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HOW ONLINE ADVERTISING WORKS: WHITHER THE CLICK?

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Whither The Click?

In today's economically challenging times, advertisers and their agencies appear to be moving their online display ad dollars from CPM campaigns that require payment based on the number of people exposed to the campaign to "pay-for-performance" programs ("CPC" or "CPA") that require payment when the consumer performs some desired action such as clicking on an ad. Data from Competitive Media Reporting shows that total online display advertising spending (CPM and CPC/CPA) increased by 8% Y/Y during the first half of 2008, while the Internet Advertising Bureau reported a 15% increase. In contrast, Nielsen, whose data only includes CPM spending, reported a 6% decline in display advertising over the same time period. Clearly, these data imply that online ad dollars are being moved from CPM to CPC/CPA programs.

At the same time, however, research is showing that a click may not be a relevant measure of the impact of display advertising. Consider the following evidence:

- **According to Doubleclick and eMarketer, click-rates on static display ads fell dramatically in recent years to average levels of only 0.2% in 2006**

- **Rich media ads don't perform much better, with a click-through rate of roughly only 1% in 2006, according to research from Doubleclick, eMarketer, Eyeblaster and ABI.**

- **Recent research conducted by comScore on behalf of Starcom and Tacoda showed that average click rates on display ads in 2008 were less than 0.1%.**

- **Further Starcom research suggests no correlation between display ad clicks and brand metrics, and shows no connection between measured attitude towards a brand and the number of times an ad for that brand was clicked. The research suggests that when digital campaigns have a branding objective, optimizing for high click rates does not necessarily improve campaign performance.**

- **The comScore research also revealed that two-thirds of Internet users do not click on any display ads over the course of a month and that only 16% of Internet users account for 80% of all clicks.**

- **comScore's research also showed that the demographics of clickers are skewed towards younger users aged 25 to 44 earning less than $40,000 per year. This is hardly an attractive target segment for most advertisers.**

- **Even search ads, presumably the most effective form of online marketing, are only clicked on 4% of the time at Google, and 2% at MSN and Yahoo!, according to comScore statistics.**

Are low click rates evidence that an ad has not had any impact on consumer behavior? Or, does online display advertising work in a similar manner to traditional offline advertising with multiple exposures over time being needed to effect a change in consumer behavior?

A compounding problem in trying to ascertain the answer to the latter question is that much of the research conducted to date into online ad effectiveness has used "cookies" -- a small piece of code inserted into the computer of the user whose behavior is being examined -- in an attempt to uniquely identify the computer and thereby track its activity over time. While this is a conceptually appealing approach, recent comScore research has shown that the prevalence of anti-spyware software (now built into most browsers) has allowed Internet users to very easily delete their cookies as they see fit. In fact, a comScore white paper, completed in 2007, showed that 30% of users delete

their cookies in a month and do so an average of 4.7 times per deleter. Because of this, any attempt to use cookies to track computers over time will be subject to large error levels as the cookies are deleted and will typically understate the impact of the advertising being measured.

This paper reports the results of comScore research into online ad effectiveness based on the use of comScore's proprietary panel of 2 million Internet users, a database that does not rely on cookies to track users. Instead, the panelists have elected to install comScore's patented software on their computers, thereby allowing comScore to measure the full range of their Internet activities over time.

The results presented in this paper will show the manner in which online display ads work in affecting consumer behavior, revealing that there are indeed latency effects and branding effects even when click rates are minimal.

SUMMARY OF FINDINGS

As measured by comScore, click rates on online display ads have fallen dramatically in recent years to levels under 0.1%. Additional research conducted by comScore and the media agency Starcom USA has shown that there is no correlation between display ad clicks and brand metrics, and show no connection between measured attitude towards a brand and the number of times an ad for that brand was clicked. This research suggests that when digital campaigns have a branding objective, optimizing for high click rates does not necessarily improve campaign performance.

