



EMERGING TECHNOLOGIES: NEW OPPORTUNITIES, OLD CHALLENGES

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ENTERING NEW ERA OF DATA COLLECTION

Manual Survey Collection Era
(1930s-1970s)



Computer-Assisted Survey
Collection Era
(mid 1970s-present)



Post-Survey Data Capture Era
(2010 - ???)



IMAGINE THE POSSIBILITIES!

- In-the-moment mobile surveys (reduce recall)
- Capture of consumer expenditures, location, timing
- Detailed travel and transportation studies
- Enhanced educational assessment tools
- Rich health journals in patient's own voice
- Behavioral segmentation based on visual data
- Mapping environmental exposures
- Direct measure of physical activity and health measures

REVIEW OF ~125 ARTICLES OVER LAST 5 YEARS (OR SO)

- Focus:** empirical studies on mobile (phone or tablet) or social network site methodologies *assessing tools as means of improving, extending, or replacing traditional survey research*

Category	Source	(n)
Journal Articles (33%)	Social Science Computer Review	11
	Survey Practice	6
	Field Methods	4
	Int'l Journal of Marketing Research	4
	Other Journals (1 ea.)	15
Conference Presentations / Proceedings (55%)	AAPOR	32
	MAPOR	7
	CASRO	5
	SAPOR	4
	ACS	3
	Other Conferences (1 ea)	14
Books (4%)	Various chapters	5
Other Sources (8%)	Reports, White Papers, Etc.	10

THINKING ABOUT NEW TECHNOLOGIES & SURVEY RESEARCH

Conducting surveys using smartphones and mobile computing devices

Augmenting traditional surveys with mobile data and devices

Conducting survey research through social media platforms

Augmenting or replacing traditional surveys with web and social media platforms



Thanks to Joe Murphy for help in casting buckets!

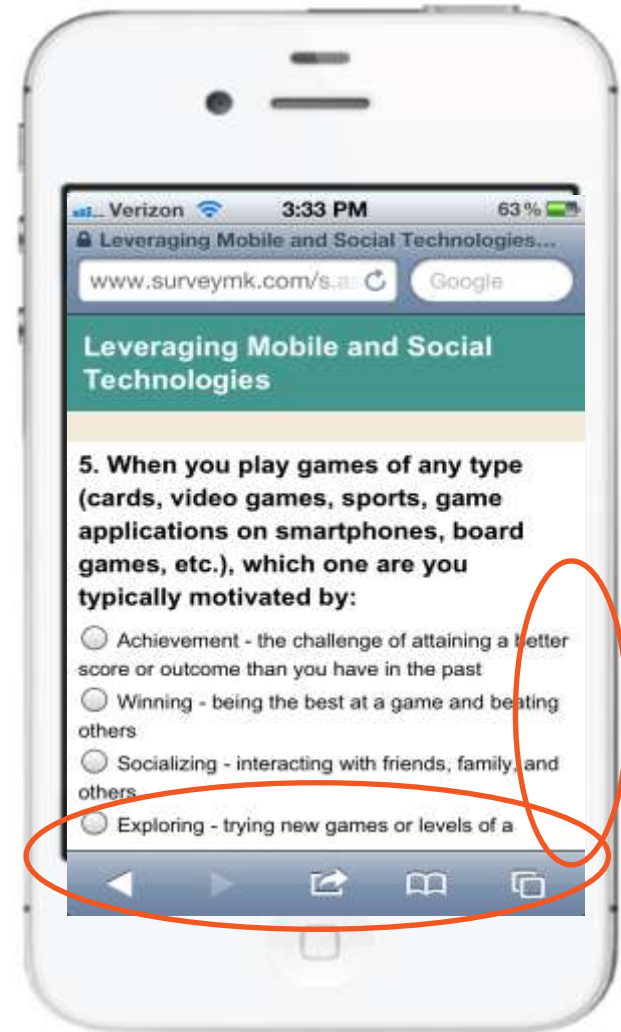
WHAT HAVE WE LEARNED SO FAR ...?

#1. IF YOU CONDUCT ONLINE SURVEYS, YOU CONDUCT MOBILE SURVEYS

10-25% of online survey respondents answer via mobile


Solutions?

