

# Should we push respondents to their mobile devices, or not?

Discussion

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By

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# Background

- It is clear that the use of mobile devices in the U.S. is increasing rapidly.
- At survey methods conferences it appears this may be the “year of mobile” research. There have been a lot of papers on the topic.
  - AAPOR conference in Ft. Lauderdale, May 2015
  - WEBDATANET in Salamanca, Spain, June, 2015
  - ESRA in Reykjavik, Iceland, July 2015
- It is an appropriate time to contemplate their use in government economic surveys.
- The three papers presented here today have emphasized individual person surveys—so I will limit comments to this type of data collection.

# When considering mobile data collection we need to clarify our goal

- Do we want to “push” respondents to answer surveys over their mobile devices?
- Or, is it more important to get more people to respond to our surveys?
- The answer to this question affects what kind of research we should be doing, and how we can apply it.

# The current context for making design decisions affects which of those goals we should pursue

- Most surveys are now mixed-mode, using two or more survey modes (In-person, telephone, mail, e-mail/traditional web) to request and/or obtain responses.
- Multiple modes of contact provide a more powerful technique for improving response rates than is the offer of a preferred mode of response.
- Mixed-mode surveys may produce different measurement by different modes.
  - Aural (interview) surveys produce more social desirability and more extremeness in answers to scalar questions than do visual surveys;
  - In addition, different visual layouts of questions can be a source of measurement differences
- Smartphones require visual presentations that we have not typically done for any other mode, and that is likely to affect measurement.

# We also need to consider the variation in electronic devices

- It's probably important to think of an electronic continuum rather than discrete differences.
  - **Smartphone → tablet → laptop → desktop**
  - Hundreds of variations exist
- How do mobile devices differ?
  - Size of screen
  - Sequential vs. simultaneous displays of information
  - Keyboarding vs. fingering
  - Storage and transportation device: **purse/pocket → valise → desk**
  - Dominant use of smart phones is for: **quick situational response, navigation, voice**
  - Context for Use: **multi-tasking with physical movement → the desk environment**
- Practically, the big difference for survey design is smartphone vs. others; tablets are more similar to laptops than to purse/pocket phones.

# Getting survey responses over smartphones is particularly challenging, for these reasons

- 1 Small space for presentation of questions; some of our traditional question structures (e.g. matrices) will not work.
- 2 Less ability to see multiple displays of information at same time for searching and inserting
- 3 Respondent is less likely to give full attention to response task
- 4 There is Less ability to preview and prepare for response task, or find and transfer information from other sources.
- 5 Typing is less efficient and accurate for many people.

# Why getting survey responses over smartphones is particularly challenging.

- 6 General public not likely to be contactable by emails or texts.
- 7 For those who can be contacted, smartphones serve the managerial function of “screen and delete”
- 8 Tasks requiring full detailed attention are not consistent with how smartphones are mostly used. Answering surveys may be one of those tasks.
9. The “learning curve” and costs for new smartphones results in people staying with older devices, so we can’t just design for the newest android and I-Phone models.

# Should we push respondents to smartphone or focus on obtaining higher response rates by conventional modes?

- The harder we push people to smartphones the greater the difficulty we may have in achieving high response rates and preventing survey breakoffs.
- Some relevant research
  - Pushing households to web produces lower overall response rates than an in-person or mail-only approach, and a smartphone push will likely lower rates further.
  - Offering “choice” does not improve overall response rates unless we can contact people by each mode.
  - A web-only approach does not yet produce representative household samples; I doubt that a push-to-smart phone approach will do any better.
- Some people are unwilling (or unable) to respond to electronic surveys.
- When web non-respondents are given mail or telephone alternative those respondents have quite different demographics—age, education, home owners, etc. than did the web respondents.

(See Dillman, Smyth and Christian, *Internet, Phone, Mail and Mixed-Mode Surveys: The Tailored Design Method*, 4<sup>th</sup> edition, 2014) for detailed discussion supporting these assertions)



# Is research on improving smartphone responses to surveys worth doing?

- Absolutely! Practically, our data collection methods should not be too far ahead or too far behind respondents, but we need to do this research to be ready for whatever comes next.
- Today's presentations focused on a variety of issues from getting people to deal with pass words to the construction of better screen displays:
  - "The Evolution of Password Requirements in the Consumer Expenditure Diary Survey" Brandon Kopp
  - "Centurion: Internet Data Collection and Responsive Design" Mistichelli, Glenn Eanes, Rachel Horwitz
  - "Mobility Enabled: Effects of Mobile Devices on Survey Response and Substantive Measures" Frances Barlas, Randall Thomas, Patricia Graham.

