On the road to clarity: Differences between sample sources

Steven Gittelman
Problem Respondents: are they at the core of the issue?

- Our data shows that the frequency of problem respondents (professionals, speeders, etc.) is far lower in Europe than in the United States.

- Respondents are not problems unless they bias purchasing behavior in our data.
Objectives

- Do problem respondents impact purchasing data?
- Who potentially are the problem respondents? (professionals, speeders, satisficers, logic errors, validity checks)
- How do they impact our sampling universe?
- Arrive at workable solutions.
The road we took...


- Demographic quotas (age, income, gender, ethnicity) were used to simulate census.

- Median length was 13 minutes.

- Questions covered: Technology and the media, Participation in market research, Buyer Behavior, Values and lifestyle, Demographics, Questionnaire Satisfaction.
Respondent Types

- Professional Respondents were defined in three ways:
  - (1) Self report taking on-line Surveys “practically every day” (25% of Total).
  - (2) Self report (open ended) taking over 30 online surveys “in the past month” (15% of Total).
  - (3) Multiple panel membership ≥5 panels. (36%)


- Failure to follow instructions: Instructed to enter a predetermined answer, also known as a trap question.

- Speeders: survey times in the bottom 10 percent.
Panel M1 and M2 were not asked number of panels.
Professional Respondents
Sample sources grouped by type.

Measures of Professionalism

Percent of Respondents

M11 - River
M3 - River
M4 - River
M10 - Social Network
M2 - Point System
M16 - Point System
M15 - UK
M1
M9
M12
M7
M13
M5
M14
M6
M17
M8
M18
All Panels

>= 5 Panels
Every Day
>30 Surveys
## Distribution of Survey Flaws, Inconsistencies (Brand over Price)

<table>
<thead>
<tr>
<th>Panels</th>
<th>Percent of Respondent Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>M11</td>
<td>5%</td>
</tr>
<tr>
<td>M3</td>
<td>7%</td>
</tr>
<tr>
<td>M4</td>
<td>7%</td>
</tr>
<tr>
<td>M10</td>
<td>10%</td>
</tr>
<tr>
<td>M2</td>
<td>5%</td>
</tr>
<tr>
<td>M16</td>
<td>5%</td>
</tr>
<tr>
<td>M15</td>
<td>7%</td>
</tr>
<tr>
<td>M1</td>
<td>4%</td>
</tr>
<tr>
<td>M9</td>
<td>3%</td>
</tr>
<tr>
<td>M12</td>
<td>10%</td>
</tr>
<tr>
<td>M7</td>
<td>8%</td>
</tr>
<tr>
<td>M13</td>
<td>10%</td>
</tr>
<tr>
<td>M5</td>
<td>8%</td>
</tr>
<tr>
<td>M14</td>
<td>6%</td>
</tr>
<tr>
<td>M6</td>
<td>6%</td>
</tr>
<tr>
<td>M17</td>
<td>6%</td>
</tr>
<tr>
<td>M8</td>
<td>7%</td>
</tr>
<tr>
<td>M18</td>
<td>7%</td>
</tr>
<tr>
<td>All Panel</td>
<td>8%</td>
</tr>
</tbody>
</table>

The chart above illustrates the distribution of survey flaws, specifically inconsistencies related to comparing brand over price, across different panels. Each bar represents the percent of respondents in a specific panel who exhibited this flaw. The highest percentage is observed in panel M10, with 10% of respondents showing this inconsistency, while panels M9 and M12 also show significant percentages, with 10% and 8% respectively. The lowest percentage is seen in panel M1, with only 3% exhibiting this flaw.
Distribution of Survey Flaws, Failure to follow instructions

Panels

Percent of Respondent Group

0% 2% 4% 6% 8% 10% 12% 14% 16% 18%

15% 14% 13% 9% 10% 8% 11% 9% 12% 14% 14% 12%
Demographics

- Gender, Age, Income, and Ethnicity set by Quota
- Compare Distributions by:
  - Education
  - Having Children under 18
  - Employment
- US Census
Education Distribution by Panel
No Quotas Set
Having Children Under 18
No Quotas Set

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Panels</td>
<td>38%</td>
</tr>
<tr>
<td>Every Day</td>
<td>29%</td>
</tr>
<tr>
<td>30+/mo</td>
<td>28%</td>
</tr>
<tr>
<td>5+ Panels</td>
<td>30%</td>
</tr>
<tr>
<td>Inconsistent</td>
<td>47%</td>
</tr>
<tr>
<td>Failure to Follow Instructions</td>
<td>34%</td>
</tr>
<tr>
<td>Speeders</td>
<td>47%</td>
</tr>
<tr>
<td>US Census (2000)</td>
<td>36%</td>
</tr>
</tbody>
</table>

Professionals

Having Children Under 18
No Quotas Set

Percent

Panels

M11  M3  M4  M10  M2  M16  M15  M1  M9  M12  M7  M13  M5  M14  M6  M17  M8  M18  Phone  All Panels

42%  47%  45%  39%  27%  32%  41%  36%  37%  48%  38%  43%  35%  37%  36%  43%  46%  30%  31%  46%  38%
Employment Distribution
No Quotas Set

Professionals

- Employed full time
- Employed part time
- Retired
- A homemaker
- Not working right now
- A student

<table>
<thead>
<tr>
<th>Professionals</th>
<th>All Panels</th>
<th>Every Day</th>
<th>30+/mo</th>
<th>5+ Panels</th>
<th>Inconsistent</th>
<th>Failure to Follow Instructions</th>
<th>Speeders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>43.9%</td>
<td>34.8%</td>
<td>35.8%</td>
<td>37.2%</td>
<td>45%</td>
<td>37%</td>
<td>56%</td>
</tr>
</tbody>
</table>

Percent
Variation in Buyer Behavior

Measuring buyer behavior is the objective of most marketing research. And therefore, consistency of those measurements are critical.