- No changes to online survey
- Blocking mobile respondents (splash page w redirect)
- Optimizing a version for mobile platforms
- Creating online version accessible via any device



HOW RESEARCH COMPANIES HANDLE WEB SURVEYS & MOBILE?

Action Taken	%
Allow without modifying surveys	32
No overall policy	30
Approach varies by project	16
Allow and adjust surveys	15
Exclude them	7
Route them to another survey	0



Nearly 2/3 of companies appear to take no special action when online surveys are accessed via a mobile browser

Adopted from Macer, 2012, "Developments and Impact of Smart Technology." International Journal of Market Research, 54: 567-570.

We are in a Mobile Era – How are you approaching the issues?

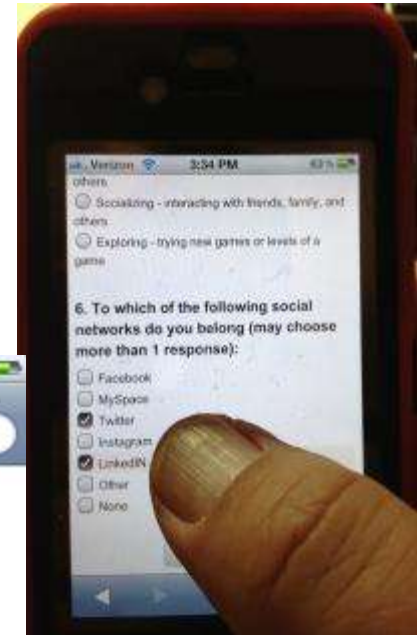
#2. MOBILE IS DIFFERENT

Mechanics are different:

- Screen size
- Keyboard / Entry
- Display of visuals

Affects almost every aspect of design and implementation:

- Questionnaire length
- Question type
- Response options
- Closed vs open-ended
- Use of visuals
- Screen layout
- Progress bars
- Slide bars, drop & drag, etc.



Most mobile survey research to date has focused on questionnaire design & format and mode effects – with few conclusions drawn

TABLET BEHAVIOR CLOSER TO PC / LAPTOP

Mode studies: Tablet use closer to PC use than mobile

Larger screen:

- More geography for formatting
- Little/no scrolling/pinching
- Visuals proportional
- Easier to enter data

U.S. Tablet
penetration*:
~25%

Income*:
\$75K+ = 47%
<30K = 16%

Type**:
iPad 61%
Kindle Fire 14%
Galaxy 5%
Other 20%

Source: * PewResearchCenter (Oct 2012) "25% of Americans Own Tablet Computers"

** Pew Internet & American Life Project (Apr 2012) "The Rise of e-Reading"

#3. MOBILE WORLD IS MESSY

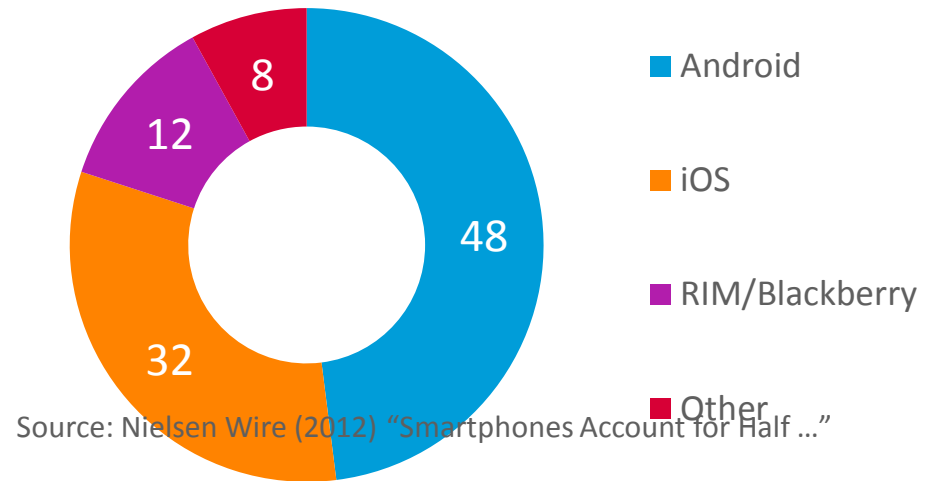
Mobile platforms vary:

- Operating System
- Phone model
- Carrier
- Data Plan

Respondents Differ:

- Model preference
- Level of usage
- Knowledge & use of features

Smartphone Systems



Source: Nielsen Wire (2012) "Smartphones Account for Half ..."

