SMS Surveys in Africa

3MC - 2016

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Acknowledgements

- This project is a research partnership between RTI and TNS

- Co-authors
  - Ansie Lombaard (TNS)
  - Melissa Baker (TNS)
  - Joseph Eyerman (RTI)
  - Lisa Thalji (RTI)

SMS Surveys: Promises and Challenges

High mobile penetration

Fast

Low cost

Works on GSM phones

Promise of reach

Access to new data

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Coverage error

Non-response error

Measurement error

Our research: SMS in population based surveys

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

Does the sample frame match the target population?

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 optimize SMS survey design

Study design

Face to face survey

An experimental design testing the impact of different design factors on representativeness in Kenya

→

Testing what makes for a more representative sample

- n=2960, in English and Swahili
- Stratified, national probability sample
- Replicate questions from face to face survey
- Test the impact of survey length, incentive, invitation day/time, and a "don't know" option

In depth qualitative interviews to unpack our survey findings in Kenya

→

Unpacking the deeper reasons behind non-response

- 15 telephonic in-depth interviews with those who did not start the survey or did not complete it
- Explore overall reaction to the SMS survey to better understand the issue of non-response

Testing an optimal design across 3 countries – Ghana, Nigeria and Uganda

→

Applying the learnings from Kenya in 3 other countries

- n=6,737 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

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Addressing our research questions

Research question #1

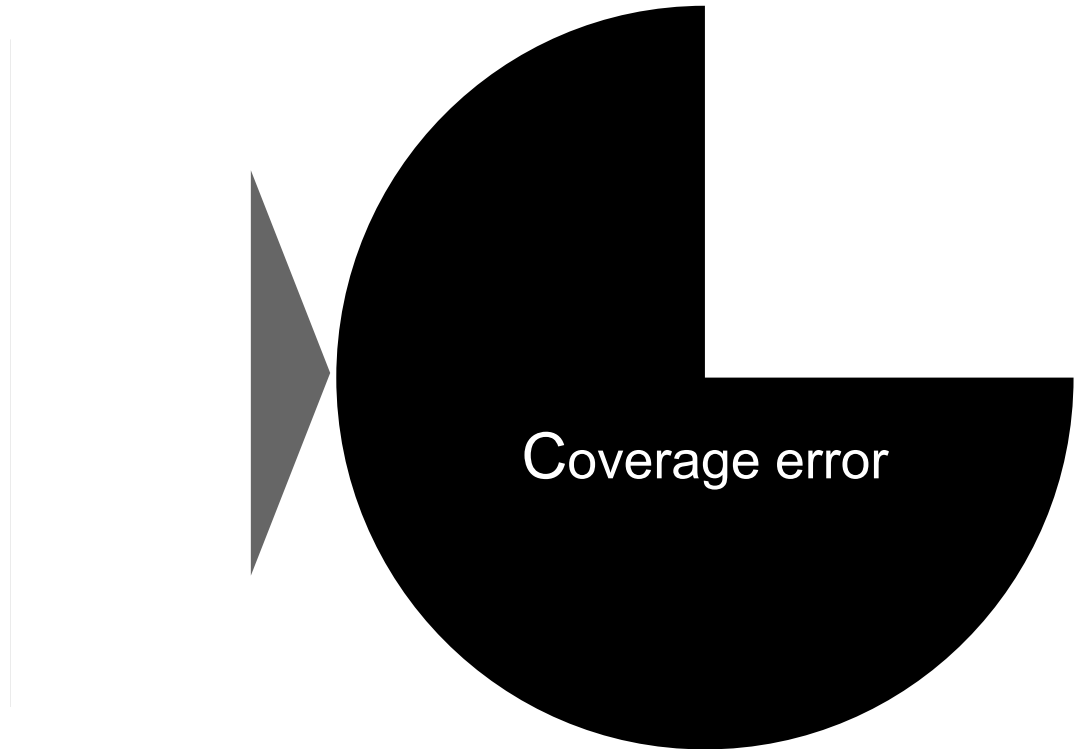Does the sample frame match the target population?

