



Economic impact of privacy on online behavioral advertising

Benchmark study of Internet marketers and advertisers

Independently Conducted by Ponemon Institute LLC

April 30, 2010

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1. Executive summary

There continues to be much debate and controversy concerning the use of online behavioral advertising that targets consumers based on their wants, tastes and preferences. One of the main purposes of online behavioral advertising (OBA) is to enhance the consumer's Internet experience by reducing the plethora of annoying and irrelevant ads. Online marketers believe that failure to use all available information sorely diminishes the quality and accuracy of online advertising, thus diminishing the power, value and usefulness of OBA methods.

Despite clear benefits, privacy advocates and regulators pose serious challenges to online advertisers and marketers who wish to utilize OBA. Their objection concerns online marketers' lack of transparency about how they collect and use consumers' personal information. Other issues concern the lack of consumer control over how they are tracked (a.k.a. the creepiness factor) and the inability to choose whether they want to participate in targeted advertising.

While research shows that consumers generally favor online advertisements that are aligned with their preferences, they worry about the personal information collected and used about them by marketers without their knowledge or consent. The Federal Trade Commission (FTC) and self-regulatory groups such as Network Advertising Initiative (NAI), Internet Advertising Bureau (IAB), Direct Marketing Association (DMA), TRUSTe and others have set forth clear guidelines about acceptable use of behavioral targeting methods. Beyond the United States, the European Union and regulators in other regions of the globe are striving to advance privacy and data protection requirements when deploying OBA methods that protect consumers.

This executive summary provides the results of a benchmark study independently conducted by Ponemon Institute to extrapolate the impact of privacy concerns on the use of online behavioral advertising tools and methods. In short, we examine whether concerns or fears about privacy cause online marketers and advertisers to choose less effective Internet advertising models – thus resulting in diminished campaign goals and losses in new or incremental revenues.

Our research involves a representative (non-scientific) sample of 90 organizations, all located in the United States. All participating organizations are consumer-facing companies, using Internet advertising as a primary marketing channel. Within each organization, one or more individuals were tasked with the completion of a benchmark questionnaire containing more than 40 separate items. In most cases, the company's Internet marketing leader was involved in the benchmarking process. All participants were promised anonymity and confidentiality given the sensitive nature of the data collected.¹ Following are some of our study's most salient benchmark findings:

- More than 70 percent of respondents either strongly agree or agree that OBA increases their company's marketing and sales performance.
- In comparison to five advertising methods, behaviorally targeted ads and email are viewed as most effective, while postal mail and telephone are least effective.
- The estimated return or expected incremental revenue resulting from online advertising averages about 3 times the initial investment (304%). The expected incremental revenue resulting from behaviorally targeted ads is about 50% higher than conventional display ads.
- Despite the effectiveness and efficiency of Internet advertising, the average spending on online ads represents about 15 percent of benchmarked companies' total marketing and advertising budget. And, only 2 percent of companies' total marketing and advertising budgets are dedicated to OBA.
- Almost every respondent said privacy concerns about behaviorally targeted advertising methods limited or curtailed spending on OBA. Specifically, for our benchmark sample, OBA-related privacy issues resulted in a 75 percent reduction in behaviorally targeted advertising. Accordingly, the lost potential spending on behavioral advertising on an average per company basis amounts to \$6.72 million for the benchmark sample.²

¹On average, participants have more than 13 years of experience in the Internet marketing or ad agency fields. More than 73 percent held advanced credentials in conventional or online marketing. Forty-seven participants are female and 43 participants are male.

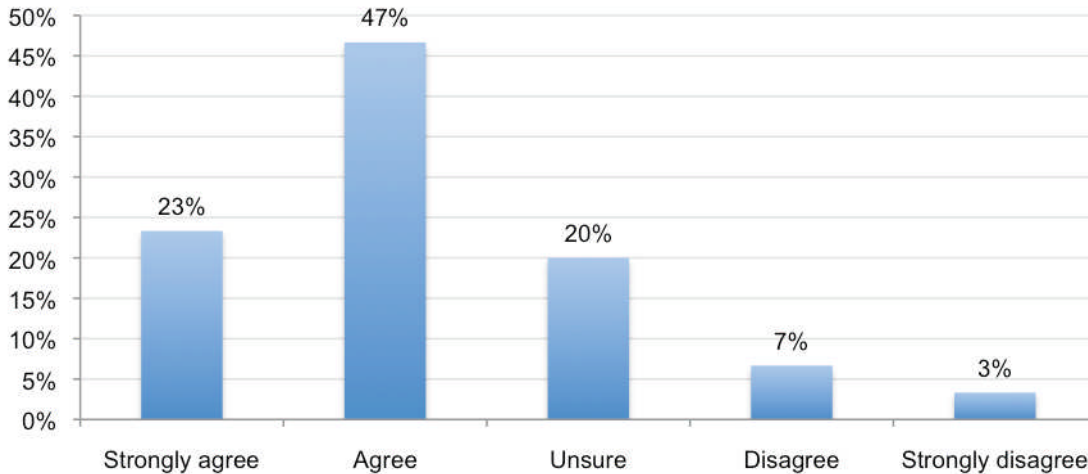
²In the present benchmark sample of 90 companies, we found that behaviorally targeted advertising represented about 12 percent of all Internet ad spending. Drawing upon the finding of a 75 percent reduction in OBA spending

- For all 90 benchmarked companies taken as a whole, the amount not spent on OBA because of privacy fear amounts to \$604.9 million. This translates into \$2.8 billion dollars not earned because OBA methods were not deployed in the present year.