## Paper 1. “The Evolution of Password Requirements in the Consumer Expenditure Diary Survey” Kopp

- Entering passwords is one of the biggest barriers to getting people to complete web surveys—and even bigger for smartphone users.
- An important issue to research, and Kopp’s paper is a useful contribution.
- For an electronic diary to work people need to be able to get into it repeatedly and without errors.
- Kopp: **15** keys for an 8 character password is a marvelous example.
- This paper asks about what the balance should be between security and usability that is needed for the CES diary (and other government surveys).

# An illustration of the password problem

- How many of you can remember these ten characters? **\$ef56)A&bB**  
(Peoples memories aren't that good, especially with three languages—letters, numbers and symbols being juxtaposed.)
- How about these eight characters? **#@59bcf2** (4-5 is max for most people to “carry”)
- And, what about this sequence?
  - <https://consumerexpsurvey/access/>
  - Password: #@59bcf2
  - Username: 1893445
- Research continues to show that one of the biggest barrier to getting response electronically, is transferring long complicated information from one medium to another.
- Smartphone use while “on the go” makes it even harder to transfer that information.
- In addition passwords don't display as they are being entered; a lot rides on memory, keyboard skills, and concentration.

# Password simplification and accessibility

- Is it really essential to have both a user name and password? Most organizations simplify things to the URL and a password.
- How is the password (username and URL) information being delivered to respondents? In-person? Mail? Reminders? Implementation procedures that support use of this information are likely to be a more powerful influence on response.
- Are email addresses available? If they can be obtained, then it's possible to use email to provide electronic links, and response can be improved.
- If studies with mail-only or in-person access can be redesigned with emphasis on getting email and text call information, that will likely to more to solve the password problem than doing research on passwords that agencies will approve.
- Thus, I think in the long run the yield on implementation research might be more helpful than spending enormous efforts on simplifying passwords.
- But, that's why the work this paper conveyed is so important—it conveys how difficult the problem really is.

# Additional thoughts on the CES Diary

- A 2012 National Research Council report encouraged research on going electronic, but I am not optimistic that web-only, and especially smartphone-only is going to be sufficient.
- One of the biggest challenges of the electronic diary is the need to go into it multiple times to achieve completion. The design issues of dealing with “what did I report before and what do I need to report now,” are significant.
- Some people with good web and smartphone literacy aren’t going to go there, and paper is going to remain essential.
- But, the paper diary is not well designed (National Research Council, Measuring What We Spend, 2012) and also needs to be redesigned for use.
- I am hopeful that some of the work being done to develop electronic forms will reflex back onto the redesign of the paper diary. The first web survey research has reflexed back into better paper design, and smartphone design research should have the same effect.

## Paper 2. “Centurion: Internet Data Collection and Responsive Design” (Mistichelli, Eanes and Horwitz)

- This is one of approximately 10 papers I have heard presented this spring on “optimizing” screen design for smartphones.
- The topic is important and this paper illustrates some of the challenges.
- Reference is made to “optimizing” design for mobile devices and that raises questions about the implications for other modes of responding.
- I am reminded of efforts to develop a web format for 2010 Decennial Census. It was quickly learned that the questions had been changed for telephone, in-person, and web administration in ways that would influence answers. That resulted in a 120 page report on why we needed to unify the writing of Census questions (Martin et al. Guidelines for Designing Questionnaires for Administration in Different Modes, June 2007)
- It’s important to remember that the smartphone is only one mode of data collection and we need to get the same questions asked and answered across modes—unified mode construction is important.
- But, I also think making changes that work better for smartphones may also be adapted to other modes. That is one of the reasons I think the research in this paper is quite important.