Does a low level of clicks indicate that online display advertising has no impact on consumer behavior? The results of research conducted by comScore and presented in this paper show that this is not the case.

By examining 139 online display ad campaigns conducted across a variety of vertical industries, including Retail & Apparel, Travel, CPG & Restaurant, Finance, Automotive, Consumer Electronics & Software and Media & Entertainment, comScore has confirmed substantial effects. It's clear that display advertising, despite a lack of clicks, can have a significant positive impact on:

- **Visitation to the advertiser's Web site (lift of at least 46% over a four week period)**

- **The likelihood of consumers conducting a search query using the advertiser's branded terms (a lift of at least 38% over a four week period)**

- **Consumers' likelihood of buying the advertised brand online (an average 27% lift in online sales)**

- **Consumers' likelihood of buying at the advertiser's retail store (an average lift of 17%)**

In the Retail category, it is also clear that while the lift in sales from a display ad is lower than the lift from a search ad, the reach of a display campaign is typically far higher than that of a search campaign. When the sales lift is weighted by reach, display campaigns generally outperform search campaigns. However, the combination of a display and search campaign delivers substantial synergy, with the sales lift from the combined strategy being greater than the sum of the individual components.
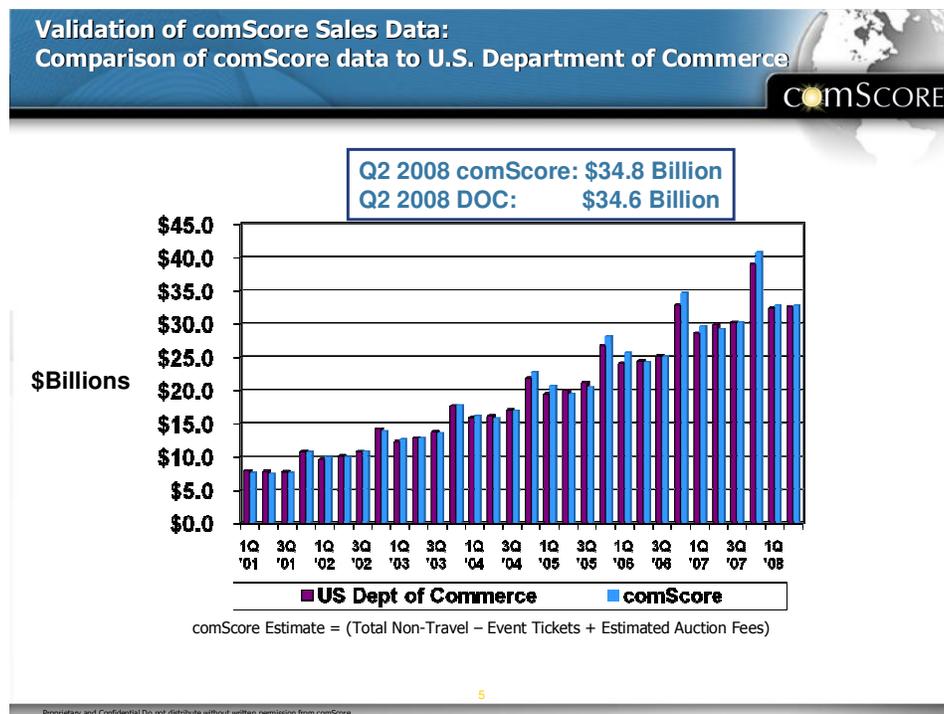
comScore's research has been conducted without relying on the use of cookies to track computers over time. Cookie deletion today has risen to a level where the use of cookies can no longer be considered an accurate method of tracking and analyzing consumer response to online advertising. By not relying on cookies and instead tracking computers that have comScore's monitoring software installed, comScore research shows that online advertising can have a substantial latency effect on consumers' online behavior while also having the ability to drive increased traffic into retail stores, resulting in meaningful increases in offline sales.

