The Smart(Phone) Way to Collect Survey Data

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Agenda

Study Background

Study Design

Results

- Demographics of Mobile Survey Respondents
- Types of Mobile Devices Used to Access Surveys
- Abandonment Rates
- Response Impacts

Recommendations
Study Background

Service Management Group (SMG) annually surveys 15+ million consumers through web surveys

- Majority of these surveys are customer satisfaction surveys asking about a recent experience in a multi-unit restaurant or retail store

2010 saw a 200% increase in mobile survey attempts

Pew Research found an increase from May 2009 to May 2010 of 12% points in Smartphone usage to access the internet

- 2011 data has not been released but anticipate that number to be even higher

There is limited systematic research on best practices in Mobile Survey design

- Peytchev & Hill; Social Science Computer Review (2010)
- Callegaro; Survey Practice (December 2010)

A scale test conducted by SMG in early 2010 showed significant impact of horizontal radio buttons in mobile surveys on response patterns
Horizontal radio button display impacts response patterns for mobile survey respondents

Differences are significant at p < .05
Study Design & Goals

Main goal was to identify best practices in mobile survey designs on a variety of different topics

- What input type works best for mobile respondents?
- Should the number of pages be reduced for mobile respondents?
- Should the number of questions asked be limited for mobile respondents?

Additional goal was to gain a better understanding of the demographic profile of mobile survey respondents, as well as the types of devices used to access web surveys.

Respondents are guests of a multi-unit restaurant chain and are invited at the Point of Sale to complete a customer satisfaction survey on the internet.
Study Design & Goals

Identified up front if respondent was attempting to take the customer satisfaction survey on a mobile device or on a more traditional computer

- An optimized mobile survey platform was built as part of this test, which included removing graphics and images

For mobile respondents, 4 different test scenarios were rotated

- Full survey content, computer paging, and vertical radio buttons (Average 44 questions)
- Full survey content, reduced paging, and dropdown inputs (Average 44 questions)
- Reduced survey content, reduced paging, and vertical radio buttons (Average 26 questions)
- Reduced survey content, full paging, and dropdown inputs (Average 26 questions)

Final sample was approximately 2,000 completes for each test scenario
Comparison of Unoptimized and Optimized Mobile Surveys
Demographics and Device Type of Mobile Survey Respondents
6% of the sample responded using a mobile phone

- iPhones represent the largest mobile device used to access the survey

**% Responding by Mobile**
- 94%
- 6%

**Types of Mobile Devices Used**
- 41%
- 31%
- 16%
- 12%

- iPhone
- Blackberry
- Android
- All Other Smartphones

n=132,242

n=7,923
Mobile survey respondents tend to be younger and more diverse than computer respondents

- **Age Distribution:**
  - Under 24: 30%
  - 25 to 34: 23%
  - 35 to 44: 21%
  - 45 to 54: 17%
  - 55 and over: 7%

- **Ethnicity Distribution:**
  - Caucasian: 78%
  - Asian: 14%
  - African American: 8%
  - Hispanic or Latino: 6%
  - Pacific Islander: 4%
  - American Indian/Alaska Native: 2%
  - Other: 2%

*Pearson Chi-squared < .001 for Age & Ethnicity differences*
Abandon Rates
The abandonment rate is higher for mobile surveys but can be mitigated by offering an optimized shorter survey.

- Computer: 3.3%
- Full Content, Full Paging, Vertical: 8.2%
- Full Content, Reduced Paging, Dropdown: 10.2%
- Reduced Content, Reduced Paging, Vertical: 6.3%
- Unoptimized Mobile Survey: 15.9%
- Reduced Content, Full Paging, Dropdown: 7.6%

n = 123,756
n = 2,108
n = 2,117
n = 2,144
n = 2,117
n = 9,007
Vertical radio buttons and reduced survey content leads to lower abandonment rates while paging has no impact

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Impact on Abandon Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content (1 = Full Content; 0 = Reduced Content)</td>
<td>0.742*** (-0.298)</td>
</tr>
<tr>
<td>Paging (1 = Computer Paging; 0 = Reduced Paging)</td>
<td>1.019 (0.019)</td>
</tr>
<tr>
<td>Input Type (1 = Dropdown; 0 = Vertical Radio Buttons)</td>
<td>0.801** (-0.222)</td>
</tr>
</tbody>
</table>

Logistic Regression Model is predicting Respondent Abandonment or Not; ** p < .01; *** p < .001; Odd's Ratios are on top and coefficients are in parentheses.
Impact on Response Patterns
By controlling for demographics, the influence of survey mode on Overall Satisfaction was removed

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Not Controlling for Demographics</th>
<th>Controlling for Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Content, Computer Paging, Vertical</td>
<td>1.155** (.144)</td>
<td>1.116 (.110)</td>
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<tr>
<td>Full, 1 Page, Dropdown</td>
<td>1.313*** (.273)</td>
<td>1.268*** (.238)</td>
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<tr>
<td>Reduced Content, 1 Page, Vertical</td>
<td>1.237*** (.212)</td>
<td>1.194*** (.177)</td>
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<tr>
<td>Reduced, Computer Paging, Dropdown</td>
<td>1.280*** (.247)</td>
<td>1.219*** (.198)</td>
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<tr>
<td>Age</td>
<td>NA</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Ethnicity (Compared to ‘Other’)</td>
<td>NA</td>
<td>1.124** to 1.977*** (.117) to (.682)</td>
</tr>
<tr>
<td>Gender (1 = Male)</td>
<td>NA</td>
<td>1.094*** (.090)</td>
</tr>
<tr>
<td>Income</td>
<td>NA</td>
<td>.975*** (.026)</td>
</tr>
</tbody>
</table>

Logistic Regression Model predicting ‘Highly Satisfied’ on Overall Satisfaction; Test Scenarios compared to web: ** p < .05; *** p < .01;
Ethnicity is a range of beta weights comparing to the ‘Other’ response option and includes American Indian, Asian, African American, Hispanic, Pacific Islander, and White; Odd’s Ratios are on top and coefficients are in parentheses.
Recommendations for Smartphone Survey Designs
Recommendations for Smartphone Survey Design

Optimizing your surveys for mobile phone usage will increase response rates while reducing abandonments and shortening the duration of each survey.

Each horizontal radio button will not be visible without horizontal scrolling which causes some respondents to only select the options that they can see.

Reducing survey content for mobile surveys will reduce abandonment rates but they will still remain higher than a computer survey.

- If comparing to a full-length computer survey, careful consideration of what impact the removed questions will have on responses should be undertaken due to potential question order effects.

Reducing the amount of paging on a mobile survey doesn’t seem to have an impact on abandonment rates and survey responses so computer paging can be used.

Vertical radio buttons will lead to more similar survey responses than dropdown boxes.
Thank You.
Contact me at cstapleton@smg.com