Research question #2

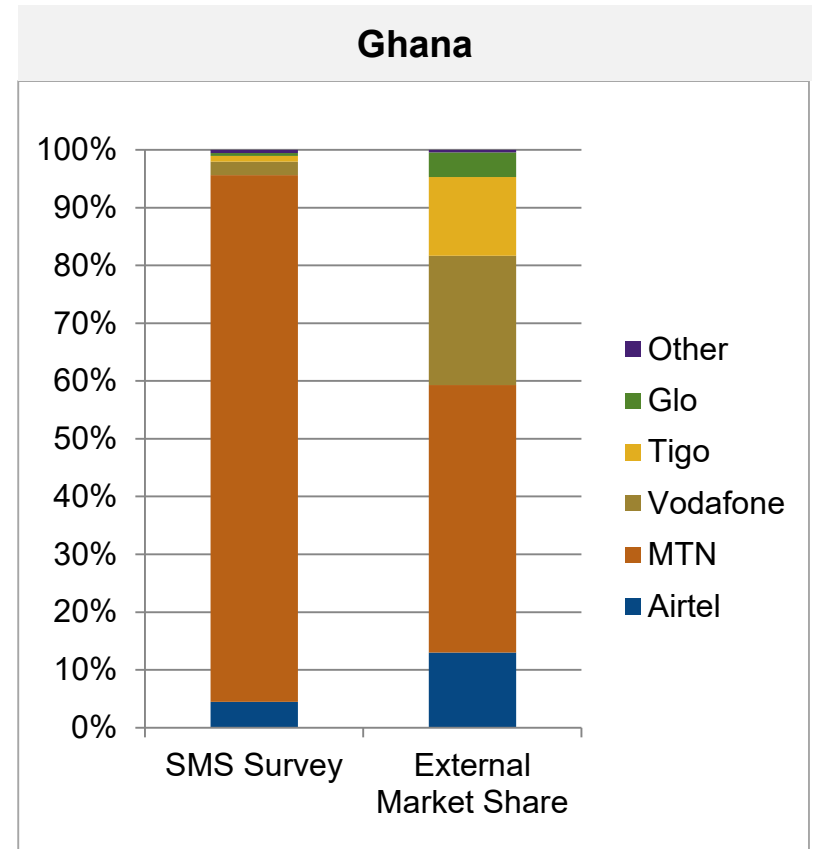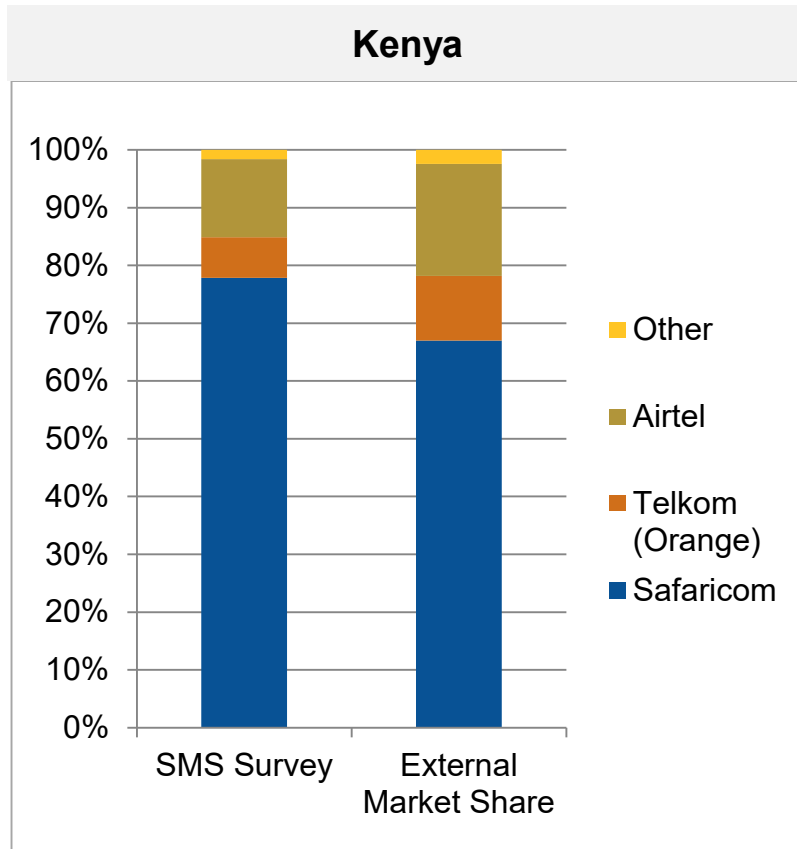Does non-response have an impact on representativeness?

