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Where do we go from here?

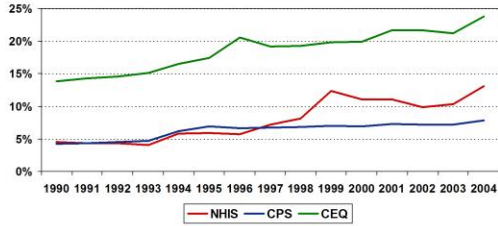
Reg Baker
March 6, 2007

Declining respondent cooperation

"In the 1970s, you could get a telephone survey response rate of 70 percent. Now, if you work really hard, you might get 40 percent. Surveys on the front pages of major newspapers have response rates of 10 percent. . . . It is still possible to conduct high-quality surveys—face-to-face interviews that yield 80 percent response rates—but such methods cost as much as \$1,000 per subject. . . . The question is, how do we get out of this mess?"

-- Jon Krosnick, 2006

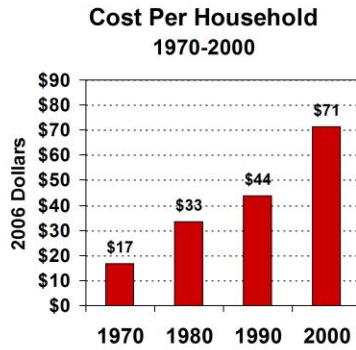
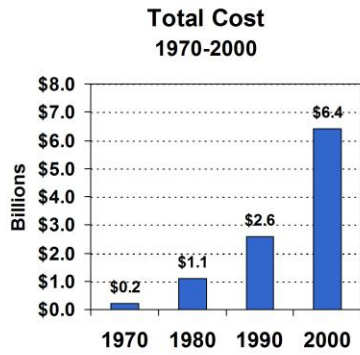
Nonresponse on Three Government Surveys
1990-2004



Response Rate Change – 1996-2004

Survey	1996	2004	Change	Per Year	2004 CPI
CEQ	79.4%	76.2%	-3.2%	-.40%	\$231
NHIS	94.3%	86.9%	-7.4%	-0.92%	\$176
CPS	93.4%	92.2%	-1.2%	-0.15%	\$47

Escalating Cost of the US Census



More serious in other sectors and modes

University of Michigan's Survey of Consumer Attitudes

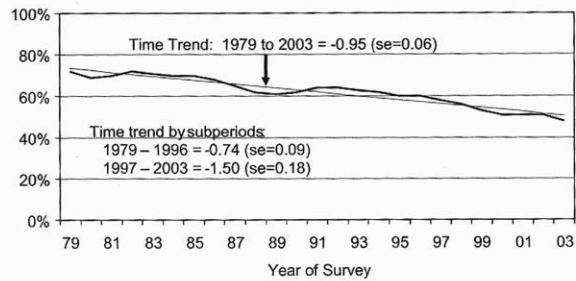


Figure 1. Response rates (RR 2) by year.

Curtin, Presser, and Singer, 2005

Hot Air in the Windy City

Research Industry Summit: Improving Respondent Cooperation to Revive Data

September 28 - September 29 2006 | The Drake Hotel | Chicago, IL

Event Overview

IIR and RFL Communications in partnership with CMOR present ...

[Thirty Three Research Leaders; One Table; One Task](#)

The Research Industry Summit: Improving Respondent Cooperation

Better Participation. Better Data. Better Decisions.

Some unfortunate outcomes

Consumers Rebel Against Marketers' Endless Surveys

Telephone Response Rates Now 10% or Less

Researchers Cut Off as US Hangs Up Landlines for Cell Phones

Half of All Survey Responses Come From 5% of Population

.25% Of The Population Doing 32% of Online Surveys

As these headlines show Technology is part of the problem—proliferation of surveys, autodialing, telemarketing, defensive technologies. And we see increases both in refusals and non-contact rate.

Redefinition of quality



The traditional manufacturing perspective:

- Free of defects
 - Meeting all specifications
-

The traditional survey perspective:

- High response rate
- From a well-designed probability sample

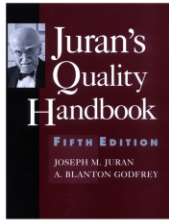
Groes (????) gave us a well articulated survey error model but mostly we still defined quality in terms of response rates and sample quality

Quality redefined



“The consumer is the most important part of the production line. Quality should be aimed at the needs of the consumer, present and future.”