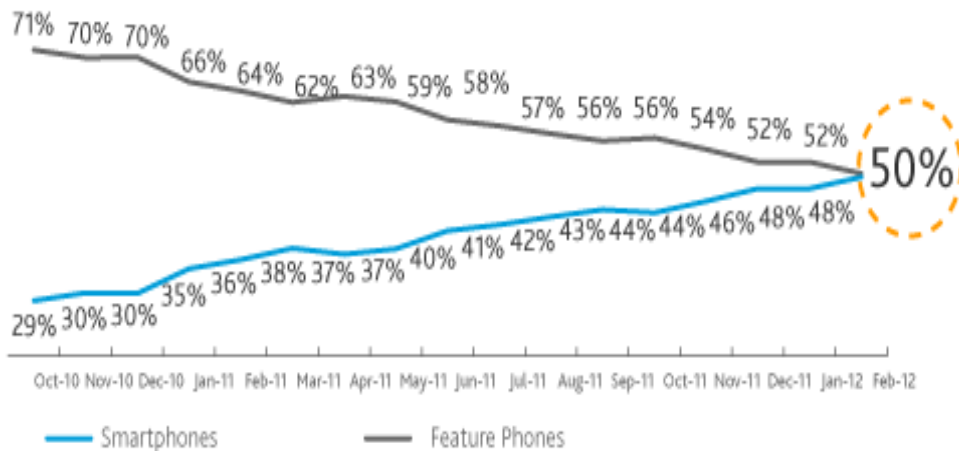
Critical design question:

Provide respondent a standardized platform –or– Use respondent’s own device(s)?

BEHAVIORS ARE EVOLVING W TECHNOLOGY CHANGE

U.S. Smartphone Penetration

February 2012, Nielsen Mobile Insights



Unique Users in U.S.

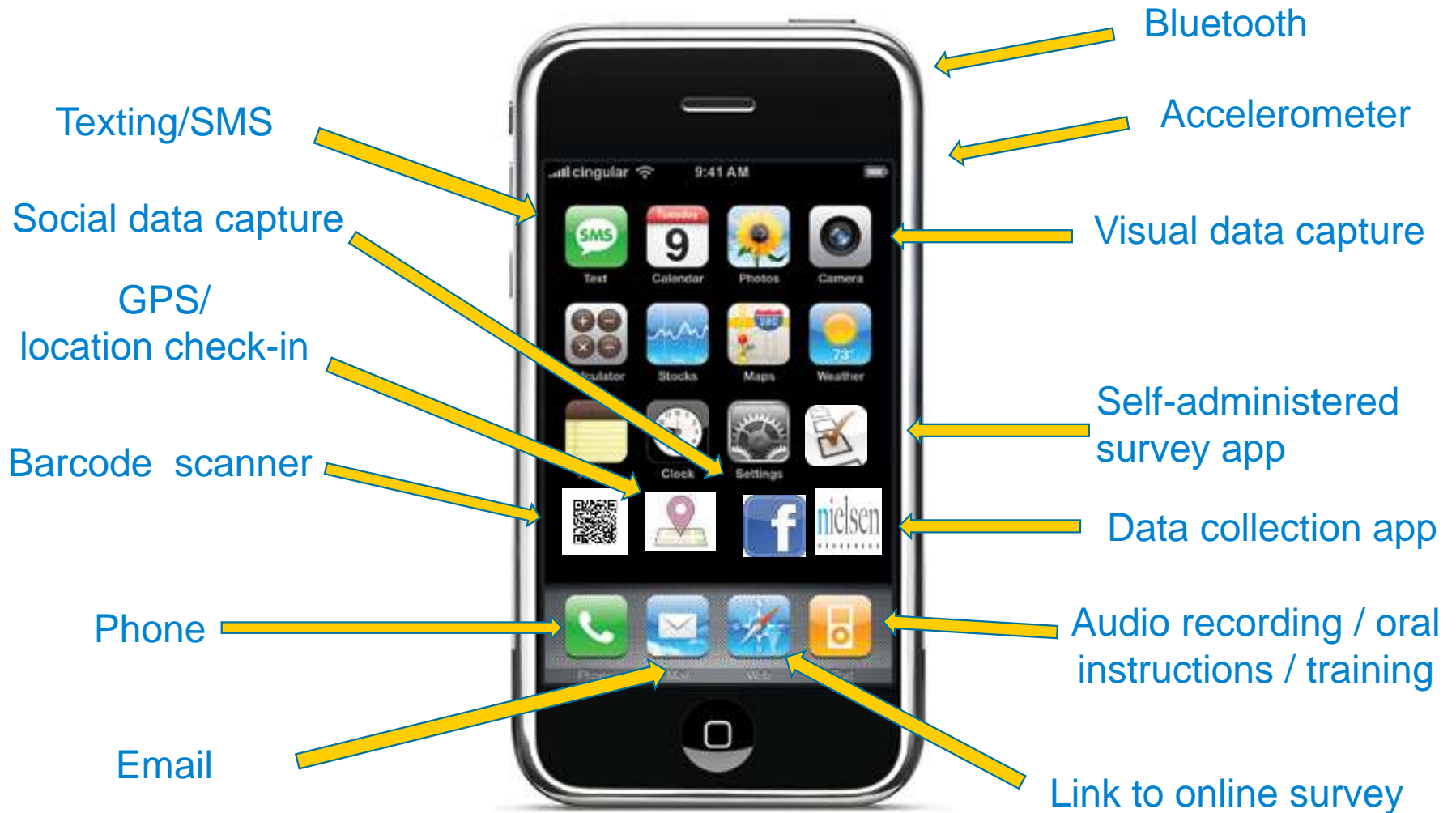
Device	2011	2012
Mobile Web	52M	95M
Mobile Apps	55M	102M
PC	213M	204M