DESCRIPTION OF COMSCORE DATA SOURCES AND STUDIES CONDUCTED

This paper references results from more than 170 online advertising effectiveness studies conducted by comScore through its Brand Metrix service and included in comScore's Brand Metrix Norms database.

comScore has built a unique market research database consisting of 2 million global consumers (1 million of whom are resident in the U.S.) who have given comScore explicit permission to confidentially and continuously monitor their online behavior. For each panelist, the patented comScore technology installed on his / her computer unobtrusively captures the detail of their Internet activities, including every site visited, content viewed, content entered, time spent, product or service bought and price paid. comScore also captures every display and search ad that was received by the panelists, including whether the ad was clicked on or not.

The comScore panel is statistically weighted and projected using a variety of demographic and behavioral variables to represent the Internet user population. The comScore data have been validated through comparisons to third party data. One such comparison is to the U.S. Department of Commerce quarterly estimates of e-commerce sales, which are released six weeks following the close of each quarter -- approximately four weeks after the release of the comScore data.

Validation of comScore Sales Data:
Comparison of comScore data to U.S. Department of Commerce

Q2 2008 comScore: $34.8 Billion
Q2 2008 DOC: $34.6 Billion

comScore Estimate = (Total Non-Travel – Event Tickets + Estimated Auction Fees)

The entire comScore database is encrypted for complete privacy protection, and to that end, comScore never releases any personally-identifiable information. comScore's data are only used as a part of anonymous market research studies focused on how consumers are using the Internet. However, each comScore panelist has provided comScore with its name and address and permission to link to third party offline databases so as to create a "single source" datamart that contains both online and offline behavior. An example of that is a link to the Kroger loyalty card database consisting of 40 million card holders, creating a datamart of approximately 60,000 households. comScore panelists have also agreed to participate in research programs whereby they receive customized surveys that are delivered to them either via e-mail or a "contextual pop" on their computer screen. The latter can be triggered by some specific action on the part of the panelists -- such as visiting a certain site or viewing specific content. In addition to the 2 million panelists whose online behavior is continuously monitored, for the purpose of survey research comScore also has access to a proprietary database it has built consisting of approximately 9 million additional global consumers where there is no behavioral tracking but survey research can be conducted.

THE COMSCORE BRAND METRIX RESEARCH DESIGN

comScore automatically captures all types of online behavior across its panel, including exposure to various types of online advertising. In order to maximize accurate identification of a specific campaign that is being tracked as part of a Brand Metrix study, however, creative agencies and/or publishers are provided a comScore tag which is appended to the display ad. This allows comScore to systematically and accurately identify consumers who are exposed to the ad. Depending on the specific requirements for the project, the tag may also include parameters for segmentation purposes, such as an identification of the site that published the ads and the type of creative message used.

As noted above, comScore has a panel of online consumers who allow comScore to monitor their complete Internet browsing behavior and view this behavior in a real market setting rather than using an artificial research design. In this Internet traffic data, comScore can "see" the tagged ads and identify consumers who were exposed to the campaign. This observation, linked to panel behaviors, forms the basis for all behavioral analyses.

Test groups: Based on passively observed exposure to an ad, comScore creates a test group of panelists exposed to the campaign. Test cells can vary depending on the specific objectives of the campaign and can be mixed and matched accordingly.

Control group: comScore then creates a control group of panelists not exposed to the campaign but which exhibit the following characteristics when compared to the test group(s):

- **Similar usage of the Internet overall**

- **Similar visitation to the sites where the ads were in rotation**

- **Similar total search behavior online**

- **Similar distribution on the following household demos: Age, income, census region or residence, and connection speed**

- **Similar offline buying behavior (if relevant to the study at hand)**

With the exception of the exposure to the online display ad test campaign, the test and control groups are virtually identical, including their exposure to other forms of media, allowing comScore to isolate the effects of the specific advertising campaign being evaluated.