---W. E. Deming, 1982



“. . . fitness for use . . . How will this product be used . . . Who will be the users. . . How do alternatives affect our economics . . . How do these alternatives affect the users' economics?”

---J. M. Juran, 1992

Deming and Juran brought the user into the definition. Quote from *Out of the Crisis*, p.5

Colm's quote essentially makes the intended use relevant

In the survey context



“The concept of quality, and indeed the concept of error, can only be defined satisfactorily in the same context as that in which the work is conducted. To the extent that the context varies, and the objectives vary, the meaning of error will also vary. . . Rather than specify an arbitrary (pseudo-objective) criterion, this redefines the problem in terms of the aims and frame of reference of the researcher. It immediately removes the need to consider true value concepts in any absolute sense, and forces consideration of the needs for which the data are being collected.”

-- Colm O'Muircheartaigh, 1997

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One industry but with two missions

Government/Academic

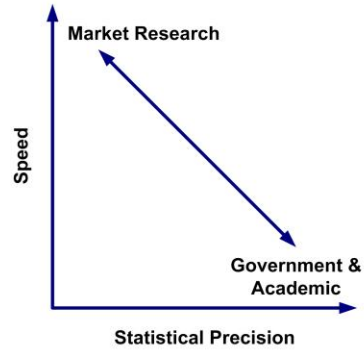
Generate highly accurate estimates of social and economic behavior

Market Research

Help clients make evidence-based business decisions

The key question

Is it good enough?



MR in 1990s

- Tough times for all of the traditional modes
- An industry infatuated with technology.
- Internet penetration was soaring.

"To do what we are doing we have had to set aside the staple of our industry -- the simple random sample. . . Random sampling is a very powerful tool in every avenue of science and industry for increasing the accuracy of estimates while decreasing the cost of the process. . . We are not challenging the validity of random sampling. . . We are instead investigating whether findings from huge samples of Internet respondents, coupled with sophisticated weighting processes, are as accurate as anything done on the telephone or door-to-door."

--- Gordon S. Black, 1998

“Sophisticated weighting processes. . .”



The scientific community showed little interest in finding new ways to work with non-probability samples.

The MR community mostly stuck to the demographic model.

While online has often produced different results evaluation was confounded by:

- Mode effects
- Problematic design

“In a classic example of the impact of scientific advancement, we expect to improve the performance while dropping the prices.” --- Gordon S. Black

Panels an easy sell in MR

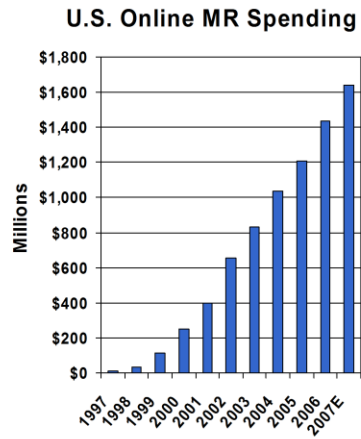


- A history of mail panels
- A tradition of quota sampling
- A client base not well-schooled in principles of survey research
- Improving Internet demographics
- Intense competition (Be faster & cheaper)
- Cool methodologies
- A focus on ultimate outcomes
- No practical alternative

And online research soared

Driven by widespread client acceptance, a plethora of software options (including DIY), and a new panel industry:

- Greenfield Online
- Survey Sampling
- e-Rewards
- Lightspeed
- ePocrates
- Knowledge Networks
- Private company panels
- Proprietary panels