Source: Nielsen (2012) Report on Social Media Use

Respondent Learning?
Mode Study in 2010* finds respondents less likely to enter open-ended test; repeat study find no significant problems**

Sources: * Peytchev, A & C Hill (2010) "Experiments in Mobile Web Survey Design" Social Science Computer Review 28: 319-335. **Wells, T, J Bailey, & M Link (2012) "Direct Comparison of Mobile v Online Survey Modes". AAPOR Conference paper.

#4. NEW FORMS OF DATA = NEW INSIGHTS, NEW HEADACHES



EX.: OPPORTUNITY & CHALLENGE OF VISUAL DATA



Instagram as of May 2012:

- 1 Billion photos logged
- 58 uploads per second



Opportunity:

- Rich, contextual data
- Augment or replace self-reports
- Behavioral segmentation

Issues:

- Methodology for assessing & autocoding
- No empirical quality comparisons
- New legal & ethical considerations



#5. MOBILE APPS ARE FOR COMPLEXITY & CROSS-TIME MEASURES

What is a Mobile App?

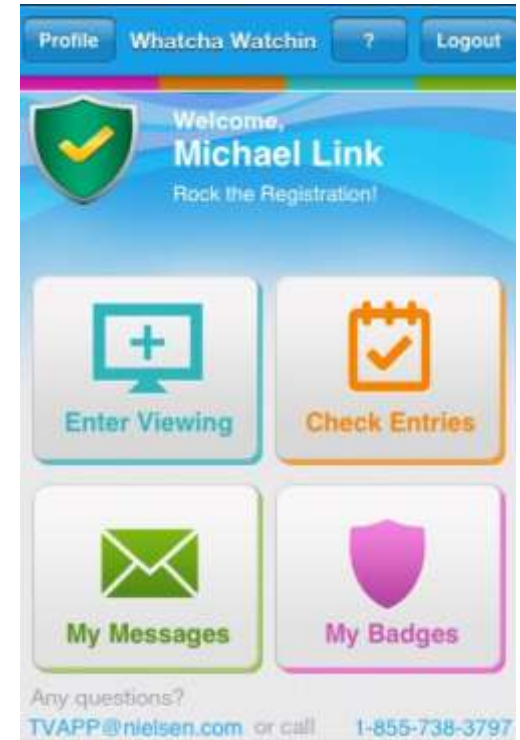
Software application designed to run on smartphone or tablet