Passively collected behavioral data captures the view-through value of the overall campaign by measuring consumers' Internet activity across key behavioral metrics. This behavior is measured irrespective of whether an ad is clicked on or not.

The Brand Metrix Norms database contains data and analysis on more than 200 studies, of which certain subsets are available for various types of analysis. Results included in the Norms database are tested at a 90% confidence level using a one-tail t-test. Reportable measures must also have minimum sample size requirements, which vary depending on the type of behavior being analyzed.

Detailed Results

(I) THE IMPACT OF DISPLAY ADS ON VISITATION TO THE ADVERTISER'S SITE

Among 139 studies in which consumers' online behavior was monitored following exposure to a display ad, the average lift in the number of visitors to the advertiser site (i.e. percent change in reach between the test and control groups after adjusting for any differences that existed prior to the start of the campaign) was 65.0% during the 1st week following the first exposure to an ad.

Not only was there a significant impact within the first week following exposure to an ad -- low click rates notwithstanding -- but past the 1st week, there was significant lift that would have been overlooked by relying on clicks or by using cookies to track consumer behavior.
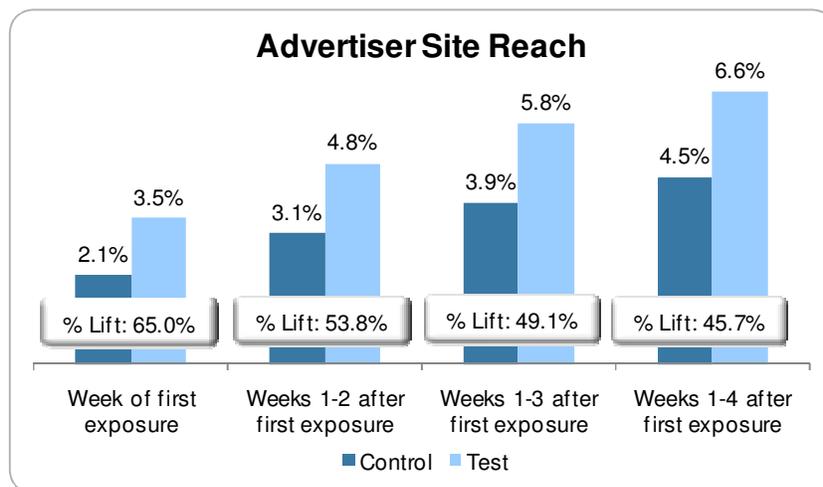
Figure 1. Advertiser Site Reach

There are two observations that arise from examining the dynamics of the overall lift in advertiser site reach over a 4-week period: the effects of online display advertising are persistent; and though additional benefits are gained over time (e.g., an average of 3.1 additional points of reach are gained by the Test group between the 1st and 4th weeks after initial exposure), the proportional value of the lift when compared to the Control group (i.e. percent lift) attenuates over time.
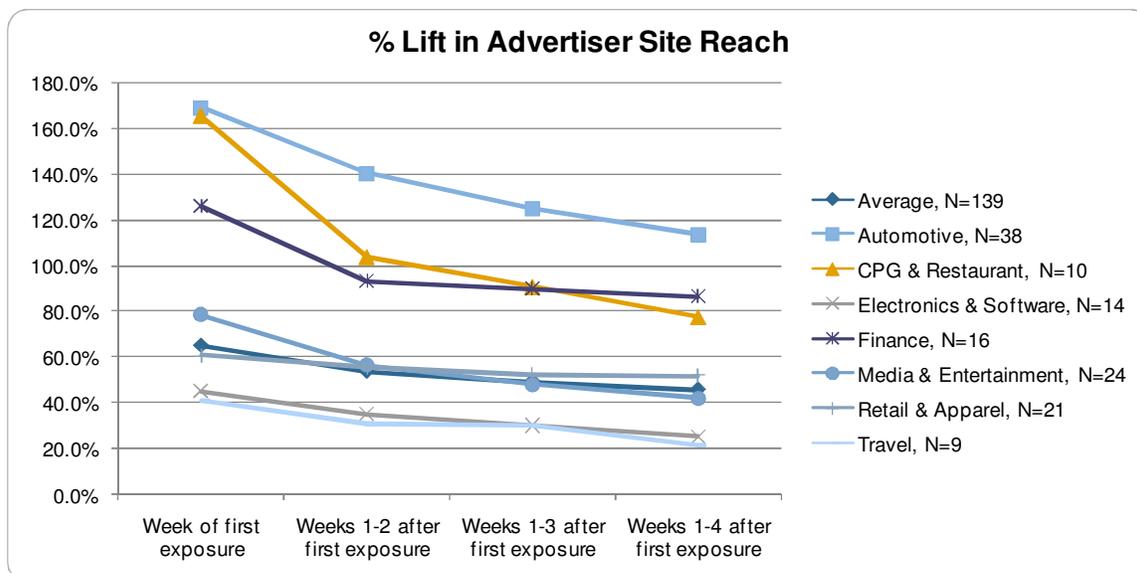
These lifts vary greatly between categories, with Automotive advertisements generating the greatest percent lift in visiting to the advertiser site among the categories studied. However, it is also the category with the smallest base values, with ads that typically refer users to highly specific auto model websites. In general, categories where baseline visiting to the advertiser site is low generate the highest percent lift.