Research question #3

Can we improve quality through shorter surveys?

Coverage error

Coverage error

Coverage varies across countries

Kenya

Ghana

Base size: Kenya n=2,960   Ghana n=2,277

External market share figures:
Kenya: Fourth Quarter Sector Statistics Report for the Financial Year 2014/2015 (April-June 2015), Communications Authority of Kenya
Ghana: Mobile voice subscription trends for August 2015, National Communications Authority

Addressing our research questions

Research question #1

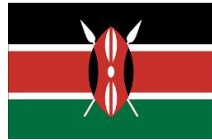Does the sample frame match the target population?

Research question #2

Does non-response have an impact on representativeness?

Research question #3

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)

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Response rate by country
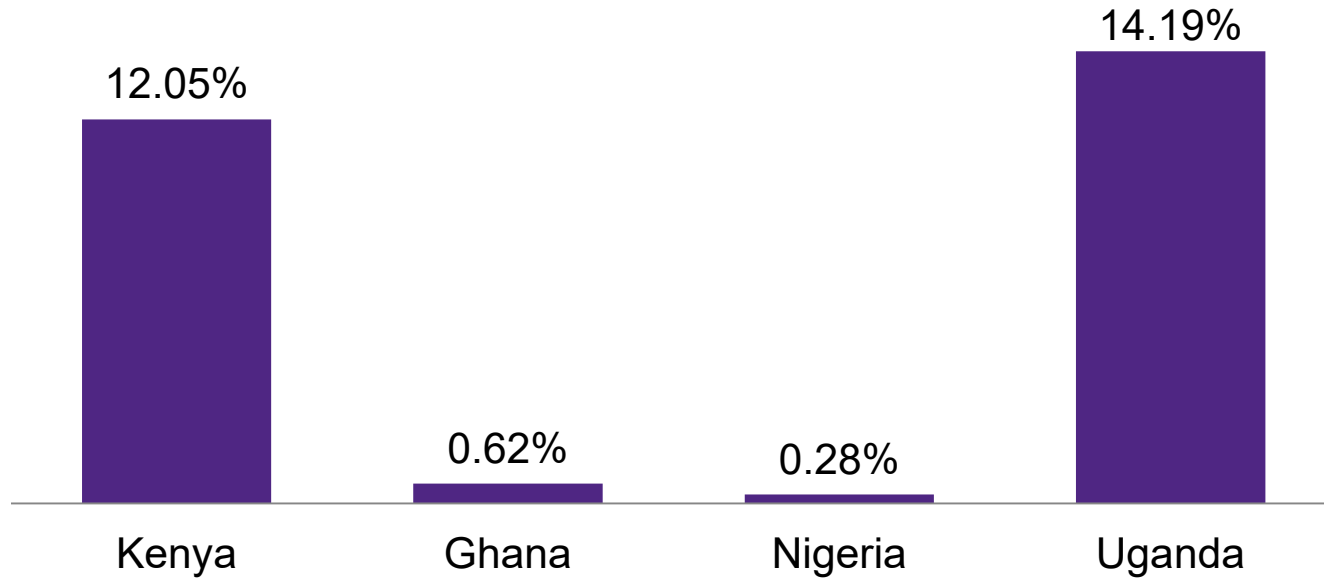
	Kenya	Ghana	Nigeria	Uganda
Number of completed interviews	2,960	2,277	2,392	2,068
Rate of previous participation	17.28%	1.48%	0.29%	100%

Low response rates lead to bias

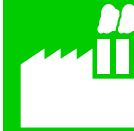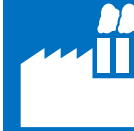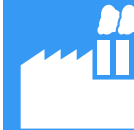| Nigeria Base size varies by question	Females aged 35-65 (unweighted)	Post-secondary education (weighted on age x gender)	Full-time employment (weighted on age x gender)
SMS survey data	5%	60%	18%
F2F data	18%	10%	10%
F2F data – mobile only	16%	14%	12%