2. Key Findings

Using a benchmark approach, we were able to capture critical and sensitive information about each company's Internet marketing and advertising practices and preferences. Bar Chart 1 shows that 70 percent of respondents strongly agree or agree that OBA increases their organization's marketing performance. Only 10 percent disagree or strongly disagree.

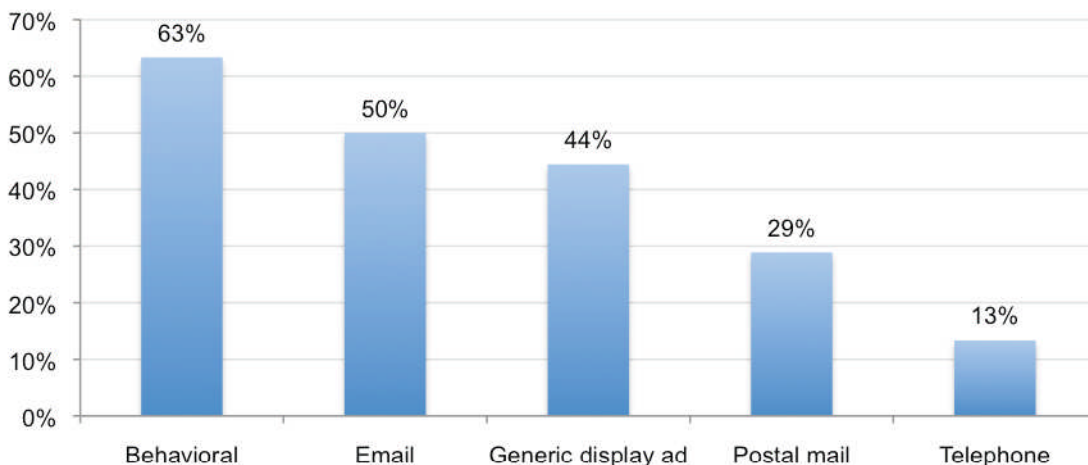
Bar Chart 1: Online behavioral advertising methods increase marketing and sales performance



Clearly, the present sample of companies generally holds the view online behavioral advertising is beneficial to their organization in terms of economic impact.

Bar Chart 2 reports five advertising methods in descending order of performance in terms of effectiveness and efficiency (combined). Behaviorally targeted advertising rates are highest for 63 percent of respondents. Second highest is email, and third is general Internet methods (a.k.a. display ads).

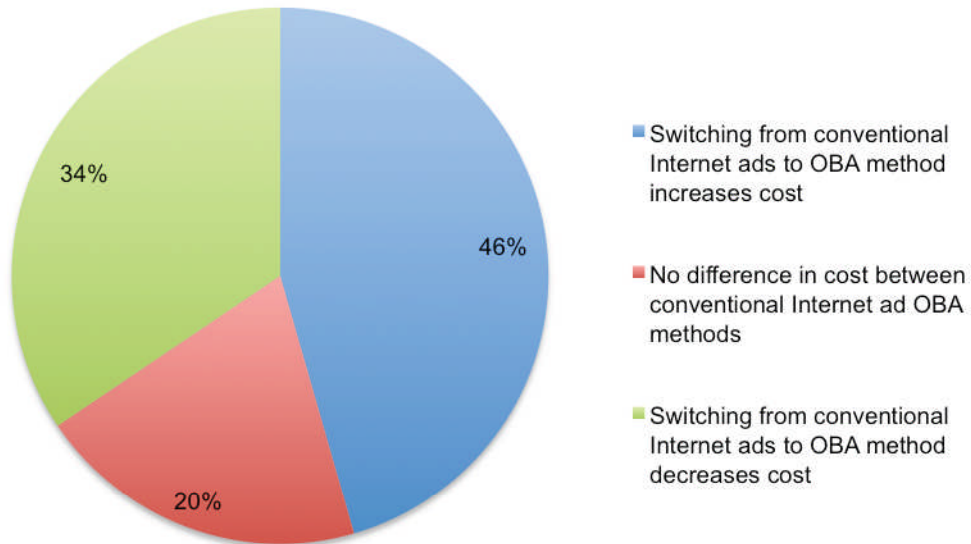
Bar Chart 2: Rank of consumer contact methods in terms of campaign performance (two choices)



because of privacy-related concerns means that \$2.4 million currently spent on OBA would increase to \$8.96 if respondents did not have privacy concerns.