Generally not for point-in-time surveys

- Cost & time prohibitive in most contexts

Best uses:

- In-the-moment data capture
- Longitudinal / longer-term studies
- Combining various data capture features in a single interface



EX. GRAB & GO SNACK CONSUMPTION

- Problem: Who, what, where & why people consume snacks on the run
- Solution: Respondents download custom data collection app, integrating:
 - Short set of questions each snack instance
 - Pictures of product
 - Barcode scanning
 - Location of purchase
 - Links to web surveys at start & stop of field period
 - Email, text, & in-app reminders

#6. ENGAGEMENT – MOVING BEYOND BURDEN

In Survey Research today, **burden** is almost exclusively viewed in terms of time ... and offset by money ...

User engagement influenced by:

- User interface
- Process flow (survey, app, etc.)
- User context
- User value system
- Incentives

User Engagement

The emotional, cognitive, and behavioral connection that exists, at any point in time and possibly over time, between a user and a resource [i.e., technology]

Successful technologies are not just used, they are engaged with ...

EX. GAMIFICATION – TAPPING INTRINSIC MOTIVATIONS

Gamification:

Leveraging sociological & psychological aspects of popular games to improve respondent participation in data collection

Ex. Virtual badges – digital representations awarded to users for some completed activity or action

Used to tap into under-lying motivations:

- Goal-setting
- Instruction
- Reputation
- Status/Affirmation
- Group Identification

Test Findings*:

- Not universally appreciated, understood or attended to – best with younger adults, Asians & Hispanics
- Most effective when respondent can see progress toward goal or when competition is involved



Source: * Lai, Bristol, & Link (2012) "Unlocking Virtual Badges as the Key for Respondent Engagement in Mobile App Surveys." Midwest AAPOR Conference.

#7. SOCIAL NETWORK SITES: NICHE UTILITY (FOR NOW)

SNS:

Service of Platform the focuses on building & reflecting social connections & communications

Current uses in Survey Research:

- Locating respondents
- Question testing
- Focus group recruitment
- Study “Groups”

SNS “Big Data”

Most not readily available (controlled by site owner)
Business relations among large data aggregators, but still protecting PII

SNS USAGE IN U.S. GROWING RAPIDLY

Adults using SNS* = 67%

18-29yrs: 83%

65+ yrs: 32%



Accessed at Least Once in 2012*

Facebook 67%

LinkedIn 20%

Twitter 16%

Pinterest 15%

Instagram 13%

Unique Users 2012**

Via PC / Laptop		Via Mobile App	
Facebook	152M	Facebook	78M
Blogger	58M	Twitter	22M
Twitter	37M	Foursquare	10M
Wordpress	31M	Google+	10M
LinkedIn	28M	Pinterest	5M

TMI!

32% of adults 18-24 used social media in bathroom!**



Source: * Pew Research Center (Feb 2013) "Demographics of Social Media Users – 2012";

**Nielsen (2012) Social Media Use Report

#8. TWITTER: ELITE MOOD, NOT PUBLIC OPINION

Twitter:

an online SNS and microblogging service that enables users to send and read text-based messages of up to 140 characters, known as “tweets”

twitter



Things to Consider:

- Data are “public” and available for analysis!
- Communication from an “elite public” – skewed on at that!
- Estimate 10% of users generate majority of content
- Original “Tweets” vs “Retweets”
- Key forms of analyses:
 - ✓ Counts / ratios
 - ✓ Sentiment analysis
 - ✓ Spatial mapping

Ex. Gun Control:

Proportion for / against “gun control” - YES
Types of guns to ban? NO

Good for new stories & general trends on broad topic – but utility for policy & decision-making?

CODE THIS FOR ME ...

Lady GaGa's gun bra is protected by the constitution.
#GunControl <http://t.co/z0IXmpJC>


#Newtown School Massacre Families Organize on #Gun
Violence, #GunControl - <http://t.co/RUw8MUHr> (via
@NYTimes)

Guns dont kill ppl crazy ppl who stop #GunControl b/c the
British are going to take their Muskets KILL PEOPLE #NRA
<http://t.co/vvnhN40u>

Be respectful, no threats just say NO! to #GunControl Say
it to the ones that count.