# Some broader issues

- Do we really want to “push” people to respond over mobile phones to complex surveys like the ACS? Unless some of the questions are change, I don’t think the results will be satisfying.
- If getting responses to the current ACS questions is deemed a priority, I would suggest that we also do some implementation research, testing whether advising people that responding over a small screen smartphone might be difficult, and looking for ways to gently “nudge” respondents towards tablets, laptops and/or mail. This may require quite different communications than now being used.
- Here is an example of how mode preference can affect mode response in other ways. When the ACS (and Census) was mail-only this set of contacts was used: **Pre-notice—questionnaire request—reminder postcard**
- That strategy has continued to be use, while leaving url and password off postcard for privacy purposes. We need to eliminate the pre-notice sending the **web response request in first contact** and follow with a **letter or folded postcard with the url/password**, and reinvest the prenotice funding for additional follow-up. If we want to facilitate respondents responding to web and/or smartphones we have to think differently than when we were doing single mode surveys.

**Author question: “The literature suggests that to truly optimize an instrument, it must be built for the smallest common denominator. Given we are dealing with established government surveys, this is not possible so we are trying to fit lengthy questions in a mobile environment. Would it make sense to alter some of these questions on mobile devices to make them truly "optimized"?”**

- If “optimize” means to maximize construction for smartphones by independently changing the structure of questions and how they are worded, I would proceed with considerable caution.
- Changing question structure and/or wording for smartphones may change answers significantly.
- Also, other literature suggests that we need to optimize **across** survey modes and unify the way we ask questions in order to provide the same stimulus and get the same answers.
- If we are going to create different questions just for smartphones that may create additional reasons for “pushing” respondents to other modes (laptops, tablets, mail and interview) and away from smartphones.
- It is important managerially that the development of smartphone questions and data collection procedures not be isolated from similar processes going on for other survey modes.



### **Paper 3. “Mobility Enabled; Effects of Mobile Devices on Survey Response and Substantive Measures” Barlas, Thomas and Graham**

- This presentation continued with the theme of how do we better design for mobile respondents.
- This survey population is quite different than the cross-sectional CES Diary and ACS general population surveys.
  - A probability panel for Internet only survey.
  - Sample frame had Desktop/laptop plus smartphone and/or tablet.
  - 15% complete surveys on smartphones; 10% on tablets.
  - Respondents were “assigned” to one of their devices.
  - Sample units are used to responding frequently to survey requests.
  - Respondents also received incentives.

# Selected findings

- Mobile friendly design (shorter question and response options) reduced breakoffs and length of time for response.
- Responsive template (automatically resized text to fit detected screen size) also reduced breakoffs.
- Twice as many (20% vs. 10%) smartphone responses provided away from home, compared to tablets.
- A large number of respondents did not answer on the device to which they were assigned.
- A question format effect was found
  - Yes/No grid (mobile friendly) produced more answers than a “select all that apply” format.
  - This effect was found previously for both mail and web surveys.
  - This finding supports “unified mode construction”

## Additional comments

- This was an exciting presentation that I hope will affect government research on designing mobile-friendly surveys.
- A lot more research of this nature needs to be done (and other groups in the U.S. and Europe are doing similar experiments).
- It also distinguishes between smartphones and tablets. This distinction seems crucial for future research because of the greater space available on most tablets, and how those devices are used.

Your Question:

**What if we implement mobile-first questionnaire design principles (e.g. reducing responses, changing scales, shorter surveys)?**

- I am comfortable with the authors' use of "mobile-first" because I think the focus is on simplification of what we ask in surveys, and that needs to be done for other survey modes as well.
- However, we need to make sure we are getting the same answers across survey modes, because most of our surveys are going to continue to be mixed-mode.
- To do that we need to "unify" the structure and wording across modes, rather than do something quite different for smartphones.
- I remember a similar discussion of "web-first" and before that "mail-first". Hopefully, we are passed the era of trying to: "maximize our questionnaires for a particular mode" regardless of consequences for other modes.

# Finally

- I want to thank all the authors for these stimulating papers.
- More research needs to be done and applied to doing a better job of dealing with passwords and question structures so smartphone response becomes easier.
- In addition question design research needs to reflex back onto other survey modes. It may be very helpful in getting better question wording in those modes as well as accomplishing unified measurement.
- We also need to be careful about pushing respondents to smartphones. I don't think it's going to improve response rates or the quality of data.
- For the present, it may be better to “nudge” respondents away from smartphones, especially when our question formats are wordy and complex.
- We also need to monitor changes in smartphone technology and how people relate to these devices, using that information to revisit this issue over the course of the next few years.
- Thank you for the opportunity to comment on these intriguing papers. They show that critical progress is being made on dealing with a very challenging set of issues, and I look forward to future presentations and papers by these authors.