14

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Compared to F2F data for mobile users, 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
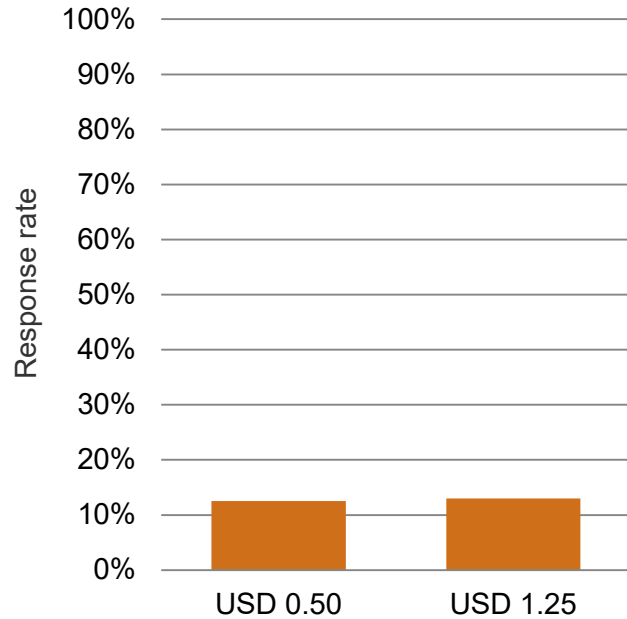
(4 percentage point difference, n=1,603)

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

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

How can we counter non-response?

Increasing incentives doesn't raise the response rate

Do use reminders to reduce non-response bias

Addressing our research questions

Research question #1

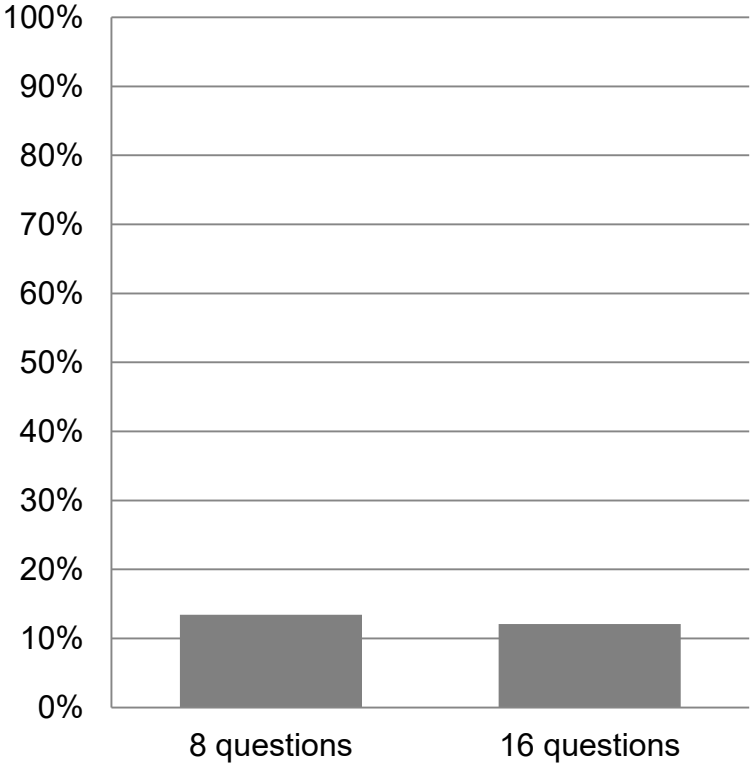Does the sample frame match the target population?