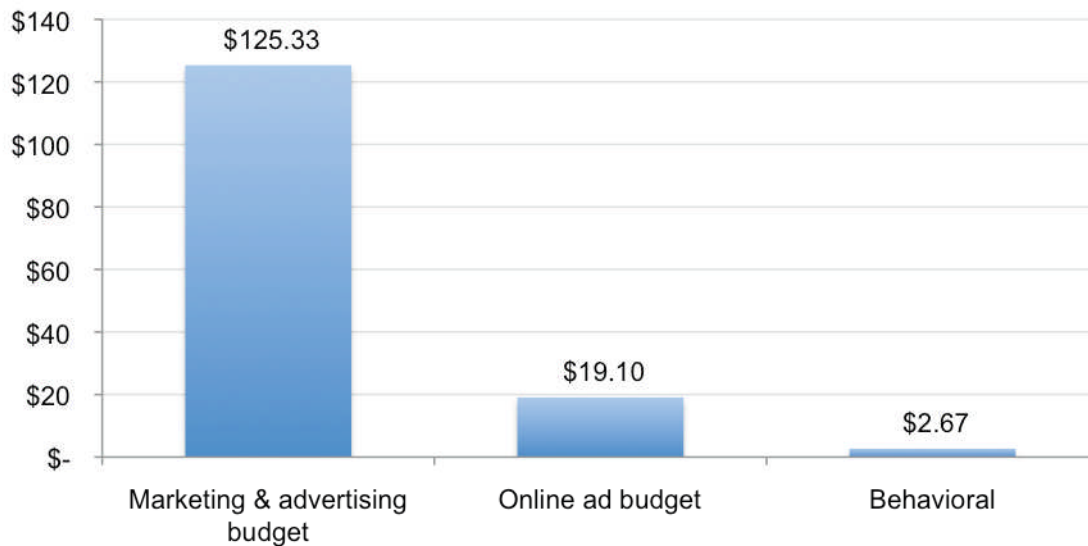
Respondents were asked if online behavioral advertising methods cause Internet advertising costs to increase, decrease, or stay the same (no difference). Pie Chart 1 shows that 46 percent of respondents say OBA methods increase costs while 54 percent see a cost saving or no difference when switching from conventional Internet advertising to OBA methods.

Pie Chart 1: Incremental cost change from conventional Internet to OBA methods



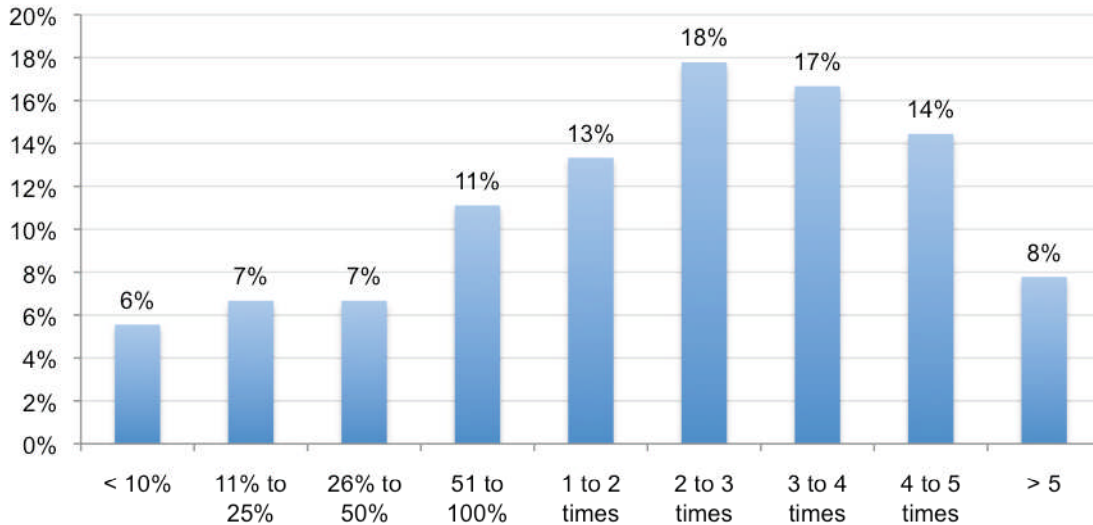
Bar Chart 3 reports the average total marketing, online advertising and behavioral advertising budgets, respectively, for the benchmark sample. As can be seen, the total marketing and advertising budget for companies in this study is over \$125 million. Approximately, \$19 million is dedicated to online advertising (about 15 percent of the total budget) and 2.7 million represents behaviorally targeted advertising (about 2 percent of the total budget).