The greatest absolute increase in reach lift (i.e., incremental points of reach) is generated by advertisers in the Retail & Apparel (+4.7 points), Media & Entertainment (+3.0 points) and Electronics & Software (+1.4 points) categories.

Advertiser Site Reach
Weeks 1-4 after first exposure

Category	Control	Test	% Lift	Δ Lift
Average, N=139	4.5%	6.6%	46%	2.1%
Automotive, N=38	0.9%	1.9%	114%	1.0%
Finance, N=16	1.3%	2.3%	86%	1.1%
CPG & Restaurant, N=10	0.6%	1.1%	77%	0.5%
Retail & Apparel, N=21	9.1%	13.8%	52%	4.7%
Media & Entertainment, N=24	7.0%	10.0%	42%	2.9%
Electronics & Software, N=14	5.8%	7.2%	25%	1.5%
Travel, N=9	4.8%	5.8%	21%	1.0%

■ Control ■ Test
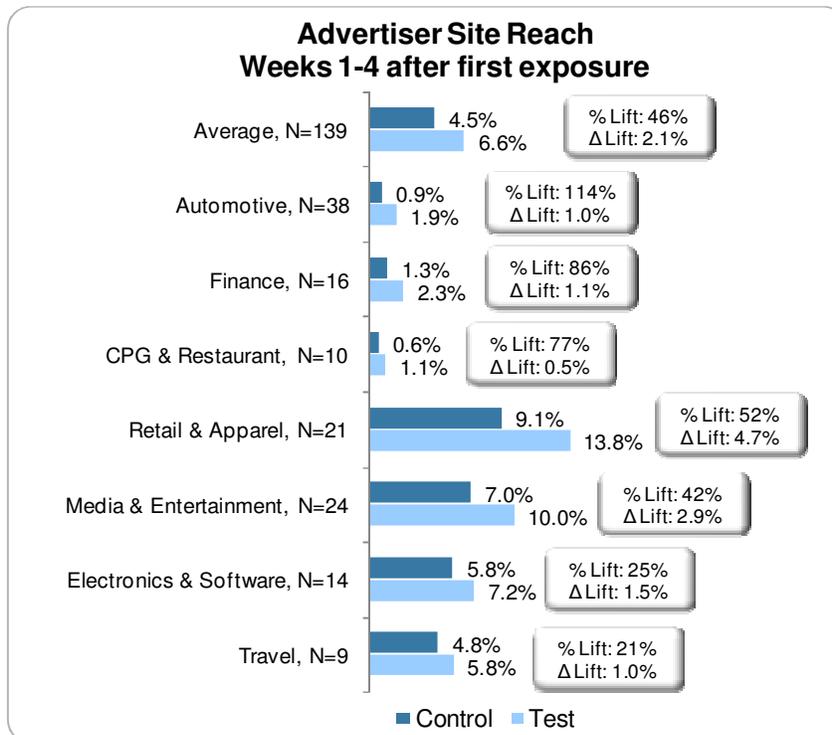
Figure 2. Advertiser Site Reach by Category

