is essential to store the recorded data using the original language for data validation. The use of different interpreters with divergent views will provide competing interpretation of the same data and provide further insight. The survey of published research papers indicated that the data collected in the original language is not archived for further analysis or for future studies.

## **Discussion**

The UK funding bodies are encouraging collaborative research in the UK and in the wider world, including engaging with researchers in non-English-speaking countries. Researchers who do not understand participants' and researchers' languages are heavily dependent on translators. During the PB research interviews, there were instances when the researchers felt that much was spoken in Portuguese, but the translations consisted of concise sentences which did not seem to capture all of what had been said in Portuguese. Discussions in Portuguese between partners and participants seemed to go on for some time, and the researchers could not be sure whether all these discussions were relevant to the research topics. Such factors have contributed to the suggested methods presented in Figure 2.

It is necessary for researchers and translators to have detailed discussions of translation protocols. Aspects of such discussions should include how participants exchange information, elements of trust, representation, and decision-making. In the PB research, there was an attempt to use English idioms in search of sense-making and understanding what had been presented in the original language. Further discussion with Brazilian partners showed the challenges of using idioms; they are loaded with historical, cultural, social, and political context. Other researchers have also indicated the danger of using idioms and colloquial language in search for meaning, for example (Santos et al., 2015).

A concern raised by one of the Brazilian partners mirrors concerns raised by Edwards (1998) that translators' viewpoints may affect sense-making. The partner stated 'I do not want to contaminate you with my worldview about how PB is affected by many factors, including political settings'. According to Edwards (Edwards, 1998), interpreters/translators worldview lens influence the interviews and the generation of meaning and sense-making.

Researchers heavily depend on interpreters/translators when researching in multilingual settings. Based on the foregoing literature and their experiences in such a setting, the present authors argue that research in multilingual settings should include a transparent methodological approach that deals with the challenges of collecting data when working with interpreters/translators. This is because, as already noted, the accuracy, replicability and validity of qualitative data depend on how translation and interpretation are conducted.

### ***Suggested data collecting and data translation method in multilingual data collection research in information systems***

The single and back-translation method, see Figure 2, shows the method of data collecting instrument and data translation using two translators. The word single here refers to the

translation of data collecting instrument and the collected data translation once by one of the translators.

### ***Single and back-translation suggested framework***

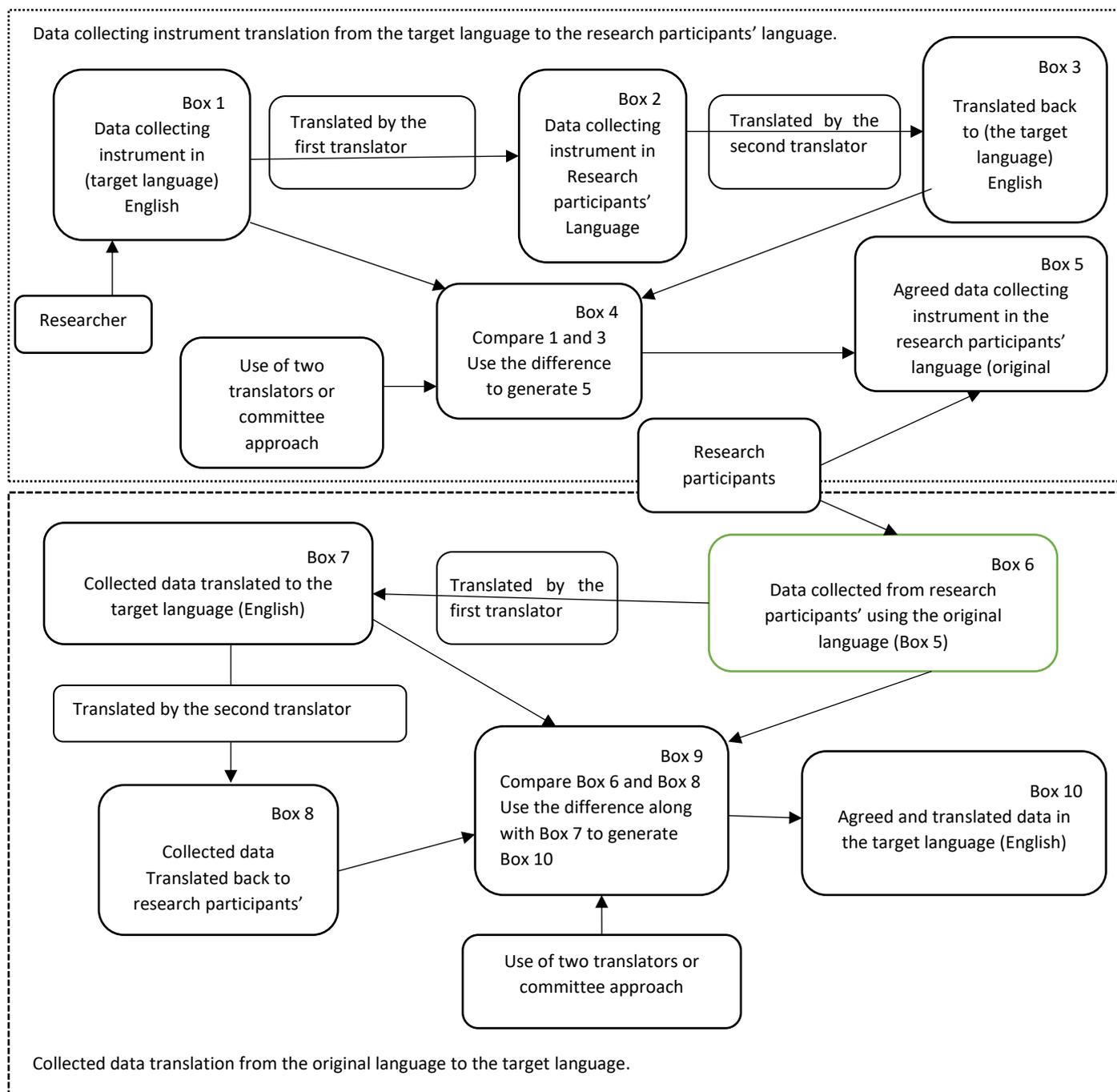
Figure 2 shows single and back-translation of data collecting instrument preparation in the original language and qualitative data translation from the research participants' original language to the target language (normally English). The suggested method requires two translators. The first translator translates the data collecting instrument from the target language to the research participants' language, the original language. The second translator, translate back the data collecting instrument from the original language to the target language. The two translators compare the two versions of the data collecting instruments and use the difference and similarities to prepare the data collecting instrument in the research participants' language.