Research question #2

Does non-response have an impact on representativeness?
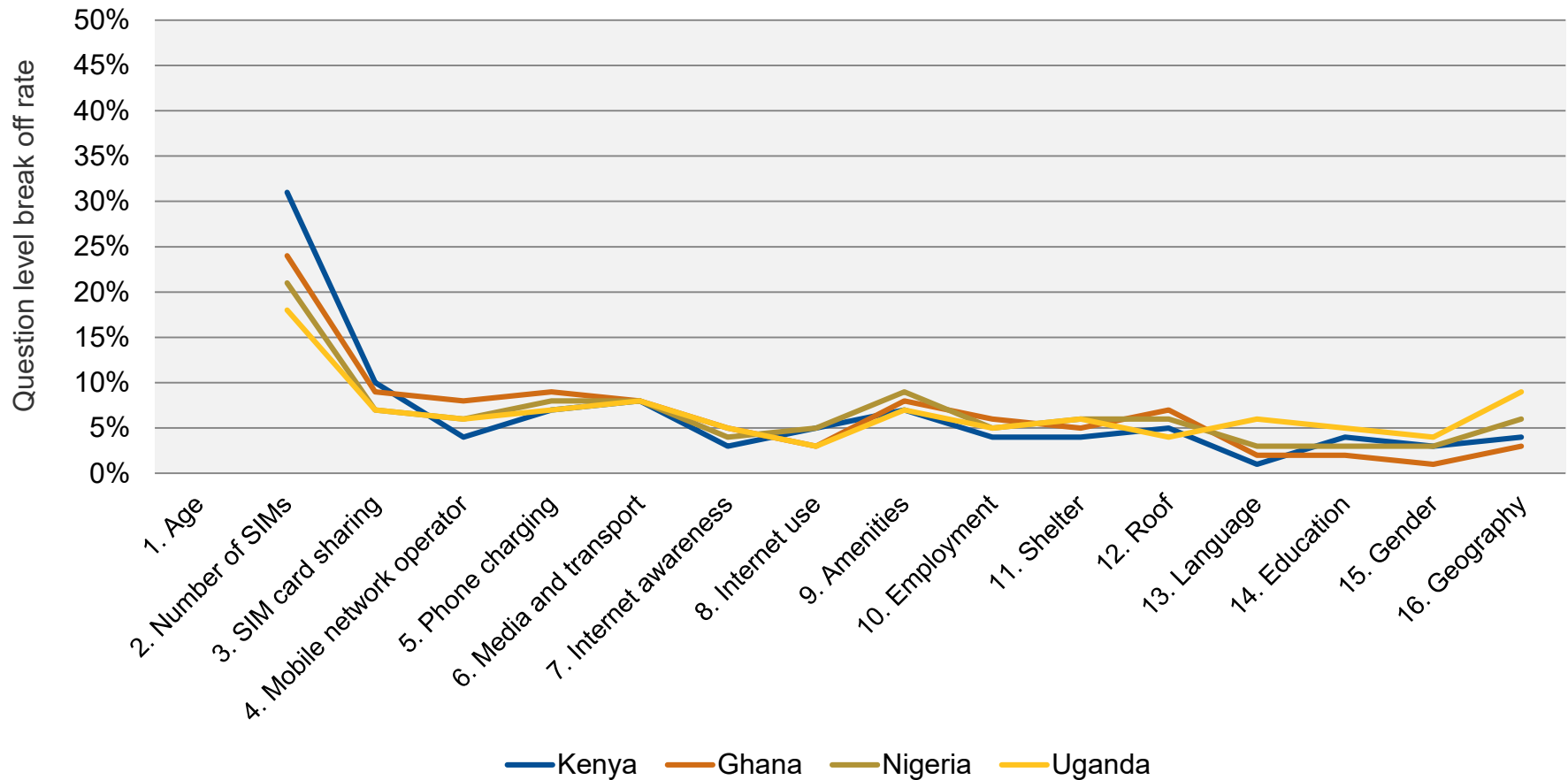
Research question #3

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

Question level break off rate

Legend: Kenya, Ghana, Nigeria, Uganda

X-axis categories: 1. Age, 2. Number of SIMs, 3. SIM card sharing, 4. Mobile network operator, 5. Phone charging, 6. Media and transport, 7. Internet awareness, 8. Internet use, 9. Amenities, 10. Employment, 11. Shelter, 12. Roof, 13. Language, 14. Education, 15. Gender, 16. Geography