Variables

- Number of High Tech Items Purchased
- Internet Purchase behavior
- Purchasing Opinions
- Credit card Usage
- Coupons
- Price vs Brand / Brand vs Price
Buyer Behavior Segments by Panel

Panels: M11, M3, M4, M10, M2, M16, M15, M1, M9, M12, M7, M13, M5, M14, M6, M17, M8, M18, All

Categories:
- Purchasers/Credit Cards/Not On-Line
- Shoppers/No Credit Cards
- Non-Purchasers/On-line/No Credit Cards/Price
- On-Line/Credit Cards
- On-line/Not Price/OLBanking

Legend:
- River
- Social Network
- Point System
- UK
- Access Panels
Buyer Behavior Segments by Respondent Type

Sources of Error

- Purchasers/Credit Cards/Not On-Line
- Shoppers/No Credit Cards
- Non-Purchasers/On-line/No Credit Cards/Price
- On-Line/Credit Cards
- On-line/Not Price/OLBanking

Percentage of Group

- All Panels
- Professionals (> 30 Surveys)
- Speeders
- Inconsistency with Happiness
- Inconsistency with Brand/Price
- Failure to follow Instructions

- 22% 12% 25% 28% 42% 13% 22% 20% 22% 21% 14% 17% 15% 23% 14% 14% 6% 23% 25% 27% 25% 22% 18% 14% 23% 14% 14%
Position based on Buyer Behavior

MDS

Social Network

River

UK

M10
M11
M12
M13
M14
M15
M16
M17
M18

>= 5 Panels, RSquare =74%
Every Day, RSquare =70%
>30 Surveys, RSquare =73%
Speeders, RSquare =23%
Principal Buyer Behavior vs. Professionals (>30 Surveys/Month)

Buyer Behavior (Principal Common Factor $R^2 = 38\%$)

Professionals (>30 Surveys/Month)

$R^2 = 43.6\%$

M1-5 (US) Deleted
M15 (UK) Deleted
Principal Buyer Behavior vs. Speeders (<10 Percentile of Completion Speed)

Speeders (< 10 Percentile of Completion Speed)

Buyer Behavior (Principal Common Factor $R^2 = 38\%$)
Stepwise Regression

Variation Captured by Key Drivers ($R^2=83\%$)
- 44% Everyday
- 23% Inconsistency with Standard of Living
- 24% Inconsistency Brand over Price

Actual (Buyer Behavior)
Predicted
Optimum Sampling

- Goal is to:
  - Minimize “Error” on objective, which in this case, we chose education as represented by the panels themselves.
  - Minimize number of panels in the solution.
  - Use Microsoft Excel Solver
- The solution we obtained was:
  - 40% M3 – River
  - 40% M6 – Access Panel
  - 20% M14 – Access Panel
Optimum Education Attainment Distribution

Number of Panels in the Optimum

- Less than high school graduate
- High school graduate
- Some College (Associate Degree)
- Trade, technical or vocational school
- College graduate
- Post graduate work or degree
- Other
Improve the Optimum with increased Panels

<table>
<thead>
<tr>
<th>Number of Panels in the Optimum</th>
<th>Deviation from the Optimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.666</td>
</tr>
<tr>
<td>2</td>
<td>0.030</td>
</tr>
<tr>
<td>3</td>
<td>0.028</td>
</tr>
<tr>
<td>4</td>
<td>0.024</td>
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<tr>
<td>5</td>
<td>0.021</td>
</tr>
<tr>
<td>7</td>
<td>0.018</td>
</tr>
<tr>
<td>9</td>
<td>0.008</td>
</tr>
<tr>
<td>13</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The graph shows the deviation from the optimum for different numbers of panels in the optimum.
A Look Back

- Panels vary widely between sourcing mode.
- Professional Respondents appear to be a strong driver.
- So far our analysis has been somewhat granular.....
Future Discussions…
Let’s take a second look at the access panels.

Distribution of Buyer Behavior Segments among US Panels

Homogeneity, Stability, Predictability and Reliability
Think of Global Panels....

We are currently collecting data in 29 Global Markets.

The Take Home Message...
THANK YOU!

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Variation in Opinions

- Social opinions and behavior can be expected to drive purchasing behavior or at least provide a basis for segmenting the market. Consistency of these measurement may likewise be critical.

- Variables Groups
  - Internet Use
  - Taking Surveys
  - Having a Passport
  - Social Characteristics

- Measures:
  - Driving Variables
Key Social Variables

- Selected key variables determining Social Clusters.
- Social Behavior, Unconventional, Passports, Time over Money, Risk Avoidance

Standardized Social Segment Profiles
Number of People in Your Household (Including Self)

<table>
<thead>
<tr>
<th>Panel</th>
<th>Average Number</th>
</tr>
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<tbody>
<tr>
<td>M11</td>
<td>3.2</td>
</tr>
<tr>
<td>M3</td>
<td>3.2</td>
</tr>
<tr>
<td>M4</td>
<td>3.0</td>
</tr>
<tr>
<td>M10</td>
<td>3.3</td>
</tr>
<tr>
<td>M2</td>
<td>2.7</td>
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<td>M16</td>
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<td>M15</td>
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<td>Phone</td>
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<td>All Panels</td>
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