

Mobile data: The future of evidence in development? An examination of the validity of SMS in population surveys

MSRA conference
Digital Impact – New, Now & Never Again
September 8th 2016





We all understand the opportunity in mobile

SMS is already used in Development

Citizen feedback

In Uganda, citizens use SMS to report issues in local government service provision, enhancing government accountability

Engaging youth

The U-Report system engages 1 million youth in 20 countries – allowing youth to share their concerns and providing a platform for public awareness campaigns

Better reporting on schools

In Kenya, school heads use SMS to report data on school quality and learner performance – enhancing speed, cost effectiveness, and quality compared to paper forms

Rapid evaluation surveys

Across Africa, programs use SMS for rapid evaluation to monitor program effectiveness, allowing for course correction if necessary

Monitoring disease outbreaks

During the Ebola crisis, SMS was used to monitor cases, educate the public, and help allocate resources to affected areas

Public health & behaviour change

In Uganda, SMS is used to raise awareness about diabetes among the public, health workers, and medical students

Monitoring drug stocks

Health workers can use SMS to monitor stocks of medicines at health facilities, such as in the Mtrac programme in Uganda

Communicating with the field

For an education project in Ghana, SMS is used to communicate with data collectors in the field, offering reminders about protocols and encouragement for a job well done

Defining the focus of this paper

Data collection for implementation

Feedback collected from beneficiaries or stakeholders – *we know this works within the limits of response*

Population based surveys

Interview a representative sample of the population for research or evaluation purposes.

In our development practice often need representative national, including rural, poor

Our research: SMS in population based surveys

How representative are general population SMS surveys, and are there ways to improve this?

Does non-response have an impact on representativeness?

Can we improve quality through shorter surveys?

Understand how SMS fits into the survey toolkit
Provide practical guidance on how to optimise SMS survey design

Study design

Very robust face to face survey

An experimental design with SMS to test how design factors impact representativeness in Kenya



Testing what makes for a more representative sample

- n=2960, SMS survey, in English and Swahili
- Stratified, national probability sample
- Tested the impact of **survey length, incentive, invitation day/time, and a "don't know" option**

In depth qualitative interviews to understand reasons for non-response



Unpacking the deeper reasons behind non-response

- 15 in-depth interviews with those who did not start the survey or did not complete it

Running optimal design across 3 countries – Ghana, Nigeria and Uganda – comparison with face-to-face



Applying the learnings from Kenya in 3 other countries

- n=6,737 SMS survey across Ghana, Nigeria and Uganda
- Based on design factors that support best response rate
- Stratified, national probability sample
- Collect robust paradata on timing and previous participation

The research findings



Addressing our research questions

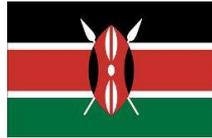
Research question
#1

Does non-response
have an impact on
representativeness?

Research question
#2

Can we improve
quality through
shorter surveys?