If there's one thing @piersmorgan has definitely gotten
right,its #GunControl !

Know guns, Know peace, Know safety or No guns, No
peace, No safety#2ndAmendment #GunCONTROL

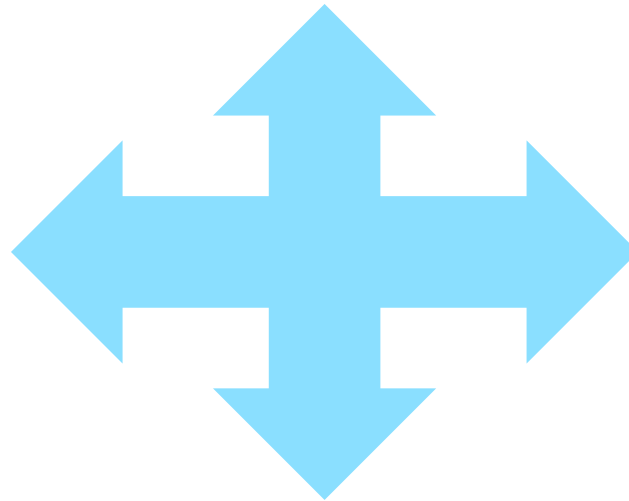


Random sample
of Tweets using
#GUNCONTROL

#9. OH YES ... AND THE OLD ISSUES PERSIST ...

COVERAGE??

MEASUREMENT
ERROR??

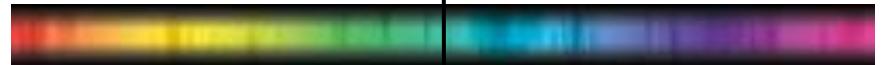


SAMPLING??

NONRESPONSE?? /
DIFFERENTIAL
NONRESPONSE??

PROBABILITY VS NON-PROBABILITY SAMPLES

Perhaps the **most divisive** yet **critically important** topic within the industry today!



Leveraging many of the new technologies will mean making dramatic changes in our designs – more than simple data collection mode!

#10. NEW TECHNOLOGIES, NEW LEGAL / ETHICAL ISSUES



Privacy Paradox:

People concerned about data
privacy

-BUT-

Continue to engage in online
behaviors that put data at risk!

Ensuring Data Privacy Requires Vigilance at All Levels (at a minimum)

- Keep up-to-date on latest privacy laws – in all geographies
- Team w leading privacy rights groups on best practices in new & emerging areas
- Dedicated data security team
- Clear processes for projects
- Privacy training for all staff

IN THE END, OUR RESEARCH/BUSINESS DEPENDS
ON THE GOODWILL AND TRUST OF THE PUBLIC!!!

FINAL THOUGHTS

- New normal = rapid and continuous change
- New technologies = not just opportunities & challenges for researchers, but changing the attitudes, opinions, behaviors, & expectations of those we study!
- New tools & approaches:
 - ✓ Have their own set of rules – which we're still trying to figure-out
 - ✓ Work well with some, but not types of respondents
 - ✓ Use is very dependent (as with any measurement tool) on what we want to know

If utilizing new approaches, EDUCATE YOURSELF – and share your findings!

AMERICAN ASSOCIATION FOR PUBLIC OPINION RESEARCH (AAPOR) ACTIVITIES OF INTEREST

- AAPOR Task Force on Use of Emerging Technologies to Measure Public Opinion
 - ✓ Goal: Deep dive into use of new technologies and approaches for use to improve, augment, or replace traditional survey approaches
 - ✓ Target date for report: Summer 2013
- AAPOR-Sponsored Outlets for Publishing Research:



QUESTION, COMMENTS, CONCERNS?

Remember:

- #1. If you conduct online surveys, you conduct mobile surveys
- #2. Mobile is different
- #3. Mobile world is messy
- #4. New forms of data = new insights, new headaches
- #5. Mobile apps are for complexity & cross-time measures
- #6. Engagement – moving beyond burden
- #7. Social Network Sites: niche utility (for now)
- #8. Twitter: elite mood, not public opinion
- #9. Old issues persist
- #10. New Technologies: New legal & ethical issues

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AN UNCOMMON SENSE
OF THE CONSUMER™