Inside Research, 2007

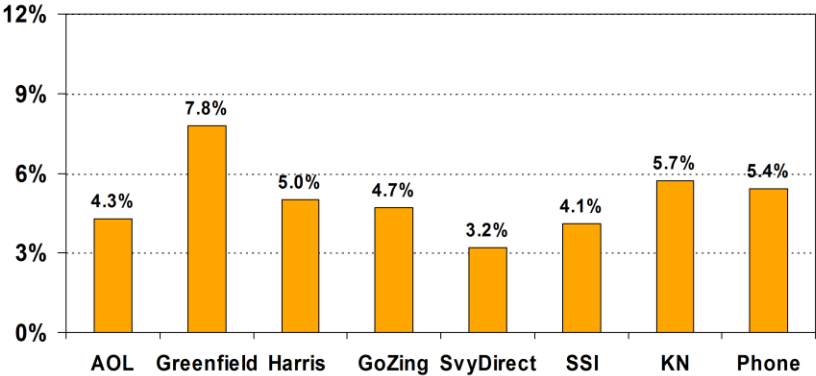
Major panels seemed pretty similar

	Web Opt-In					Web RDD	Phone RDD	
	SPSS/River	Greenfield	Harris	GoZing	SvyDirect	SSI	KN	SFBI
Primary Demographics	2.9%	5.4%	3.2%	11.0%	3.8%	5.0%	1.0%	2.3%
Secondary Demographics	2.6%	3.7%	2.1%	6.8%	2.5%	1.7%	2.5%	4.1%
Product Usage and Attitudes	8.1%	7.9%	5.1%	9.4%	6.8%	6.7%	3.3%	4.9%
Magazine Subscriptions	5.5%	5.1%	4.5%	11.2%	6.9%	5.7%	1.3%	4.0%
<i>All items except primary demographics</i>	5.2%	5.4%	3.9%	9.4%	5.5%	4.7%	2.2%	4.3%

Simpser et al., 2005

With well-behaved respondents

Summary of Order Experiment Results



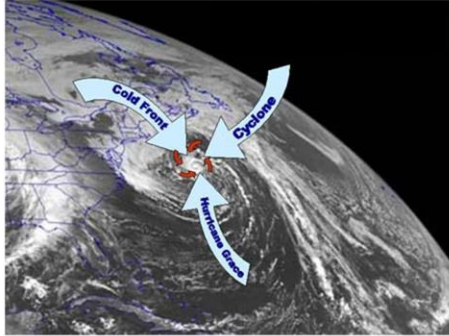
Krosnick and Rivers, 2005

Morning in Market Research

- Complicated methodologies
- Low incidence populations
- Fast turnaround
- Reasonable price

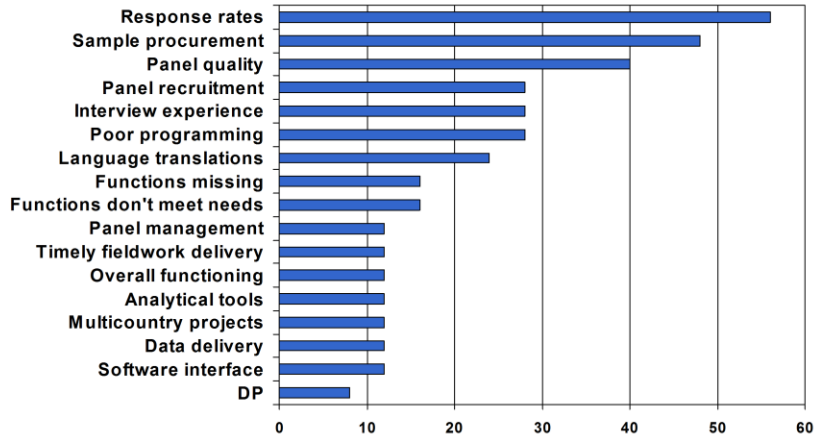


Suddenly, a perfect storm is brewing.



A collision of forces, each manageable on its own but capable of creating chaos when they come together.

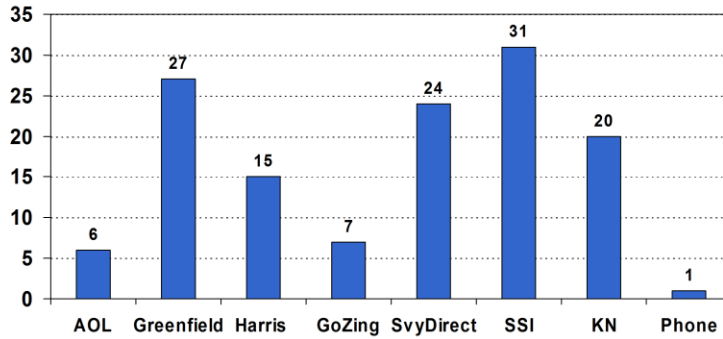
Clients are increasingly concerned about cooperation and samples.



