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## SMS SURVEYS

TESTING MULTIPLE MODES TO REACH RESPONDENTS FROM A WIRELESS FRAME

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## OVERVIEW

### ▪ In the United States

- Web is a tempting lower cost alternative for many surveys, but a probability-based email frame for the total population does not exist.
- Cellphone penetration continues to grow and survey researchers are starting to explore the use of only cellphone frames (Peytchev & Benjamin, 2013).
- Cellphones are multimode devices (phone, Web, text, apps).
- It may be possible to contact respondents via a cellphone frame, but take advantage of modes other than telephone interviewing.
- Hard-to-reach groups or respondents unwilling to answer a phone call might be more willing to respond to SMS.

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## OVERVIEW

### ▪ Internationally

- High cellphone penetration (70–80% of households) in many developing countries, especially those without landline infrastructure (even higher penetration in developed countries).
- Gallup has found in some regions, percent of respondents with cellphones is three to four times the percent of respondents who have home Internet access (Crabtree, 2009).
- Face-to-face interviewing is very expensive and potentially dangerous so is there an alternative way to reach respondents when landline telephone infrastructure doesn't exist, Internet penetration is low to nonexistent, and cost of mobile voice minutes is high?

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### RESEARCH QUESTIONS

- Will people respond to an SMS survey?
  - How many questions will they respond to?
- Will people respond to a Web survey delivered via SMS with a Web link?
- Who responds to SMS surveys?
  - Are certain demographics more likely to be represented by an SMS survey?
  - Are they more likely to be tech savvy?
- Do respondents answer differently on SMS than they would via Web or phone?

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### METHODS – SAMPLE FRAME

- **Legal issues with text messaging**
  - It is illegal for organizations to send text messages without express written consent from the receiver.
  - The laws are somewhat unclear and frequently change.
  - If a person receives an unsolicited text, they can sue the sending organization.
  - This greatly limits the scope of SMS surveys, although there are still options.
  - We used our Gallup Daily tracking surveys to obtain recorded verbal consent to text message.

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### METHODS – SAMPLE FRAME

- **Initial sample frame was from the Gallup Daily tracking study**
  - 1,000 daily interviews completed 350 days a year
  - 50% of sample allocated to cellphone frame; 50% of sample allocated to landline frame
  - Respondents are asked at the end of each survey if they are willing to be recontacted for a future Gallup survey
  - Respondents in the cellphone frame were also asked if they would be willing to receive text messages from Gallup to participate in future surveys
  - Demographics are known for all respondents
- Initial sample size of 15,334
- Sample came from phone interviews conducted Jul. 29 – Oct. 14
- The SMS experiment was conducted Nov. 19 – Nov. 26

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### TEXT MESSAGE REQUEST

- Do we have permission to occasionally send survey questions to this cellphone number using **free** text messages?
 

**59% said yes**
- Do we have permission to occasionally send survey questions to this cellphone number using text messages?
 

**54% said yes**

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### METHODS: EXPERIMENTAL DESIGN

- Respondents were randomly assigned to one of six treatment groups

Three data collection modes

Two length treatments

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### QUESTIONNAIRE

- Topic is banking due to the large number of Gallup banking clients
  - Satisfaction with channel of bank interaction
- Topic and response options were the same across treatment groups
- Please rate your overall satisfaction with each of the following ways of interacting with your bank using a five-point scale, where 5 means you are extremely satisfied and 1 means you are not at all satisfied. If you have not used this service, you may tell me that as well.

Bank branch visit	Mobile banking	Bank website
Online banking	Bank's Facebook page	Bank's Twitter page
Call to bank – live person	Call to bank – automated	Email
Instant messaging	ATM	Bank's drive-thru

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### METHODS – SMS SPECIFIC CONSIDERATIONS

- Screen constraints
  - Maximum SMS length is 160 characters per screen
  - One questions per SMS
  - The text AND response options AND codes must fit in this limitation
  - We had to use nonideal wording
- Phone and Web:
  - Please rate your overall satisfaction with each of the following ways of interacting with your bank using a five-point scale, where 5 means you are extremely satisfied and 1 means you are not at all satisfied. If you have not used this service, you may tell me that as well.
    - Your most recent in-person visit to a bank branch to talk with a teller or someone else?
- SMS
  - From 1 (not at all satisfied) to 5(extremely satisfied) how satisfied are you with your most recent bank visit? Use 6 for Don't know/Use

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### SMS SCREENS

**Invitation**

GALLUP would like you to participate in a short survey. Reply START to start, HELP to help or STOP to cancel. Msg&DataRatesMayApply

**Completion**

Your answer completes the survey. Thank you for participating in this Gallup survey! Your opinions do count!

**Web Invitation**

GALLUP invites you to take a short survey Click link to begin <http://tinyurl.com/xxxxx> Reply HELP for help or STOP to cancel. Msg&DataRatesMayApply

**Question Screen**

GALLUP From 1(not at all satisfied) to 5(extremely satisfied) how satisfied were you with your most recent in-person bank visit? Use 6 for Don't know/Use

**Error**

Sorry, that is not a valid entry. This is a permission based survey about banking from Gallup. To opt-out reply STOP. Reply HELP for help.