Data collection across 4 countries



Kenya



Ghana



Nigeria



Uganda

Number of SMS
invitations sent

24,954

394,181

1,124,759

14,686

Number of data
collection days

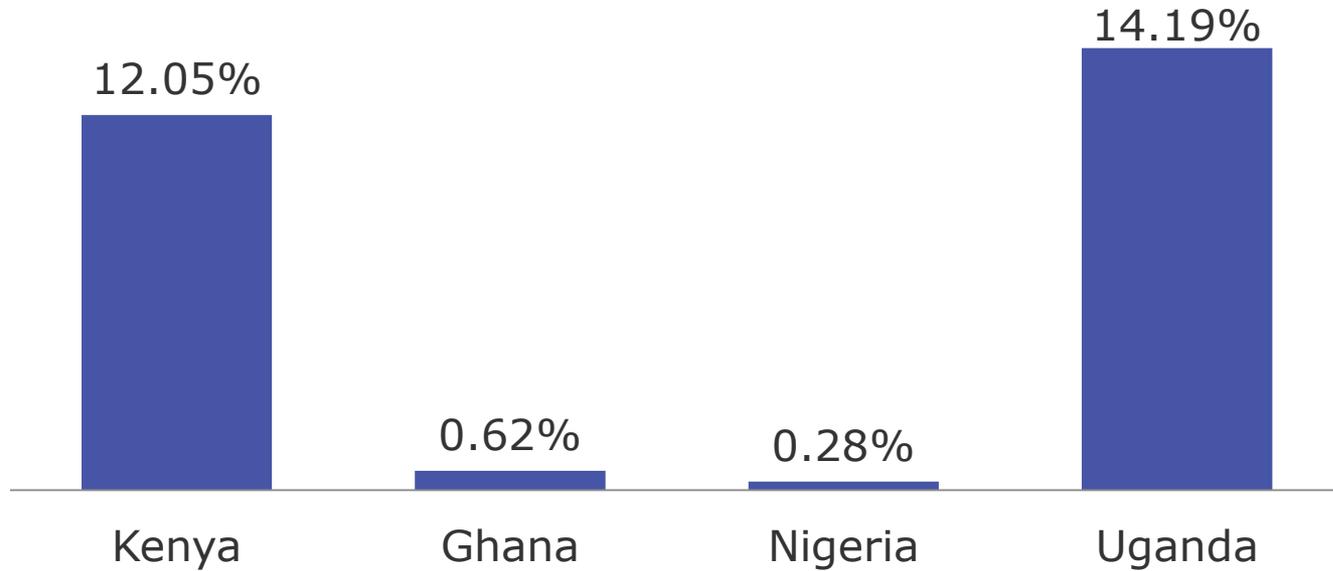
17 days
(10 Nov –
8 Dec)

4 days
(27–30 Nov)

4 days
(27–30 Nov)

4 days
(27–30 Nov)

Response rate by country



Number of completed interviews	2,960	2,277	2,392	2,068
Rate of previous participation	17.28%	1.48%	0.29%	100%

This biases our findings

Nigeria

Base size varies by question

SMS survey data

Females aged 35-65 (unweighted)

5%



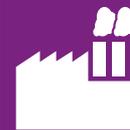
Post-secondary education (weighted on age x gender)

60%



Full-time employment (weighted on age x gender)

18%



F2F data

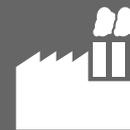
18%



10%



10%



F2F data – mobile only

16%



14%



12%



Also, compared to the F2F data for mobile users, the SMS respondents in Kenya were...



More likely to have more than 1 SIM card

(11 percentage point difference, n=2,915)



Less likely to have anyone else use their SIM card

(16 percentage point difference, n=2,808)



More likely to be aware of the internet

(4 percentage point difference, n=1,603)



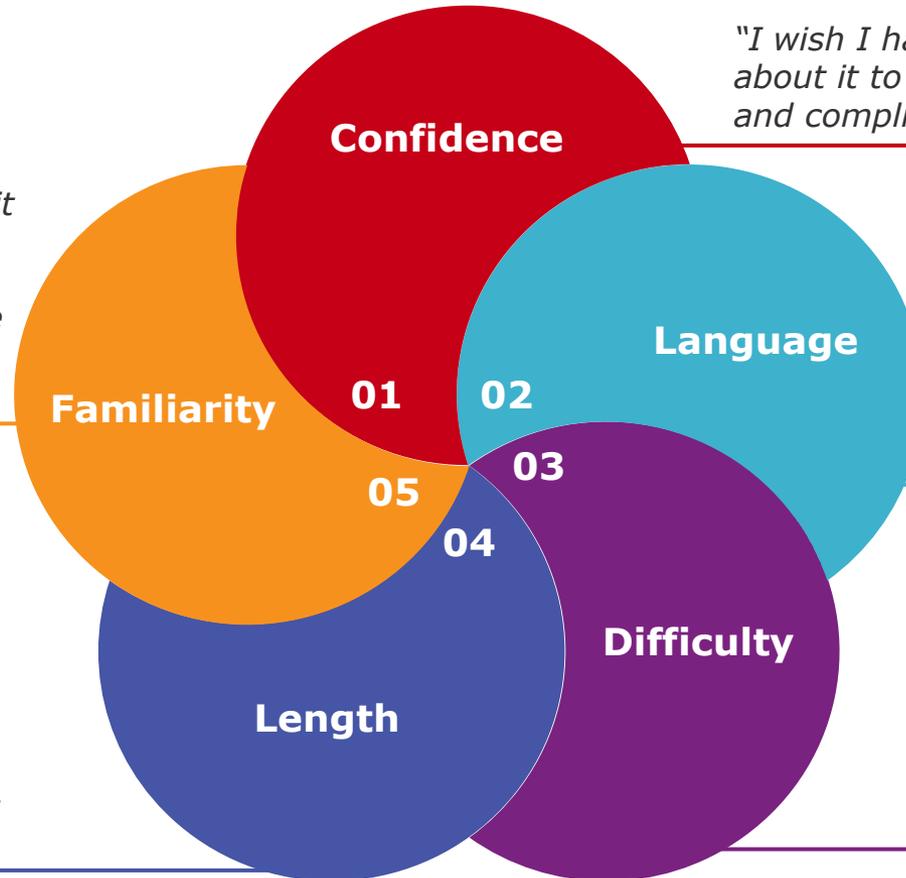
Amongst those aware of the internet, notably more likely to use it