Bar Chart 3: Average budget for marketing, online advertising and behaviorally targeted advertising
\$1,000,000 omitted



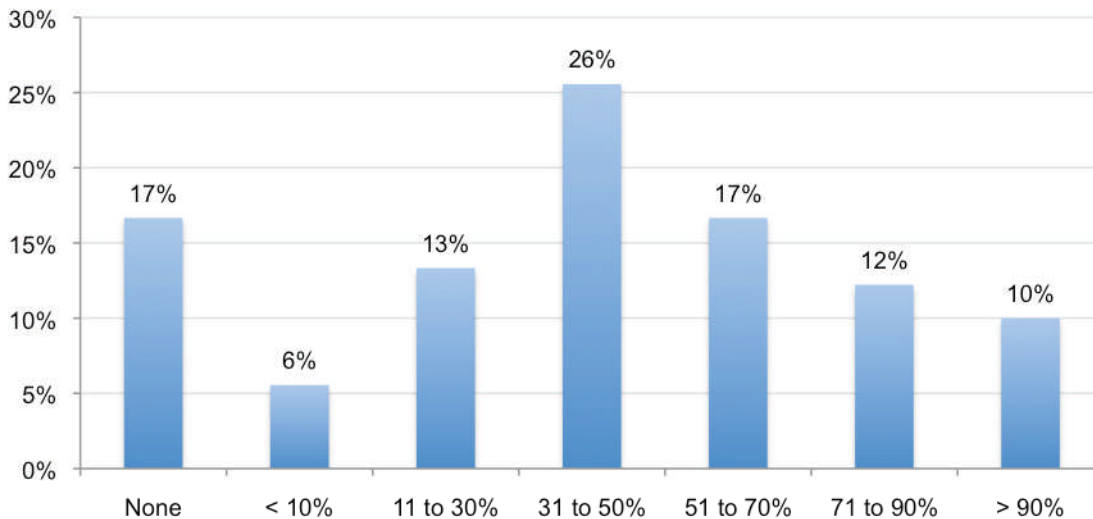
Bar Chart 4 reports the expected return for each dollar invested in online advertising for the benchmark sample. As can be seen, the majority of respondents expect a return that exceeds 100 percent. Using an extrapolation method, we estimate the average return at about 3 times the initial investment (304 percent).

Bar Chart 4: Estimated return on overall online ad spending (expected new revenues)



Bar Chart 5 records the expected incremental improvement in revenues experienced by companies as they moved from traditional Internet ads to online behavioral advertising. As can be seen, the majority of respondents suggest improvement to returns greater than 30 percent. Using extrapolation for this series, we calculate the average improvement moving to OBA from a traditional display ad at 50.2 percent.

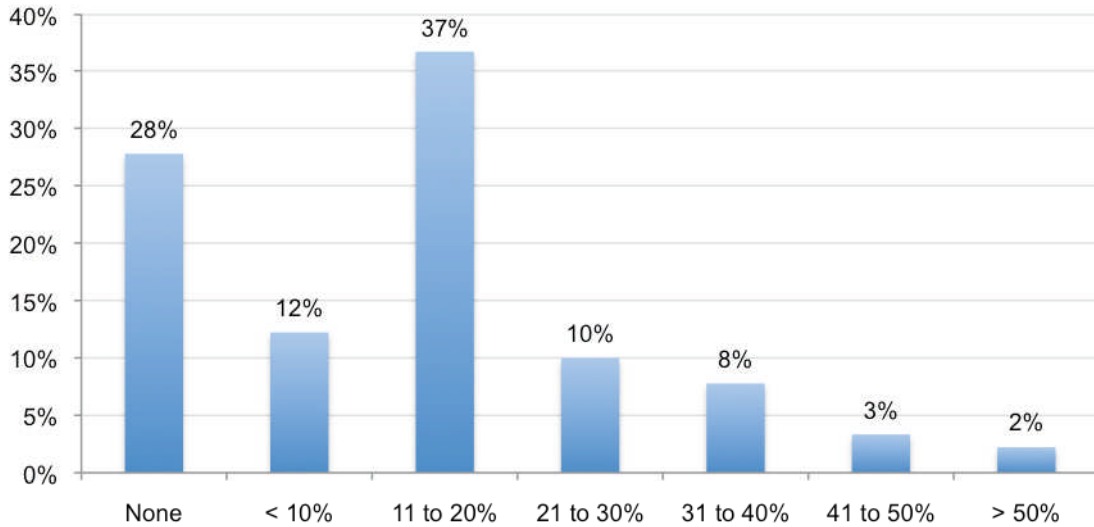
Bar Chart 5: Estimated improvement from conventional display ad to behaviorally targeted ad



Bar Chart 6 reports the percentage of online advertising budget dedicated to behaviorally targeted ads. As can be seen, the majority of respondents report a relatively low percentage of OBA versus conventional Internet advertising methods. The extrapolated average for this series is approximately 11.7 percent.³