Cambiar, 2005

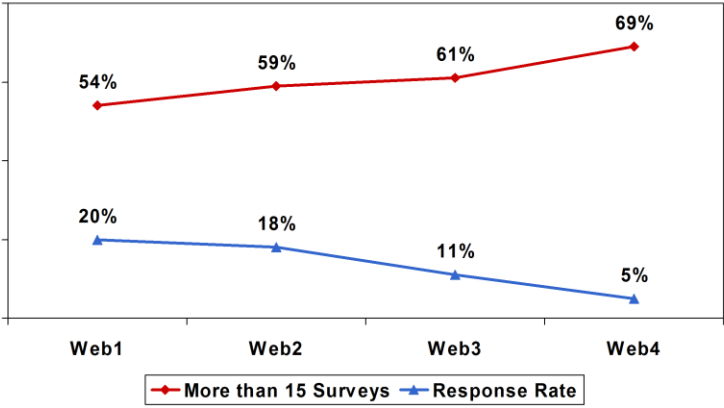
Growth of online means more surveys.

Median Number of Surveys in Last Year



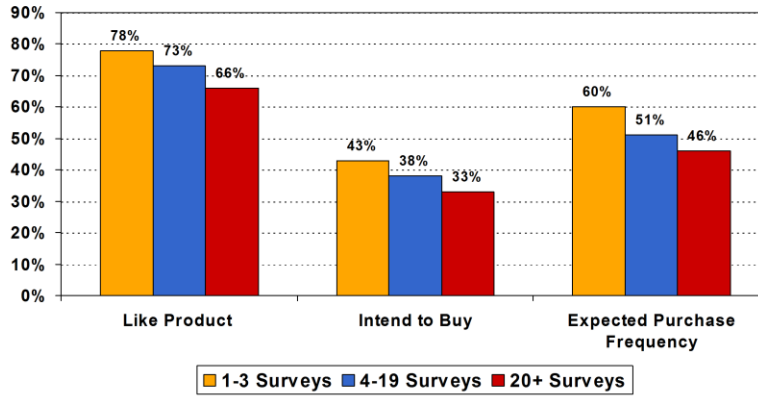
Krosnick, Nie, and Rivers, 2005

Panel response rates are in decline as panelists do more surveys.



MSI, 2005

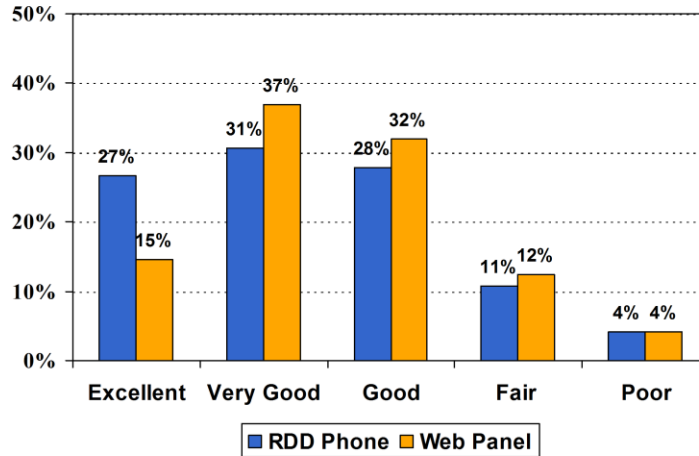
The number of surveys taken matters.



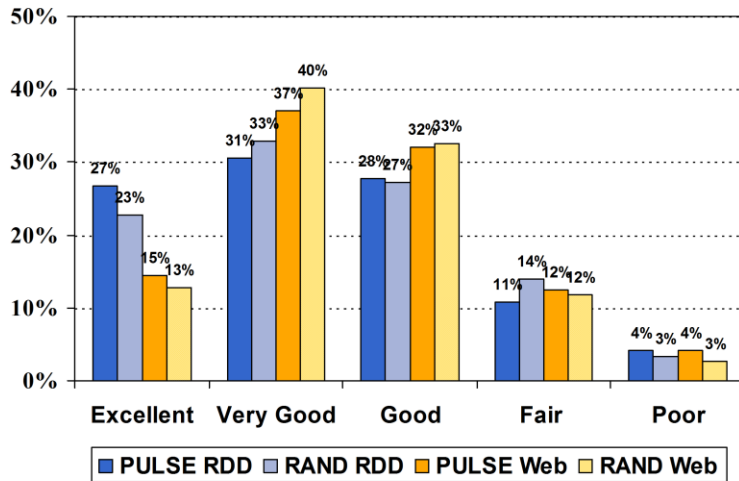
Coen et al., 2005

But it's still tough to match telephone.