Similarly, the collected data in the original language translated by one of the translators into the target language. The other translator translates back the data from the target language to the research participants' language. The two translators (or committee approach) compare the data collected in the research participants' language and the translated version in the research participants' languages. The two translators use the similarities and difference of the comparison to generate the final version of the collected data in the target language (English).

Below provides the tasks in Figure 2.

- Box 1.
  - Data collecting instrument in the target language. The target language is the language where the results of the study will be published and reported; this is usually English.
  - Data collecting instrument design by the researcher.
- Box 2
  - Data collecting instrument translated to the research participants' language using the first translator.
- Box 3
  - Using the second translator -translate the data collecting instrument from the original language to the target language.
- Box 4
  - Use the two translators to compare the data collecting instrument in the target language (Box 1) and the translated back data collecting instrument in Box 3.
  - It is also possible to use committee approach where a committee of bilingual translators compare the two data collecting languages Box 1 and Box 3.
  - The difference and similarities of the comparison assist to generate the data collecting instrument in the research participants' language.
- Box 5
  - The difference and similarities of the back-translations can assist in modifying the data collecting instrument in the original language (Box 2).
  - The final data collecting instrument generated because of the adjustment of the difference between the translations.
- Box 6

- Qualitative data collected from research participants using data collecting instrument (Box 5).
- Multilingual researchers can conduct the analysis of the collected data in the collected research participants' original language. This will reduce translation discrepancy, improve data validity. The result of the analysis then translated using single or double back-translation.
- Box 7
  - Collected data translated from the research participants' original language (Box 6) into the target language (English) by the first translator.
- Box 8
  - The translated data in the target language (English) (Box 7) translated back to the research participants' original language using the second translator.
- Box 9
  - Use two translators or committee approach to compare the data in the original language, Box 6, and the back translated data in the original language, Box 8. Use the comparison results along with Box 7 to generate the final translation into the target language, Box 10.



**Figure 2: suggested data collecting instrument using single and back-translation method**

**Research implications/contribution**

- We recommend researchers to make available the data collecting instruments and collected data in the original and target languages to provide transparency, data validity, and provides data access for future research.

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- We also recommend the use of multiple translators, that will facilitate rigour by introducing accuracy and data validity to the research process and output.
- Learning from best practice from Alanezi *et al.*, (2012), conduct analysis of the collected data in the original language, this helps to capture the untranslatable details in the original language, finally translate the findings into the target language.

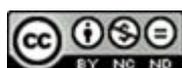
## Conclusion

This paper addresses the qualitative data collection translation methodology gap in the information systems field. The finding of this research indicates the lack of data collecting framework for qualitative data in information systems research. In this paper, the authors presented data collecting and data translating framework using single back-translation method. The framework provides data collecting and data translation processes when collecting qualitative data in multilingual research settings. The findings of the paper indicate the importance of the inclusion of the worldview of the translators/interpreters to show the lens used for interpretation. Furthermore, it presents the importance of paying attention to the key elements identified in the research namely timing, follow-up questions and translation during conducting interviews in information system research.

