Device use in web surveys: The effect of differential incentives

General Online Research 2015

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Warnings in the e-mail invitation or on the first page to use a PC or tablet had a small effect on those who started on smartphones and those who changed the device (McClain, Crawford, and Dugan, 2012; Peterson, 2012).

No effect of encouraging mobile use on overall participation rates, and relatively small effects on the proportion of respondents who used a mobile device (Millar and Dillman, 2012).
Research Questions

RQ1: Can we increase participation rates in web surveys using differential incentives?

RQ2: Can we increase the proportion of respondents who use a particular device to complete the survey using differential incentives?
The conditional differential incentives are offered simultaneously depending on the device a respondent uses to complete the web survey.

e.g.:

€1

€2
Differential Incentives

• Understanding Society Innovation Panel: offering additional incentives to complete the survey on the web (vs. f2f) increases the proportion of web respondents by 7-8 p.p. (Jäckle, Lynn, and Burton, 2013; Wood and Kun, 2014).

• Differential incentives significantly increased the proportion of web respondents (vs. mail), but did not have much effect on overall response rates (Mooney et al., 2012).
Hypotheses and Experimental Design
Hypotheses

1. Differential incentives:

- increase the overall participation rates

- more effective at increasing the proportion of respondents who use a particular device than an encouragement to use a particular device.
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   - increase the overall participation rates
   - more effective at increasing the proportion of respondents who use a particular device than an encouragement to use a particular device.

2. Larger incentives are needed to encourage the use of mobile phones than the use of PCs to get similar participation rates.
Hypotheses

1. Differential incentives:

- increase the overall participation rates

- more effective at increasing the proportion of respondents who use a particular device than an encouragement to use a particular device.

2. Larger incentives are needed to encourage the use of mobile phones than the use of PCs to get similar participation rates.

3. Providing larger incentives for completing the survey on a mobile phone will increase the proportion of younger respondents.
Experimental Design

Invitation mode

- SMS
- E-mail
Experimental Design

Invitation mode

- SMS
- E-mail

Differential incentives

1. No encouragement for device
2. Encouragement to use mobile phones
3. Encouragement to use PC
4. 50% higher incentives for PC
5. 50% higher incentives for mobile phone
6. Doubled incentives for mobile phone
Volunteer online access panel (Online Market Intelligence)

10 minutes

Fieldwork: October 17-November 2, 2014, Russia

Software: Unipark

Mobile Internet users

Participation rate≈38%: 5,474 invitations; 2,086 respondents.

Breakoff rate=9.5%
49 items:

ESS: trust in the police and courts, cooperation with the police and courts.

No screening questions, quotas, and skipping logic.

All questions were not obligatory.
### Completion Times

<table>
<thead>
<tr>
<th>Completion times (min.) ***</th>
<th>Mobile phone (SD=18.6)</th>
<th>PC (SD=15.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average time spent on a survey page (seconds) ***</td>
<td>23.1</td>
<td>18.7</td>
</tr>
<tr>
<td>Average network latency (seconds) ***</td>
<td>3.9</td>
<td>1.9</td>
</tr>
</tbody>
</table>

- With higher education: 1 minute faster (p<0.05).
- Each additional 100 pixels in screen size decreased the predicted completion time by 0.2 minutes (p<0.05)
- Wi-Fi: 3.4 minutes faster than those who used 2G or 3G Internet connections (p<0.001)
Results
Encouragement to use a particular device for completing the survey did not have an effect on the overall participation rates.

Offering higher incentives to PC web respondents did not produce higher participation rates compared to the control condition.

Offering higher incentives to mobile respondents increased participation rates by 8 p.p. and 10 p.p.
Survey Completion

Odds ratios:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% higher incentives for mobile phone</td>
<td>1.49</td>
</tr>
<tr>
<td>Doubled incentives for mobile phone</td>
<td>1.59</td>
</tr>
<tr>
<td>No children in the household</td>
<td>1.25</td>
</tr>
<tr>
<td>Higher education</td>
<td>1.19</td>
</tr>
<tr>
<td>SMS vs. E-mail</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Higher odds of participation (p<0.001):

• older respondents;
• those with less time in the panel member;
• those with a higher amount of incentives in their account

**p<0.01, ***p<0.001
### Breakoff Rates

<table>
<thead>
<tr>
<th>Device</th>
<th>BR</th>
<th>( \chi^2(2) = 87.22, \ p &lt; 0.001 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phone</td>
<td>15.2%</td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td>Tablet</td>
<td>4.1%</td>
<td></td>
</tr>
</tbody>
</table>

#### Odds ratios:

- Mobile phone: **2.94**  
- SMS vs. E-mail: **2.64**  
- Every additional pixel of the screen width: **0.998**  
- Doubled incentives for mobile phone: **0.61**  

*p<0.05, ***p<0.001
Proportion of Mobile Phone Respondents

$X^2(5)=216.56, \ p<0.001$

<table>
<thead>
<tr>
<th>Condition</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control condition</td>
<td>43.3%</td>
</tr>
<tr>
<td>Encouragement to use mobile phones</td>
<td>56.1%</td>
</tr>
<tr>
<td>Encouragement to use PC</td>
<td>19.7%</td>
</tr>
<tr>
<td>50% higher incentives for PC</td>
<td>27.8%</td>
</tr>
<tr>
<td>50% higher incentives for mobile phone</td>
<td>58.6%</td>
</tr>
<tr>
<td>Doubled incentives for mobile phone</td>
<td>63.8%</td>
</tr>
</tbody>
</table>
Mobile completion (vs. PC and tablet completion)

Odds ratios:

- SMS ***: 16.78
- Encouraging mobile **: 1.75
- 50% higher incentives - mobile **: 1.84
- Doubled incentives - mobile ***: 2.59
- Mobile web - daily ***: 4.57
- E-mail on a mobile phone - daily **: 1.48
- Females *: 1.36

Higher odds of mobile completion (p<0.05):
- younger respondents;
- those with a longer panel experience.

*p<0.05, **p<0.01, ***p<0.001
<table>
<thead>
<tr>
<th>Age</th>
<th>Encourage to use mobile phones</th>
<th>Encourage to use PC</th>
<th>50% higher incentives for PC</th>
<th>50% higher incentives for mobile phone</th>
<th>Doubled incentives for mobile phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older people more likely to complete the survey. No differences between the conditions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females vs. males</td>
<td>-</td>
<td>-</td>
<td>OR* = 1.62</td>
<td>-</td>
<td>OR* = 1.48</td>
</tr>
<tr>
<td>Level of education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>OR* = 1.48</td>
</tr>
</tbody>
</table>

*p<0.05
Data Quality

No differences:

• item nonresponse rates (0.63%, SD=6.1%)

• primacy effects

• the number of nonsubstantive responses ("don’t know")
Main Findings

• Differential incentives increased the overall participation rates by 8-10 p.p. if higher incentives were offered to mobile respondents.

• E-mail invitation produced higher participation rates. SMS increased the proportion of mobile web respondents.

• Encouraging the use of a mobile phone and offering higher incentives were both effective at increasing the proportion of mobile respondents.

• Offering incentives 50% higher was as efficient as offering doubled incentives for mobile web respondents.

• Offering higher incentives to mobile web respondents had an effect on sample composition.
Limitations

• Frequent mobile web users.
• Non-probability online access panel.
• It is worth exploring:
  • The effects of other incentives (e.g., 20% or 30% higher).
  • The difference in participation rates between the conditions in which higher-than-typical incentives are offered for all participants and when offered only for using a particular device.