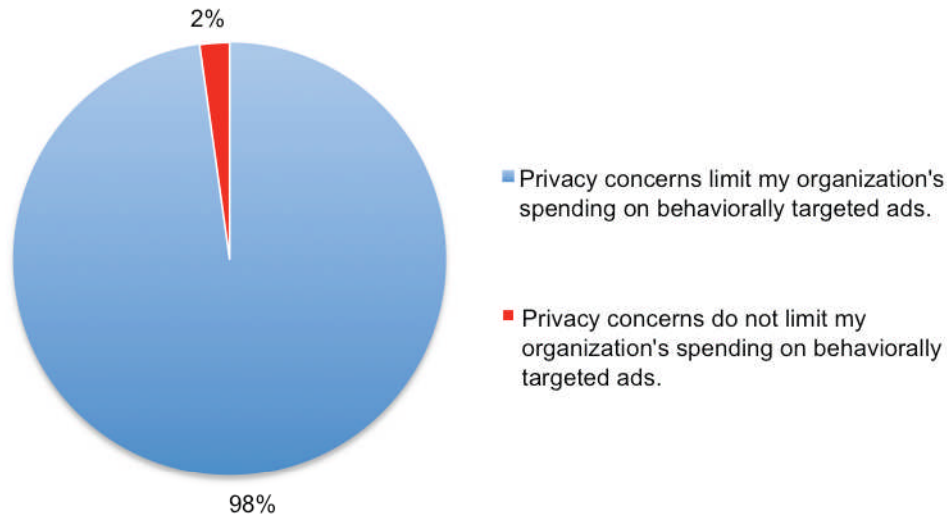
³ A recent study by eMarketer found that US behaviorally targeted online ad spending is estimated at 4.8 percent of total advertising in the present fiscal year (see *Audience Ad Targeting: Data and Privacy Issues*, February 2010). The present study reports a higher result for OBA at 11.7 percent.

Bar Chart 6: Percentage of online advertising budgeted dedicated to OBA methods



The above result raises an anomaly. That is, if OBA is so effective, why does it represent such a small percentage of the total Internet advertising budget? Pie Chart 2 provides, at least in part, one reason – namely, fear about privacy. When asked, “Do privacy concerns limit or curtail your organization’s spending on behaviorally targeted ads,” 98 percent said yes.

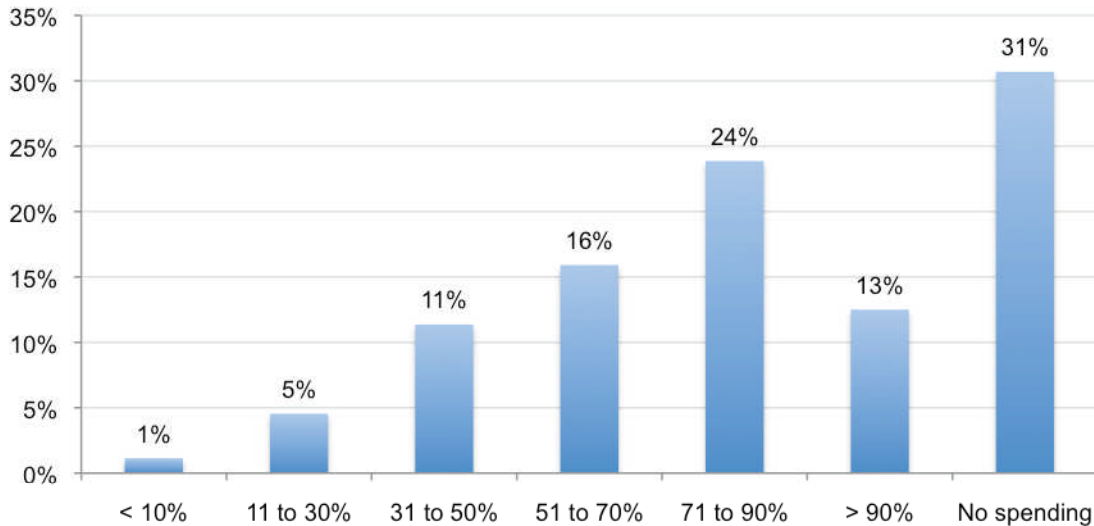
Pie Chart 2: Do privacy concerns limit or curtail OBA spending?



Bar Chart 7 shows the decrease in spending in online behavioral advertising that, according to respondents, resulted directly from their fears or concern about privacy. It is interesting to note 31 percent of respondents say their organizations did not use OBA methods because of privacy-related concerns. Again, using an extrapolated average for this series, we determine that approximately **75 percent of OBA spending is curtailed because privacy issues.**⁴

⁴ We use this 74.9 percent to compile the lost potential spending on online behavioral advertising as a result of marketers’ OBA-related privacy concerns (see Table 1).