Base size varies by question

Bonus: Measurement Issues

Response Order Effects

What is the roofing material of your home or shelter?
1)Thatch/grass 2)Shingles/plastic sheets 3)Metal/tin/zinc 4)Tiles/asbestos 5)Concrete 6)Other 7)Don't know

The position for the first **five** response options is randomized

Response Order Effects

What is the roofing material of your home or shelter?
1)Thatch/grass 2)Shingles/plastic sheets 3)Metal/tin/zinc 4)Tiles/asbestos 5)Concrete
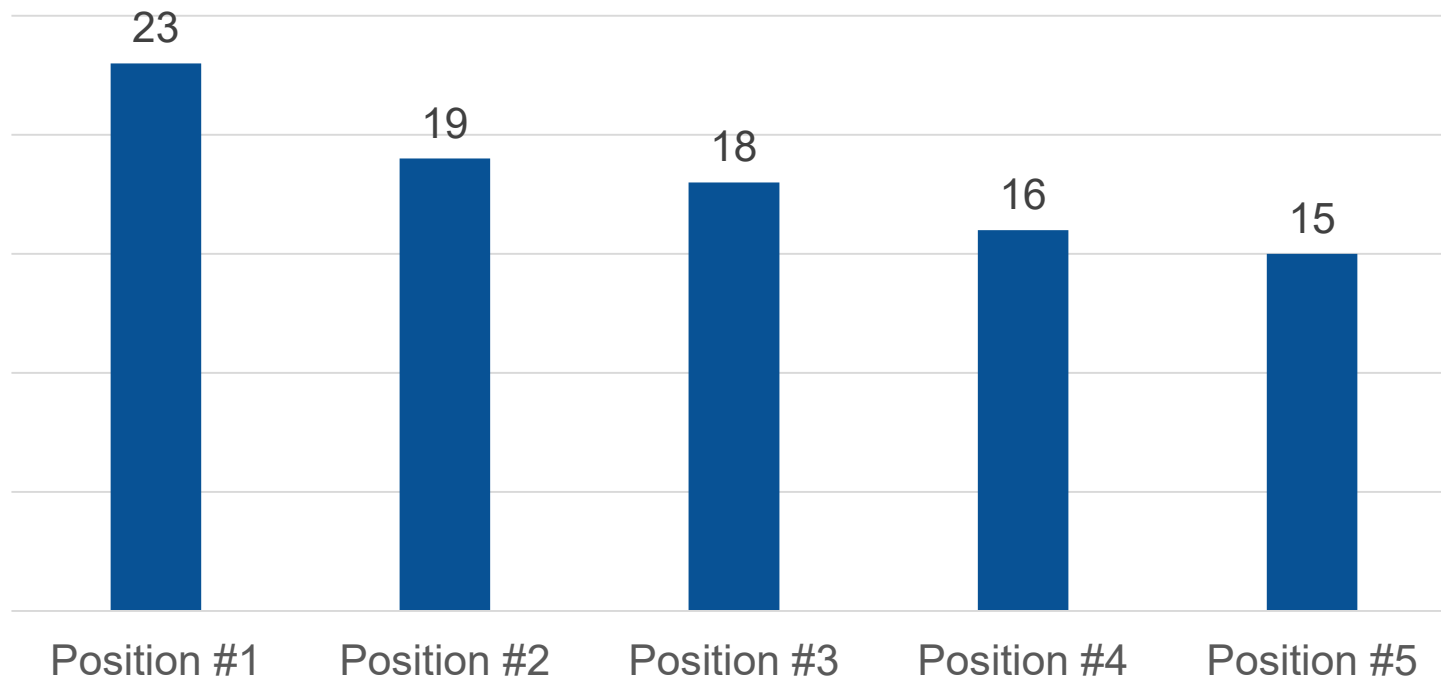6)Other 7)Don't know

Percent of Respondents who Selected Response,
by Position

Position #1	Position #2	Position #3	Position #4	Position #5
23	19	18	16	15

Select all that apply

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)