How would you rate your health right now?



Even with “sophisticated weighting processes



Note: Differences in weighting schemes make results not directly comparable.

And we are not sure why. . .



- Mode effects
 - Interviewer vs. self-administered
 - Aural vs. visual
- Sampling
 - Probability vs. non-probability
 - Panel management practices

Types of “Problematic” Panelists



Hyperactives



Inattentives



Fraudulents

Each presents its own challenge for researchers.

The Hyperactives



	Single Panel		Multiple Panels	
	Harris	AMR	Harris	AMR
Female	52.2%	61.9%	74.7%	71.3%
18-39	40.8%	41.7%	24.3%	49.0%
Less than HS	19.8%	19.4%	23.0%	22.9%
Employed FT	43.7%		35.6%	
Less than \$25K	20.3%		14.1%	

"While further research into differences between hyperactive and non-hyperactive respondents will be useful . . . Forecasts of major threats to research validity and reliability are, as yet, not supported by empirical evidence."

-- Smith and Brown, 2006

". . . there are major differences between people who are members of only one panel and those who are members of multiple panels . . . These differences are seen in demographics, attitudes, and behaviour."

-- Casdas, Fine, and Menictas, 2006

The Inattentives



Might it be worse online?

- Wealth of survey opportunities
- Incentives
- Multiple panel memberships
- Self-administration
- Complex designs
- Bad designs

What does it look like?

- Short completion times
- Straightlining in grids
- Inconsistent or nonsensical answers
- High item non-response
- Fewer answers in multiple response

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Health and Diet	Political Views	Activities	Internet Usage	About You				
How many times in past 30 days did you participate in each activity?								
	Once	Twice	Three times	Four times	5-9 times	10-14 times	15-19 times	20 or more times
Attend a gym, medical, academic or symphony performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attend a sporting event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exercise / Go to gym	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participate in an organized sporting event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shop for appliances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shop for clothes / shoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shop for groceries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shop at a restaurant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit a doctor or health care specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit a museum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visit family / friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watch a movie at a theater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Fraudulents



- Create false identities when they join
- Lie to qualify for surveys
- Able to spot filters
- Click all options in multiple response
- Answer inconsistently

What's a market researcher to do?



- Know the characteristics of the panels you use and how they ensure response quality
 - Recruitment and (especially) validation
 - Participation limits
 - Panel maintenance practices
- Look to the industry
 - Guidelines and standards
 - ISO 202052 Working Group
- Develop your own panel QA approaches

Or maybe change the paradigm?

- Multiple points of measurement
- More secondary data
- A stronger blend of quant and qual
- Holistic solutions
- Less science, more art
- A reduced role for survey research

"In less than seven years, a data collection medium that has not yet been widely adopted or perhaps even tried, will surpass phone and face-to-face methodologies."

--Dean Wiltse

Meanwhile, back at the ranch. . .

A new perspective on response rates: **Understanding and controlling nonresponse bias may be as important as achieving a high response rate**—but it is extremely difficult to measure.

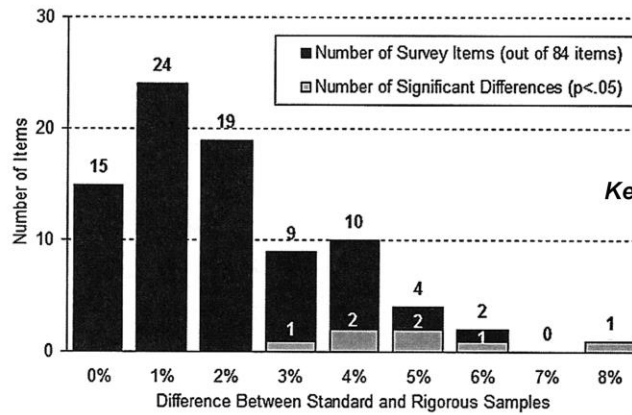
Techniques to increase response rates (.e.g, mode or topic salience) may be counterproductive.