Bar Chart 7: Percent of online ad purchases not spent on OBA because of privacy concerns



3. Extrapolation of opportunity losses

Table 1a and Table 1b summarizes an extrapolation that attempts to determine the incremental revenues that, on average, benchmark companies did not earn because of OBA privacy concerns. Drawing from benchmark results, we advance the following propositions:

- The benchmark sample represents the online advertising and OBA demand characteristics for all companies in the United States.
- On average, the online advertising budget is \$19.1 million for the benchmark sample. Today, approximately \$2.24 million is spent on OBA and the remainder on traditional Internet ads.
- The present proportion of OBA to the online advertising budget is 12 percent. Assuming that marketers' privacy fears are quelled, the proportion of OBA to the online advertising budget would increase from 12 percent to 47 percent ($12\% / (100\% - 75\%)$). This will result in a new OBA budget of \$8.96 million is spent on OBA. The same amount will be spent on other traditional Internet advertising methods.⁵
- The return on online ad spending is 3 times each dollar invested (304%). We assume that online behavioral advertising is 50.2 percent more effective in terms of generating incremental revenues. This means the return on OBA is 457 percent ($304\% \times (1 + 50.2\%)$).⁶
- On average, the incremental revenues earned from online advertising are \$61.46 million under today's scenario where marketers have privacy fears the constrain spending on OBA.
- On average, the incremental revenue increase from online advertising is \$92.15 million under conditions where OBA-related privacy concerns no longer exist.
- The difference between these two incremental revenue estimates is \$30.69 million, which is the amount earned by companies because of incremental spend of \$6.72 million on OBA. Our framework considers this differential revenue as an opportunity loss.

⁵ We assume that if privacy fears are quelled, the OBA budget would increase and traditional Internet advertising would stay at the same level – rather than a “lift and shift” where less dollars would be spent on traditional Internet advertising and more on OBA. This assumption was validated with a subsample of companies.

⁶Our extrapolation is consist with a recent working paper that shows the improvement that behaviorally targeted advertising has on advertising rates and revenues. See: Howard Beales, The Value of Behavioral Targeting, March 3, 2010.

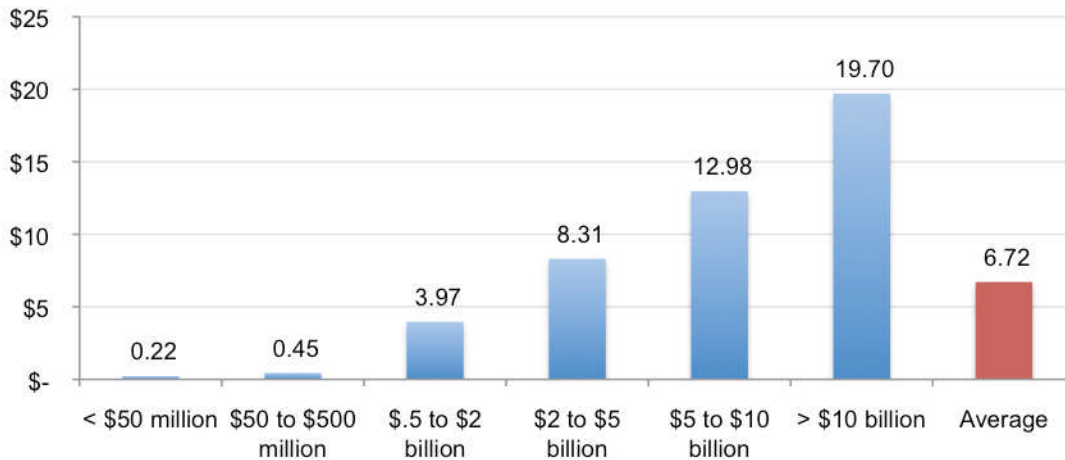
Table 1a OBA without privacy concerns	Budget proportion	Spend	Return	Revenues
Spending on OBA increases because privacy fears are quelled	35%	\$8.96	457%	\$40.92
Spend on other Internet ads	65%	\$16.86	304%	\$51.23
Total online advertising budget	100%	\$25.82		\$92.15

Table 1b OBA with privacy concerns	Budget proportion	Spend \$million	Return	Revenues \$million
Spending on OBA decreases by 75% because of privacy fears	12%	\$2.24	457%	\$10.23
Spend on other Internet ads	88%	\$16.86	304%	\$51.23
Total online advertising budget	100%	\$19.10		\$61.46

Differential between scenarios	23%	\$6.72		\$30.69
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The analysis provided above suggests that for our benchmark sample, the average lost potential spending on OBA amounts to \$6.72 million, and the average opportunity loss resulting from OBA privacy concerns is \$30.69 million. Bar Chart 8 shows the incremental increase in OBA spending according to the median revenues of participating companies. As can be seen, spending is proportional to company size, with companies at less than \$50 million in annual revenues increasing spending by \$220,000, while companies above \$10 billion in annual revenue would increase spending by \$19.7 million.

Bar Chart 8: Projected increase in OBA spending by median annual revenues for benchmark sample
\$1,000,000 omitted



4. Aggregated benchmark analysis

Our analysis in Table 2 involves an extrapolation of the potential economic impact for all 90 participating companies resulting from concern about privacy when deploying behaviorally targeted ads in Internet marketing campaigns.

Table 2 Extrapolation to the benchmark sample	Average value \$1,000,000 omitted	Aggregate for 90 benchmark companies \$1,000,000 omitted
Incremental OBA spending	\$6.72	\$604.97
Increment new revenues from OBA	\$30.69	\$2,762.24

An estimate of the aggregated value is determined by multiplying average value by 90 (the number of US companies that participated). As can be seen, these 90 companies would spend nearly \$605 million dollars on OBA if they did not have privacy concerns. And, this incremental new spending on OBA would generate about \$2.76 billion dollars in revenues.