(36 percentage point difference, n=1,230)

Why do people not respond?

Familiarity and trust

"I had never heard of it before, but from the name which sounded foreign, I expected the questions to be too difficult to answer"



Not comfortable to do it on their own

"I wish I had someone who had heard about it to consult, it looked strange and complicated so I didn't do it"

Language as a barrier

"It had very complicated English, even if I wanted to do it I could not"

It would take too long

"I thought it might take more than twenty minutes, that that was too long"

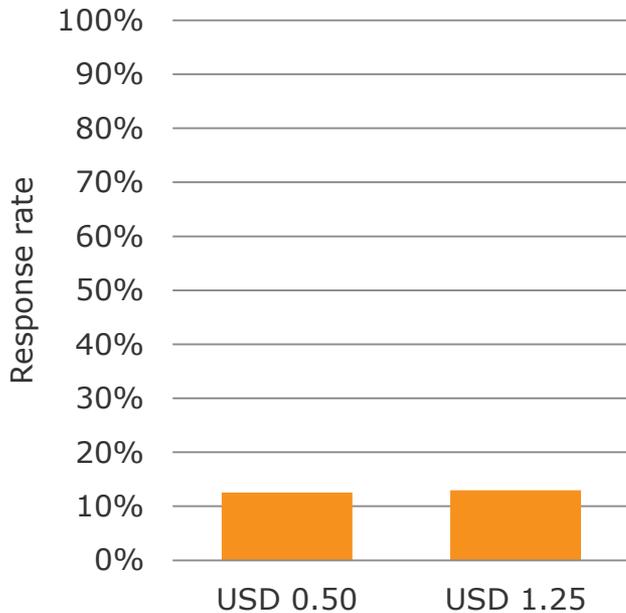
It would be too difficult to do

"Those questions are like those you see in forms when going to apply for a job, you have to think"

Base size: Kenya n=15

Is there anything else we can do to counter non-response?

Do not use incentives to increase response rate



Do use reminders to reach a wider slice of the sample



#2 Does non-response have an impact on representativeness?

Yes, even with larger samples, non-response does impact representativeness

To help reduce this impact, we would suggest that you:

01

Use very simple and clear phrasing across all languages

02

Use reminders to reduce non-response error

Addressing our research questions

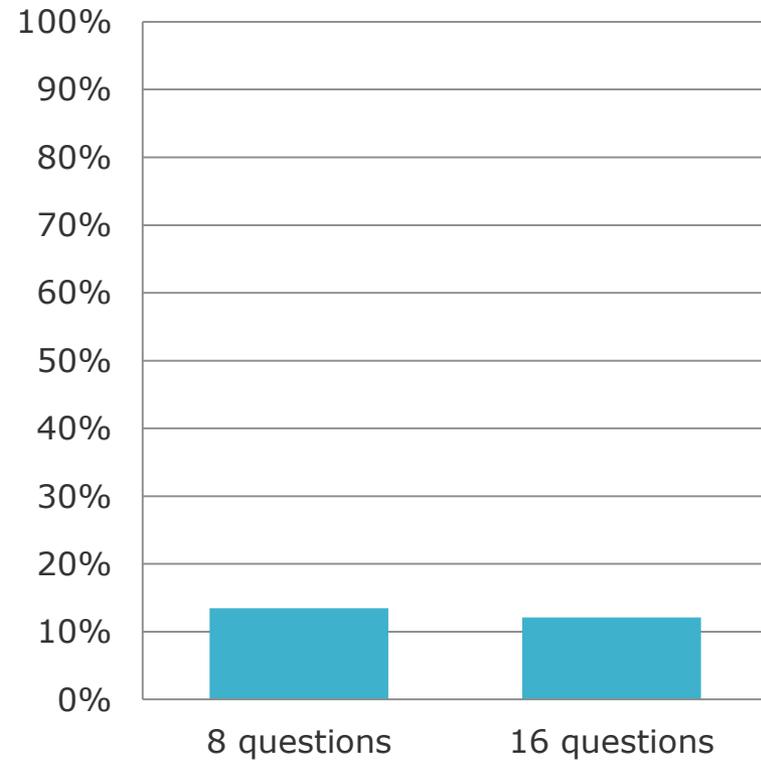
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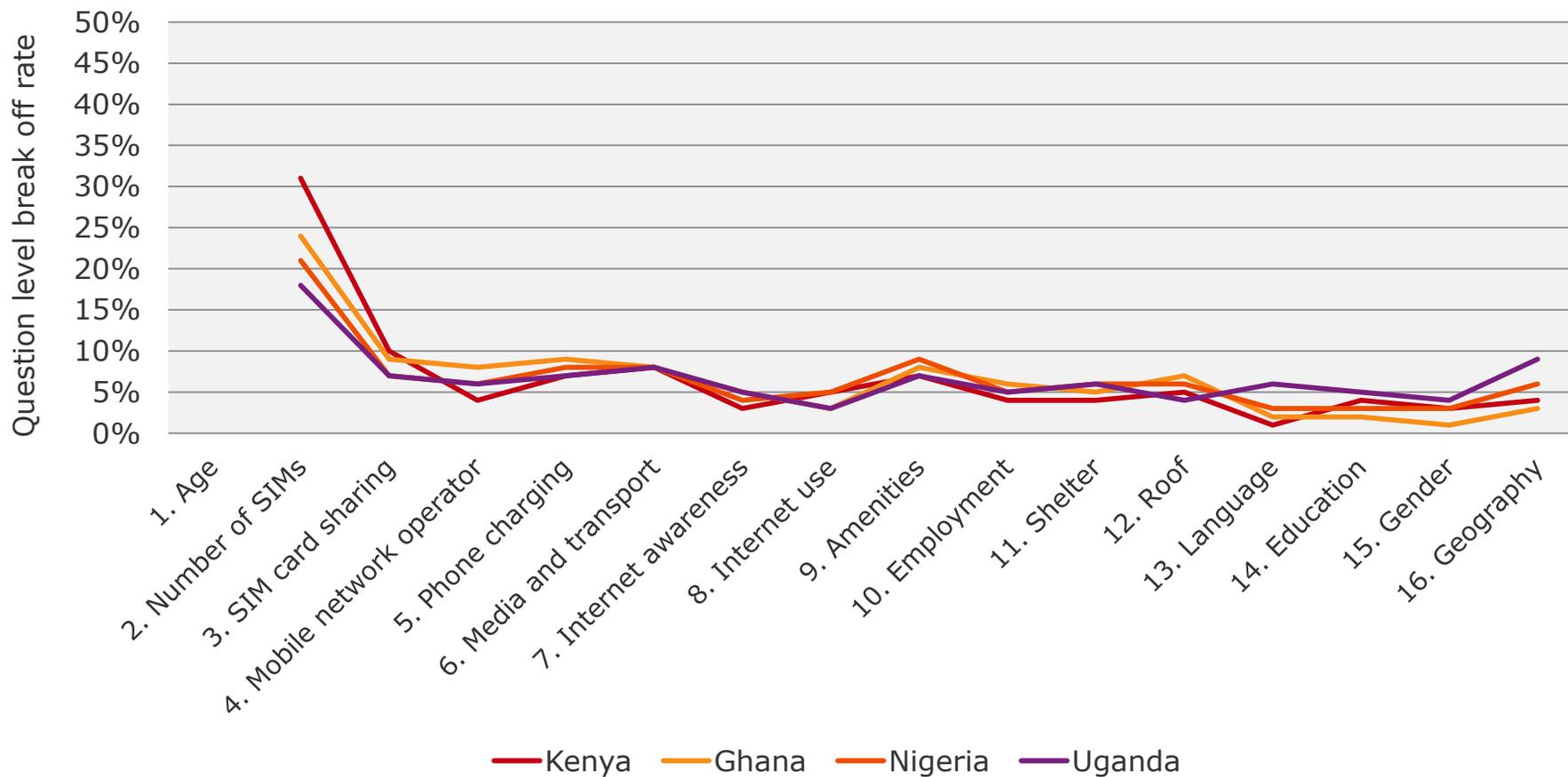
Can we improve
quality through
shorter surveys?

