The Impact of the Respondent Computer Environment on Web Questionnaire Design

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Preparation for Presentation

- Of the authors, the least technically knowledgeable is giving the presentation
- This presentation was difficult to prepare
  - Prospects ranged from utter despair to glimmers of hope

Browser Display

- The way we design a browser interface depends on:
  - Questions and methodology
  - Whether the survey is only web or part of a multimode effort
  - Standards of the survey organization
  - Client demands
  - Technical possibilities
    - This is the focus of today's talk

Motivation for Presentation

- Computer-Assisted Interviewing has always had its difficulties
  - But you controlled its computing environment
  - MPR rigorously controls all its interviewer desktops
- In web-based surveys the respondent is using his or her own environment
  - It is not always clear to various players how this impacts their options

Motivation for Presentation

- MPR Web Standards Report
  - Pierzchala, Sonnenfeld, Brinkley, and Wright
  - Reference for Project Staff and Clients
  - Technical Appendix on this issue
- Statement of Tradeoffs
  - Methodology vs. Technology
  - Populations of interest
  - Types of Surveys

Web Computing Environment

- Technical aspects
  - Scripting language JavaScript
  - Cookies
  - Pop-ups
  - Connect speed
  - Screen resolution
  - Browser brand/version and Desktop Operating System
  - HTML version
  - Other aspects of R's desktop

Web Computing Environment

- The respondent's
  - Attitude
  - Motivation
  - Computer skills
  - Patience
  - Behavior
- You don't want the respondent to quit early
  - Frustration with a particular data type
  - Slow web-survey performance

Web Computing Environment

- Does not cover Section 508 accessibility
  - For MPR this is another appendix entirely
  - Would be its own session
  - Would take too long here
- Section 508 issues do interact with the computing environments

Handout

- The handout is a work in progress
  - It will be finalized within a few weeks
  - If there are any comments on it contact Mark Pierzchala
    - mpierzchala@mathematica-mpr.com
  - We're looking for feedback
  - In return I will send you the finished appendix as a PDF file

Handout

- Write on the handout:
  - DRAFT
  - My email address
    - mpierzchala@mathematica-mpr.com

Handout

- The handout has nothing new
- References include:
  - Baker, Crawford, and Swinehart
  - Couper
  - Dillman
  - Groves, Berry, and Mathiowetz
  - Kurata
  - MPR authors' knowledge and experience
- The organization of the appendix is useful

Handout

Aspect of environment		
Notes	**Respondent**	**Affects**
Tradeoffs: Middle ground		
Lower extreme	**Upper extreme**	

Handout: Page 4 Example

Connect speed		
Notes	**Respondent**	**Affects**
Tradeoffs: 2-second maximum screen refresh		
Assume dial-up	**Assume broadband**	

Highlights

- Three major kinds of things out of our control:
  - Enabling vs. disabling
  - Version issues
  - Other kinds of configuration
- These things may be out of the control of the respondent too! Much depends on:
  - When a desktop was purchased and from which vendor
  - IT department constraints

Highlights

- Enabling vs. disabling
  - JavaScript
    - About 2 – 3 % of browsers disable
  - Cookies
    - May be disabled
    - R may be prompted to allow a cookie
  - Pop-ups
    - Difficult situation is getting worse
    - Assume you cannot use this

      This is really too bad

Highlights

- Kinds of versions
  - Can be updates of the same software
  - Can be variants between vendors
- Versioning that affects web surveys
  - JavaScript
  - HTML
  - Browsers
  - Operating systems

Highlights

- Other kinds of configuration
  - Connect speed
  - Screen resolution
  - Color palette
  - Fonts available
  - Subsidiary software on the desktop
    - Plug-ins, multimedia players, etc.

HTML and JavaScript

- HTML is dumb
  - HTML-only in the browser leads to server-side architectures where validation, edits, and other capabilities are executed
  - There may be performance issues as a result
    - Cross issue with connect speed
- JavaScript is smart
  - Client-side architectures for validation, etc.
    - Much faster and satisfying
  - Enable a lot of capability

JavaScript

- Small percent have disabled it (2 – 3%)
- Versioning issues can be taken care of by:
  - The web-survey software
  - The programmers
  - But leads to less flexibility
- There are issues with the use of JavaScript and Section 508 standards

Connect Speed

- About 50% of U.S. have access to broadband
  - Lots of statistics out there, hard to assess
- Broadband is an order of magnitude faster than dial-up
  - Some surveys cannot be done by dial-up
    - Many images or streaming video
- Slow connect speed may encourage:
  - More questions on a screen
  - Fewer edits beyond basic validation
  - Lesser capability in the browser

Conclusions

- Survey organization has limited control over respondent's computer environment
  - It is a far worse situation than I thought!
- For general populations
  - Lowest Common Denominator interface
    - Consistent display across environments (more or less)
  - Segmentation of the questionnaire
    - More screens, less overview
  - Fewer edits, less capability overall

Conclusions

- Use Web-Survey software
- Develop standards and use them
- Test across environments
  - Baker, Crawford, Swinehart (2004) have excellent suggestions

Conclusions

- How do you adapt to a changing landscape?
  - New versions present new possibilities
  - There is a legacy you have to take care of
    - When don't you care anymore about supporting a legacy?
- Population matters
- Kind of survey matters
- Probability survey versus 'convenience sample' matters

Conclusions

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