Our final analysis in Table 3 shows the estimated values presented above over the next three years using market estimates published in prior research. Utilizing forecasted market spending increases for behaviorally targeted online advertising in the US by eMarketer (see footnote 3), we calculate the incremental spending gap on OBA because of privacy-related concern increasing from \$6.72 million to over \$10.2 million on average for the benchmark sample. The revenue gap increases from \$30.69 million to \$46.37 million over three years.

Table 3 Forecasted change over three years	Forecasted annual growth*	Spending	Incremental revenues
Year 2010	0%	\$6.72	\$30.69
Year 2011	20.0%	\$8.07	\$36.83
Year 2012	25.9%	\$10.20	\$46.37
Average		\$8.30	\$37.96

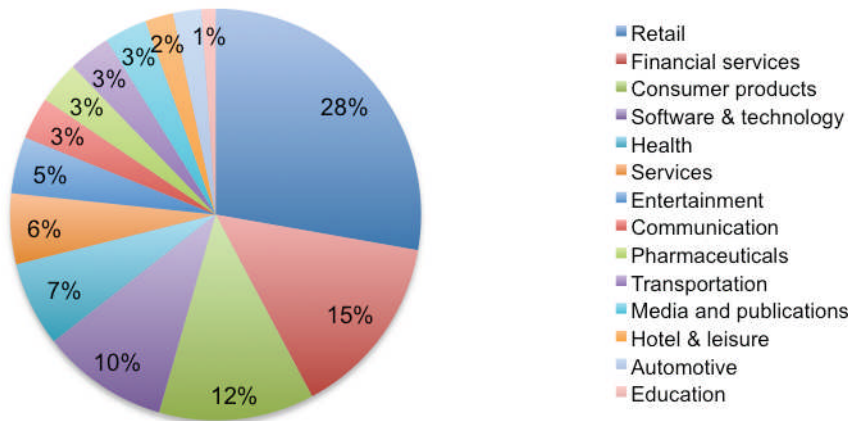
*Forecasted annual growth is based on a recent article in eMarketer published in February 2010.

4. Benchmark methods

The purpose of our benchmark study is to learn from Internet marketing leaders about the barriers and opportunities to achieving a successful campaign utilizing online behavioral advertising. Ninety consumer-facing companies voluntarily participated in this benchmark research study. The individuals representing these companies held senior-level positions in their respective organizations, with general responsibility for the design and execution of Internet advertising (either internally or through an agency). While benchmark companies are all located in the United States, 56 organizations have a global footprint.

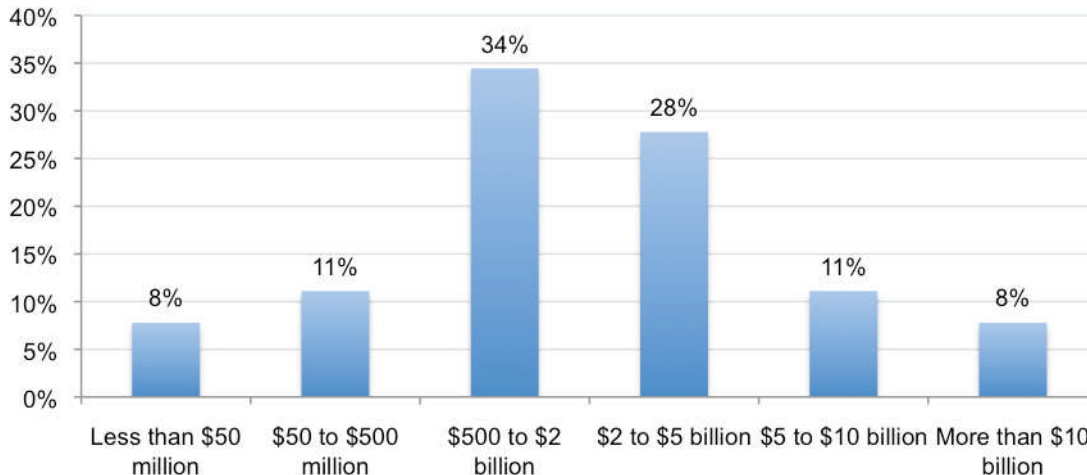
Pie Chart 3 provides the industry of participating companies in our benchmark study. As can be seen, retail, financial services, consumer products and software represent our four largest sectors.

Pie Chart 3: Benchmark sample by industry sector



The size, in terms of 2009 median annual revenue, of participating companies varied. Bar Chart 9 shows the sample distribution in terms of median revenues. Using an extrapolation method, we calculated the average annual revenue for the 90 companies at \$3.114 billion. Please note that revenue values were self-reported and in several cases could not be verified against publicly available financial reports.