“Blind pursuit of high response rates in probability samples is unwise.”

-- Robert M. Groves, 2006

The specific issue is the response rate as the primary measure of data quality
Sometimes even 90% is not high enough
—quote from groves p.665. Relationship between propensity to respond and measures of interest/key estimates.

How much does response rate matter?



Keeter et al., 2005

The advantages of probability sampling may outweigh the problems created by a low response rate.

Increased interest in mixed mode



It used to be mostly about the money.

Now it's also about the response rate.



We understand the error potential but we have difficulty measuring that error with precision.



“Sophisticated weighting processes”



- Finally some attention
- Younger statisticians are paying attention.
- AAPOR Short Course

Full adoption of CASIC

Better . . . faster . . . cheaper

Scheuren (2001):

- Macro paradata: “global process summaries like overall response rate and coverage rates.”
- Micro paradata: “details known on each case.”
- Survey design, development, and execution is a collaborative process between data collectors and data users.
- We need applications of IT to create “listening systems” that allow “clients to do their own assessments of nonsampling error”

Paradata

“Auxiliary data about the process of data collection . . . produced as an automatic by-product of the CAI process.”

--Mick Couper, 1999.

Examples:

Time stamps

Item missing data, breakoffs, etc.

Keystroke files, trace files, transaction logs

Review of interviewer notes, problem reports

Collected and analyzed as a source for survey improvement

As originally conceived, a focus on non-sampling error

Standard measures of survey quality (e.g., response or coverage rates) are inadequate—they don’t address content.

Joint

Quality = Producer + Client +

Example: Responsive Design

The Process

1. Identify design features that might impact costs and errors
2. Identify indicators for those costs and errors
3. Monitor indicators in initial phase—typically a more fully measured subsample
4. Alter the design based on analysis of subsample outcomes

“The ability to continually monitor streams of process data and survey data creates the opportunity to alter the design during the course of data collection in order to improve survey cost efficiency and achieve more precise, less biased estimates”

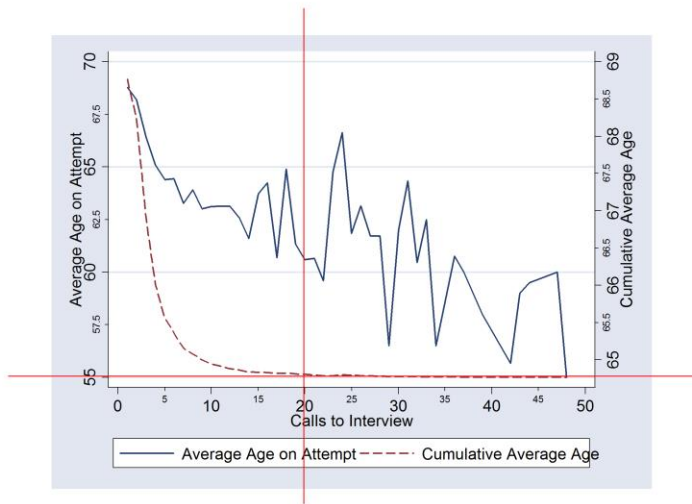
*--Heeringa and Groves,
2003*

The SurveyTrak System

- Built by SRC/ISR to manage CAPI and CATI studies.
- Initially to manage a field force and associated costs but now includes new functionality to support responsive design.
- Timely reporting on interview attempts, field costs, interviewer productivity, and “leading indicators of importance to the study (demographics, history, opinion)”

-- Hansen and Maher, 2005

Key Statistics Report: Age



Beyond Responsive Design

- As conceived here responsive design has a “producer perspective.”
- To move to the next level . . .
 - Collect other kinds of data
 - At the case level
 - Make them available in real-time
 - To clients and users

Some things to think about

1. Should we think of survey design as fluid rather than fixed?
2. We could use some new metrics that reflect changing views of survey quality and operationalize our ideas about survey error.
3. We need CASIC systems that collect and deliver these metrics.
4. Decisions about design need to be made in real time.
5. We need to involve data users fully in those decisions.

A major challenge for a new generation

- How will we bridge the divide between MR and Academic/Government research?
- An alternative future for Government research:
 - Omnibus surveys
 - Fewer surveys conducted less often
 - Increased use of administrative records
 - Panels (Yikes!)
- What role is CASIC going to play going forward?