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### METHODS: SMS SPECIFIC CONSIDERATIONS

- **Legal Issues**
  - Respondents gave consent to receive text message
  - Must opt in to begin survey by replying with a keyword
    - "Reply START to start"
    - Must have options for opting out of the text message and providing help (STOP and HELP)
- **No item-level nonresponse**
  - If you don't respond to a question, you don't receive the next one

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### METHODS: EXPERIMENTAL DESIGN

Mode	Length	Sample N	Completes	Response Rate	Final RR
SMS	5	3,333	378	13%	<1%
SMS	12	3,334	350	12%	<1%
SMS-Web	5	3,333	389	13%	<1%
SMS-Web	12	3,333	362	12%	<1%
Phone	5	1,000	380	38%	2%
Phone	12	1,000	408	41%	2%

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### SMS DISPOSITIONS

Outcome	Percentage
Carrier blocked message	6%
Message failed	3%
Device does not support text message	4%
Device unreachable	<1%
Opt out	<1%
Partial complete	2%
Complete	11%
No reply	74%

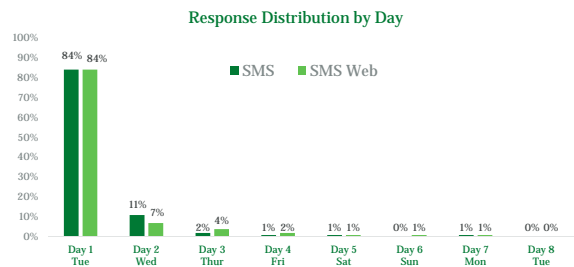
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### TIME OF RESPONSE

- Text messages were sent at 4 p.m. CST on Tuesday, Nov. 19

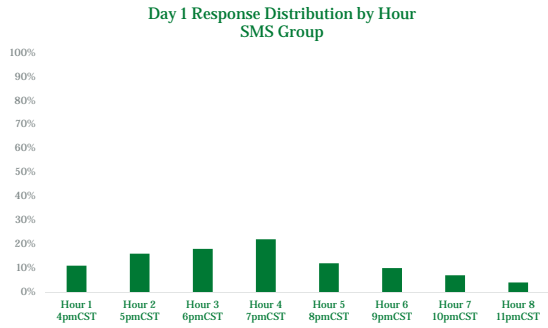


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### RESPONSE DISTRIBUTION BY HOUR – SMS



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### BREAKOFFS BY TREATMENT

- Breakoffs were surprisingly low in all treatments
  - But were slightly more likely in the SMS 12 question group

Mode	Length	Average # of questions answered	% of respondents who completed all questions (once starting)
SMS	5	4.75	92.0%
SMS	12	10.76	81.4%
SMS-Web	5	4.98	98.6%
SMS-Web	12	11.43	91.4%
Phone	5	5	100%
Phone	12	12	100%

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### SMS – WEB

- 95% of respondents who received a text message with a Web link used their phone to complete the survey.
- There was no significant difference by treatment group.

	Mobile Device	Desktop
SMS – Web (5)	93.5%	6.5%
SMS – Web (12)	96.2%	3.8%

( $\chi^2 = 2.452$ ;  $p = .117$ )

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### RESPONSES BY TREATMENT

- On average, phone respondents had higher mean scores than those in the SMS treatments.

	Phone (5)	Phone (12)	SMS (5)	SMS (12)	SMS-Web (5)	SMS-Web (12)
Branch visit						
Mean	4.44	4.54	4.24	4.13	4.12	4.21
Have used	90%	91%	81%	85%	86%	87%

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### RESPONSES BY TREATMENT

- On average, phone respondents were more likely to say they had used a method of contact than the SMS treatment.

	Phone (5)	Phone (12)	SMS (5)	SMS (12)	SMS-Web (5)	SMS-Web (12)
Facebook Mean	3.54	3.79	2.94	3.29	2.47	3.54
Have Used	17%	19%	9%	5%	7%	6%

### RESPONSES BY TREATMENT

- In the 5 question treatment, SMS respondents were less likely than phone and Web respondents to give 5's to all questions.

	Phone (5)	Phone (12)	SMS (5)	SMS (12)	SMS-Web (5)	SMS-Web (12)
% 5 to all ?s	48%	33%	43%	31%	47%	31%

$\chi^2=296.594; p=.005$

### DEMOGRAPHICS BY TREATMENT

Overall, respondents who agreed to be recontacted via SMS were more likely than the total sample to be male, under the age of 50, and nonwhite.

#### BETWEEN EXPERIMENTAL TREATMENT GROUPS

#### GENDER

-There were no significant differences by treatment group. ( $\chi^2=3.838; p=.573$ )

#### AGE

Across treatment groups, the SMS group had more young people aged 18–35 included. ( $\chi^2=45.919; p=.007$ )

- Respondents in the SMS group were on average aged 43, compared to respondents aged 47 in the SMS to Web and telephone groups.

### DEMOGRAPHICS CONTINUED

#### RACE

- There were no significant differences by treatment group. ( $\chi^2=16.854; p=.062$ )

#### EDUCATION LEVEL

- The SMS and SMS to Web groups were more highly educated than the telephone group. ( $\chi^2=61.320; p=.004$ )

#### EMPLOYMENT STATUS AND INCOME

- Employment and Income were not significantly different across treatment groups. ( $p>.10$ )

## FUTURE RESEARCH

- Compare emailed Web invite vs. SMS-Web invite
  - Need to find sample frame of emails and cellphones for everyone
- Test different types of response options
  - Now just 1–5 scale items to reflect core Gallup survey instruments
  - Also 1–5 items are more susceptible to mode effect
  - Test yes/no, other categorical responses, etc.
- Status Indicator (not enough characters on current survey)
  - Example: Q1 of 12
  - This might increase or decrease response rate, need to test
- Test day of the week and time of day
  - Respondents may be more willing to respond at certain times of day. Deploying SMS at certain times may maximize response rates.

## REFERENCES

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