

# Exploratory Study: How the Usage of a WhatsApp-based Chatbot Influences Data Collection in Sub-Saharan Africa

Chatbots surveys could enable remote data collection in Sub-Saharan Africa, but how well do they work in practice?

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Find out more!



## Motivation

- Data collection using chatbots is largely under-explored in Sub-Saharan Africa.
- Remote data elicitation challenging (reasons: low PC ownership, electricity & internet).
- Paper-based approaches still prevail.
  - disadvantages: distribution, scalability etc.
- Mobile phones have become commonplace in many African countries and WhatsApp is widely used.
- Chatbots surveys in WhatsApp could enable remote data collection.



Digitization of paper-based data collection in Tanzania.

## Method



- Impact-Survey-Bot (ISB) as chatbot:
  - open-source, developed by A2EI
- Six semi-structured, qualitative interviews:

	DRC	Tanzania	Kenya
Researchers	2	2	2
Survey-Participants	2	2	2

- Focus:** prior data collection experience, expectations, perceived benefits, experience using the chatbot

## Results

“The advantages [...] are the ability to reach a number of different users who are in many different places through a medium that they are already familiar with.” - Researcher

“It was familiar as it's like the WhatsApp chat which I use most of my times (sic).” - Survey Participant

“... challenges would be low internet connectivity, sometimes no network at all and times you have no data.” - Survey Participant

“... advantages [are] the ability to capture [...] data that [is] typically associated with communications rather than with data collection, such as voice notes, pictures, and [...] GPS ...” - Researcher

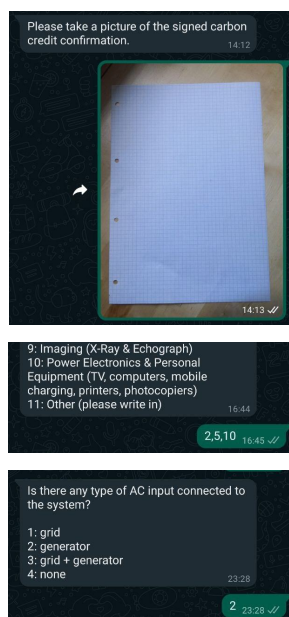
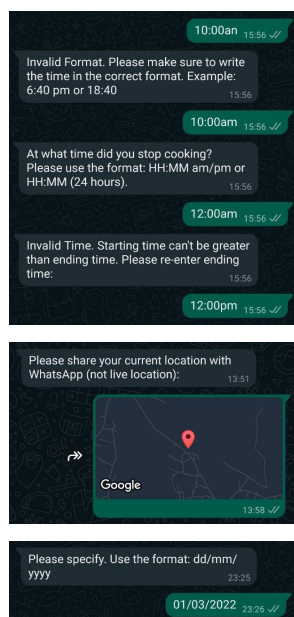
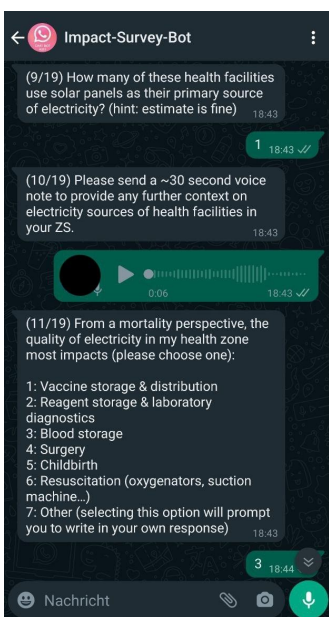
“It gives them more flexibility to not have to wait and welcome a stranger in their home every day during the cooking diaries and allows them to fill out the survey on their own time.” - Researcher

## Key Take-Aways

- Data collection using WhatsApp-based chatbot surveys is feasible with different study designs in Sub-Saharan Africa.
- Interface familiarity was a key factor for the method's success.
- Main advantages for survey participants were the flexibility and the familiar interface.
- Researchers benefited most of time and cost savings through digital data collection and access to media inputs.
- The requirement of a frequent internet connection might be a significant limitation.
- Other challenges were clarifying questions and personal phone usage.
- AI-integration was most desired feature.

## Future Work

- Our research is only initial exploration of the space.
- Numerous avenues for further work:**
- Can chatbot surveys be used efficiently in (deep) rural areas? How does it affect the study?
- What are use cases for audio and visual media in surveys? How can they be used efficiently?
- How does the change in data collection methodology affect the results? Does it affect the demographics?



Interface of Impact-Survey-Bot in WhatsApp (showing various input types including voice message, selection, date, time, GPS and picture).

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