Survey length does not affect response rate



Base size: Kenya n=19,622

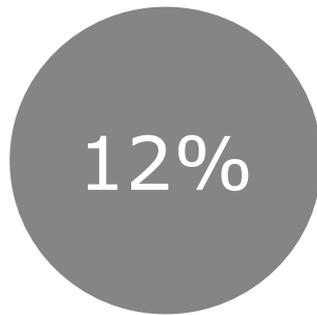
Break off rates do not increase in later questions



Base size varies by question

How many respondents only gave 1 answer?

We had asked: Which of these do you use twice a month or more? 1)TV 2)Radio 3)Car 4)Mobile phone 5)Computer 6)Motorcycle 7)None (Select all that apply)



F2F data



SMS survey data



I started to worry midway that I might be doing the wrong thing



Base size: Kenya n=1,646 Ghana n=2,277 Nigeria n=2,392 Uganda n=2,068

Using don't know responses to improve design



“

I stopped and thought, what if it is Kamiti prison inmates, people are usually conned through SMS, so I stopped

”

#3 Can we improve quality through shorter surveys?

Not necessarily, there is no evidence that a very short design improves quality

We would therefore recommend:

- 01 Allow for a moderate length for SMS survey design
- 02 Use single response survey questions only
- 03 Use 'don't know' to improve design in pre-testing

The potential of SMS research for the development community



The potential of SMS research for the development community

SMS and representivity

Where representivity is your number one consideration SMS is not ready to step in and replace classic research



Keep an eye on it

When SMS is extraordinary

There is no doubt that SMS is the only route to go for urgent crisis evaluations and rapid communications – look at data more “qualitatively” or as if from a key informant



Use it now

Optimising SMS for now

Where SMS is being used right now, our results can offer practical guidance to optimise design



Do it better

Design recommendations for SMS

Know the source and the mobile landscape

Ask the difficult questions of your mobile sample provider

Unpack differences in coverage both within and across countries

Use single response questions

Do not use "select all that apply" type questions

Save your **budget**

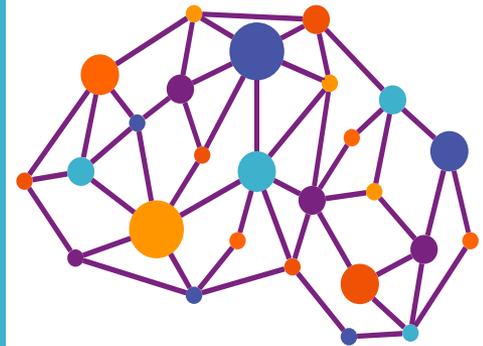
An increase in incentives do not support higher response rates

Use reminders to counter non-response error

There is leeway in survey length

Survey length is not an absolute barrier but be cautious about the invitation wording

Use 'don't know' response to identify questions to improve – including the language and phrasing we use



Mobile data: The future of evidence in development?

Thank you