Bar Chart 9: Distribution of benchmark sample by median annual revenues



Using a diagnostic interview technique in-person or by telephone, the researcher asked individuals their opinions about key aspects of their Internet advertising campaigns and related initiatives. In addition, individuals were asked to express their opinions about privacy and its impact on OBA deployment. All interviews were completed in March 2010. Following are key topics or issues covered during the structured interview process.

Background about the company

- Size in revenue and full-time-equivalent headcount
- Industry classification
- Geographic footprint
- Self-regulation – DMA, NAI, IAB, TRUSTe, others, none

Respondent's attitudes and beliefs about the performance of OBA

- Increase in marketing/sales performance of OBA relative to other contact methods
- Expected performance gains of OBA versus conventional methods
- Translation of these performance gains into new revenues
- Translation of these performance gains into new cost savings

Organizational experience in using OBA methods and technologies

- Retargeting vs. third party
- Purchasing OBA targeted advertising

Purchasing OBA targeted advertising first party (within a site) versus third party

- Integration of any third-party data sources
- The overall online ad spend to OBA spend

Deployment of OBA in the organization

- How OBA has been used (what kinds of marketing campaigns)
- Success of the campaign
- The types of targeting method used
- OBA snafus that limit its usefulness (such as privacy issues)
- Respecting and maintaining privacy commitments to consumers and customers

Concerns about privacy implications of OBA

- Main concerns of these marketing leaders
- Steps taken to lessen these concerns
- Adequacy of self-regulation or belief new regulations are needed

Restriction or limitation of OBA due to privacy fears

- The organizational response to privacy fears concerning the use of OBA
- Alternative contact methods chosen because of privacy fears
- The impact on marketing/sales performance due to the diminished use of OBA
- Translation of diminished use into reduced revenues
- Translation of diminished use into increased costs
- Actual use of OBA due to privacy fears or concerns

6. Opportunity loss model

Drawing upon our interviews with key individuals, we were able to construct the following opportunity loss framework that extrapolates the economic impact of not deploying OBA because of Internet marketers' privacy concerns. Following is our model:

R_1 = Estimated revenues from campaign utilizing OBA

R_2 = Estimated revenues from campaign utilizing (suboptimal) alternative to OBA

E_1 = Estimated marketing cost from campaign utilizing OBA

E_2 = Estimated marketing cost from campaign utilizing (suboptimal) alternative to OBA

L_1 = Estimated customer churn/turnover because OBA methods (privacy concerns)

L_2 = Estimated customer churn/turnover because of conventional methods (privacy concerns)

OBA economic value = $\{R_1 + E_1 - L_1\}$

Conventional economic value = $\{R_2 + E_2 - L_2\}$

OBA economic gain = $\{R_1 + E_1 - L_1\} - \{R_2 + E_2 - L_2\} = \Delta_i$

$\sum_i \Delta_i$ for all participating companies $i = 1$ to n

Economic extrapolation = $(X + n) \times$ the total number of companies [U.S. only]

7. Caveats

Our benchmark study utilizes a diagnostic interview method that has been successfully deployed in earlier research. However, there are inherent limitations to benchmark research that need to be carefully considered before drawing conclusions from these findings.

- **Non-statistical sample:** The purpose of this study is descriptive inquiry rather than normative inference. This research draws upon a representative, but non-statistical sample of consumer-facing companies that utilize Internet advertising.
- **Non-response:** The current findings are based on a small representative sample of companies. An initial invitation was sent to targeted individuals in more than 400 organizations. Ninety companies agreed to participate. Non-response bias was not tested so it is always possible companies that did not participate are substantially different on key aspects of OBA strategies.
- **Sampling-frame bias:** Because our sampling frame is judgmental, the quality of results is influenced by the degree to which the frame is representative of the population of companies being studied. It is our belief that the current sampling frame is biased toward companies with more mature Internet ad programs.
- **Unmeasured factors:** To keep the survey concise and focused, we decided to omit other important variables from our analyses such as leading trends and organizational characteristics. The extent to which omitted variables might explain benchmark results cannot be estimated at this time.

8. Concluding comments

This study clearly shows that marketers are concerned about advertising methods that impact consumer attitudes and beliefs about privacy. These concerns clearly affect their adoption of OBA methods. Discussion with marketing leaders revealed there is still great uncertainties about how behaviorally targeted advertising puts consumers at risk. Although tools and technologies exist that help to minimize these risks, marketers, network advertisers and privacy leaders may not have complete confidence in their effectiveness. Further, uncertainty about emerging regulatory issues exacerbates these concerns about the privacy implications of OBA.

We believe the Internet advertising industry should continue to work closely with the privacy community and regulators to find ways that substantially reduce the public's fears about actual and perceived privacy risks when responding to behaviorally targeted ads.⁷ To this end, better disclosure models, consumer education, effective consent mechanisms and enabling technologies will help advance the cause of safe and effective Internet advertising.

⁷See Joseph Turow et al., [Americans Reject Tailored Advertising and Three Activities that Enable It](#) (September 29, 2009). Available at SSRN.

Please contact research@ponemon.org or call us at 800.877.3118 if you have any questions.

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