Base size: Kenya n=2,960

Legend: ■ SMS survey data ■ F2F data ■ F2F data - mobile only
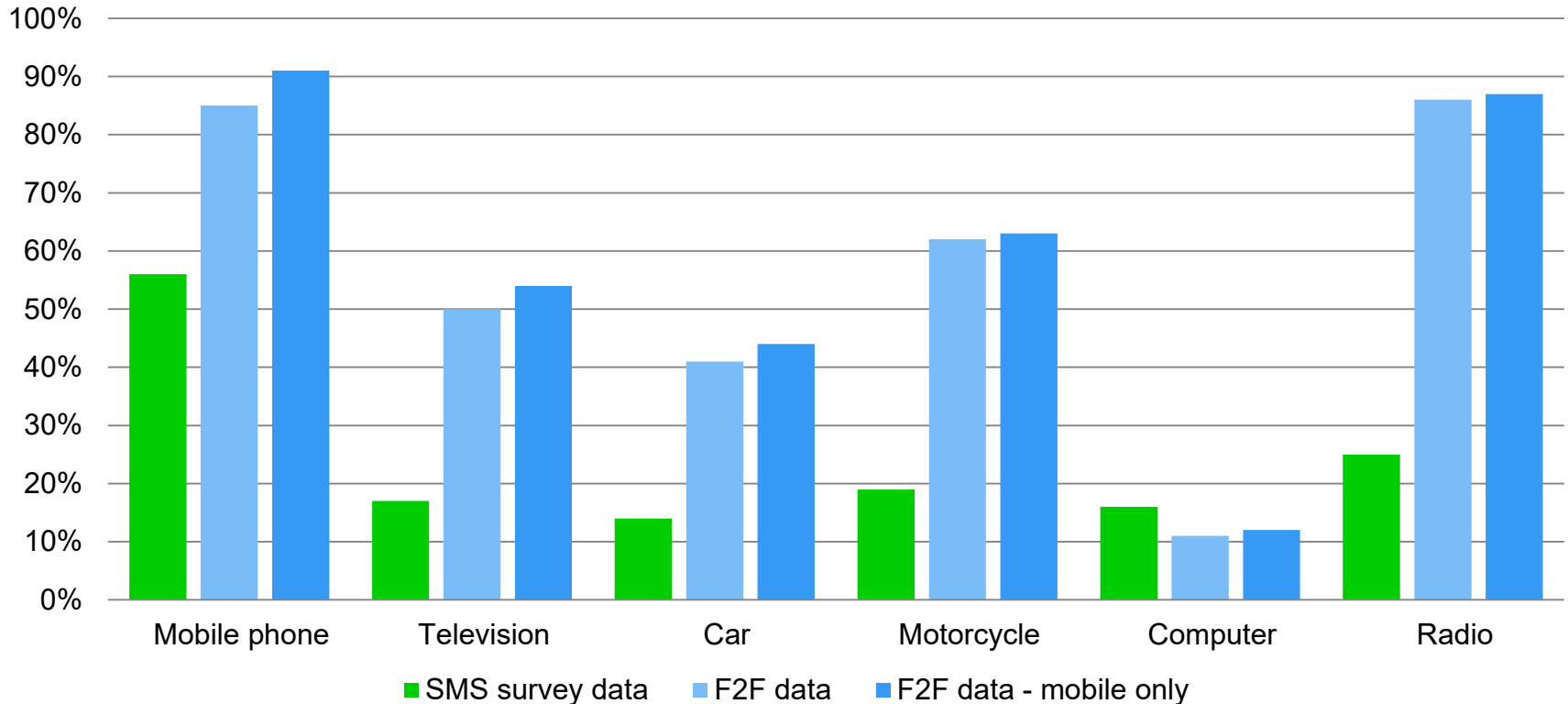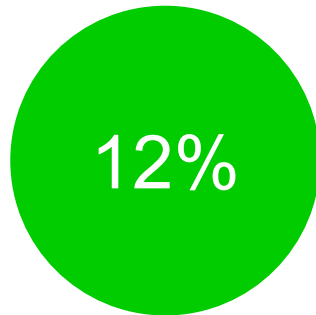
How many respondents only gave 1 answer?