The importance of pre-agreed participation level of translators/interpreters facilitates and reduce the challenges of timing, follow-up and interpretation of live data translation when collecting qualitative data. Collection of qualitative data on research participants' lived experiences is a challenge in multilingual research settings. It is essential to agree on the roles and activities of researchers and interpreters/translators before collecting qualitative data in information systems research settings.

## References

- Alanezi, M. A., Mahmood, A. K., & Basri, S. (2012). E-Government Service Quality: A Qualitative Evaluation in the Case of Saudi Arabia. *The Electronic Journal of Information Systems in Developing Countries*, 54(1), 1–20. <https://doi.org/10.1002/j.1681-4835.2012.tb00382.x>
- Alvesson, M., & Skoldberg, K. (2009). *Reflective Methodology: New Vistas for Qualitative Research* (2nd ed.). Sage Publications Ltd.
- Audunson, R., Essmat, S., & Aabø, S. (2011). Public libraries: A meeting place for immigrant women? *Library and Information Science Research*, 33(3), 220–227. <https://doi.org/10.1016/j.lisr.2011.01.003>
- Baker, P., Hussain, Z., & Saunders, J. (1991). *Interpreters in public services: policy and training*. Venture Press.
- Baumgartner, I. (2015). Handling Interpretation and Representation in Multilingual Research: A Meta-study of Pragmatic Issues Resulting from the Use of Multiple Languages in a Qualitative Information Systems Research Work. *The Qualitative Report*, 17, 1–21. <https://doi.org/10.46743/2160-3715/2012.1717>
- Clark, L., Birkhead, A. S., Fernandez, C., & Egger, M. J. (2017). A Transcription and Translation Protocol for Sensitive Cross-Cultural Team Research. *Qualitative Health Research*, 27(112), 1751–1764. <https://doi.org/10.1177/1049732317726761>
- Creswell, J. W., & Creswell, D. J. (2018). Research design : qualitative, quantitative & mixed methods approaches. In *SAGE (Internatio)*. SAGE.
- Duranti, A. (1997). *Linguistic anthropology*. Cambridge University Press.
- Eco, U. (2003). *Mouse or Rat?: Translation as Negotiation*. Weidenfeld & Nicolson.



- 
- Edwards. (1998). A critical examination of the use of interpreters in the qualitative research process. *Journal of Ethnic and Migration Studies*, 24(1), 197–208. <https://doi.org/10.1080/1369183X.1998.9976626>
- Edwards, V. (2004). *Multilingualism in the English-speaking world*. Blackwell.
- Ellis, E. M. (2007). Monolingualism: The unmarked case. *Sociolinguistic Studies*, 7(2), 173–196. <https://doi.org/10.1558/sols.v7i2.173>
- Gubrium, J. F., & Holstein, J. A. (1995). *The Active Interview*. SAGE Publications Inc.
- Huisman, M., Biltereyst, D., & Joye, S. (2020). Sharing is caring: the everyday informal exchange of health information among adults aged fifty and over. *Information Research*, 25.
- Kalantzis, M., Cope, B., & Slade, D. (1989). *Minority languages and dominant culture: issues of education, assessment, and social equity*. Falmer Press.
- Klein, H. K., & Myers, M. D. (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, 23(1), 67–93. <https://doi.org/10.2307/249410>
- Krzywoszynska, A. (2015). On being a foreign body in the field, or how reflexivity around translation can take us beyond language. *Area*, 47(3), 311–318. <https://doi.org/10.1111/area.12202>
- Roth, W. M. (2013). Translation in qualitative social research: The possible impossible. *Forum Qualitative Sozialforschung*, 14(2). <https://doi.org/10.17169/fqs-14.2.1986>
- Santos, H. P. O., Black, A. M., & Sandelowski, M. (2015). Timing of translation in cross-language qualitative research. *Qualitative Health Research*, 25(1), 134–144. <https://doi.org/10.1177/1049732314549603>
- Temple, B., & Edwards, R. (2002). Interpreters/Translators and Cross-Language Research: Reflexivity and Border Crossings. *International Journal of Qualitative Methods*, 1(2), 1–12. <https://doi.org/10.1177/160940690200100201>
- Twinn, S. (1997). An exploratory study examining the influence of translation on the validity and reliability of qualitative data in nursing research. *Journal of Advanced Nursing*, 26(2), 418–423. <https://doi.org/10.1046/j.1365-2648.1997.1997026418.x>
- Ullah, A., & Ameen, K. (2018). Account of methodologies and methods applied in LIS research: A systematic review. *Library & Information Science Research*, 40(1), 53–60. <https://doi.org/10.1016/j.lisr.2018.03.002>
- Werner, O., & Campbell, D. (1970). Translating, working through interpreters, and the problem of decentering. In *A handbook of method in cultural anthropology*.
- Westbrook, L. (1994). Qualitative research methods: A review of major stages, data analysis techniques, and quality controls. *Library & Information Science Research*, 16(3), 241–254. [https://doi.org/10.1016/0740-8188\(94\)90026-4](https://doi.org/10.1016/0740-8188(94)90026-4)