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)
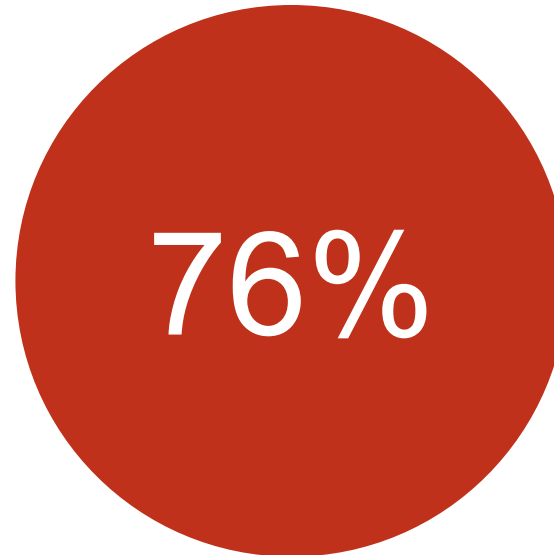
12%

76%

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

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Conclusions

- SMS excels for rapid response (e.g., Ebola)

- SMS surveys have substantial non-response and coverage errors

- These errors mean SMS cannot replace face-to-face surveys … yet

- We can optimize SMS survey design now
  - Incentives
  - Survey length
  - Primacy effects
  - "Select all that apply" questions

- But the landscape is rapidly changing … future research targeted to specific topics and countries is essential

More Information

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Why do people not respond?

Confidence

Familiarity

Language

Difficulty

Length

01   02

05   03

04

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"
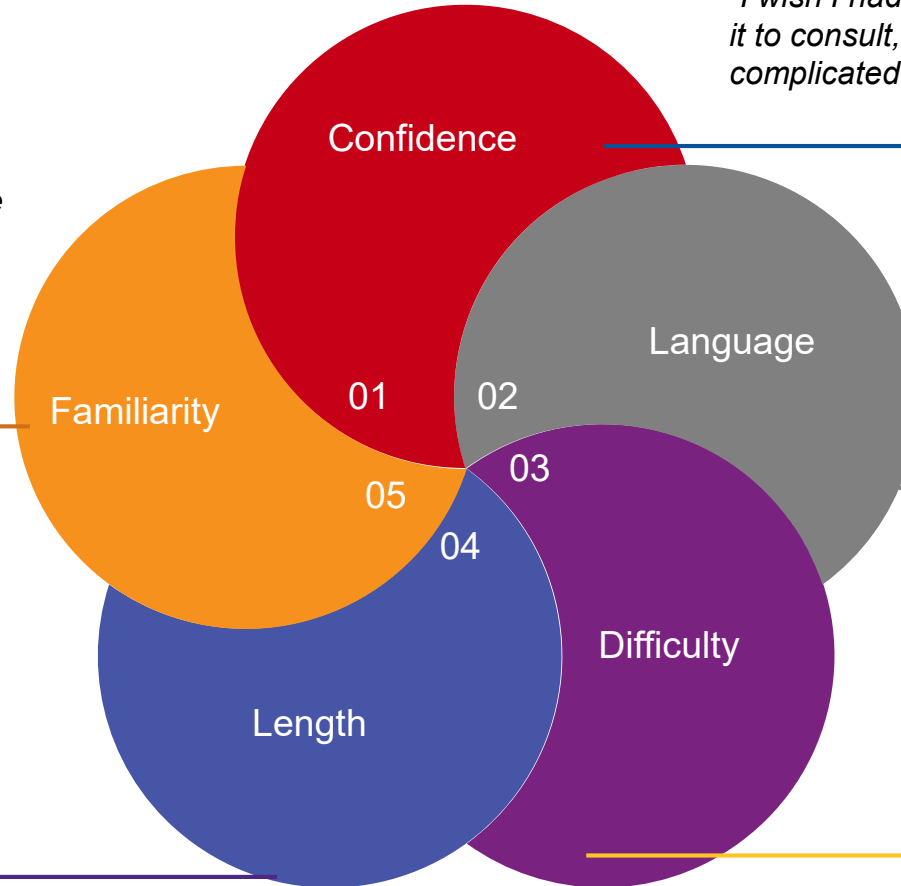
Not comfortable to do it on their own

"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"

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