Over the four weeks after an initial exposure to a display ad, the lift in site visiting generated by exposure to ads from a Retail & Apparel advertiser drops the least. In contrast, the resulting lift in reach in visiting to CPG & Restaurant sites drops sharply past the first week, and continues to drop through the 4-week period.

% Lift in Advertiser Site Reach

Legend:
- Average, N=139
- Automotive, N=38
- CPG & Restaurant, N=10
- Electronics & Software, N=14
- Finance, N=16
- Media & Entertainment, N=24
- Retail & Apparel, N=21
- Travel, N=9

X-axis: Week of first exposure, Weeks 1-2 after first exposure, Weeks 1-3 after first exposure, Weeks 1-4 after first exposure

Figure 3. Percent Lift in Advertiser Site Reach

Considerations For This Analysis, and Topics For Further Study

There are additional factors that may affect the rates of lift over time that are not addressed in this paper. The most obvious include the length and frequency levels of each campaign. The average (mean) length of the campaigns included in this study is 42 days. The shortest campaigns ran over a single day, and the longest campaign ran for 108 days.

Another consideration is the purpose and type of the creative message. "Call to action" or direct response ads that are typical of sale-related retail campaigns clearly generate a different level of response than "branding" ads designed to elevate awareness and build a brand.

Since Brand Metrix analyses are time-aligned to the first exposure of a panelist to a display ad, we are also unable to make conclusions about the "decay rate" of a campaign and the resulting ROI after the campaign has ended.

(II) THE IMPACT OF DISPLAY ADS ON VISITATION TO COMPETITIVE SITES

Visiting competitive sites also increases as a result of exposure to display advertising. In general, the increase in visiting a site's competitive set is lower than the lift generated in visitation to an advertiser's own site, but the differences in those levels vary greatly by category.
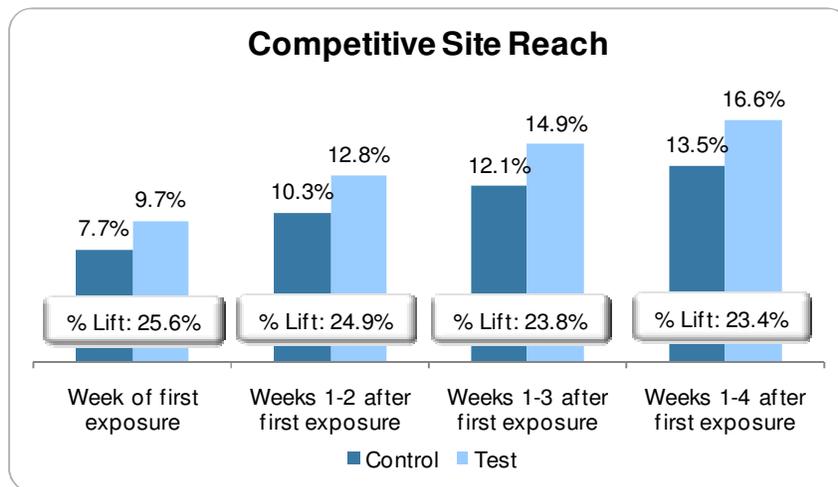
Figure 4. Competitive Site Search

Retail & Apparel, Finance, and Automotive advertisers cause their competitors' site visitation rates to increase the most. This implies more comparison shopping activity in these categories and, perhaps, a more challenging task for advertising to quickly and easily build brand loyalty.
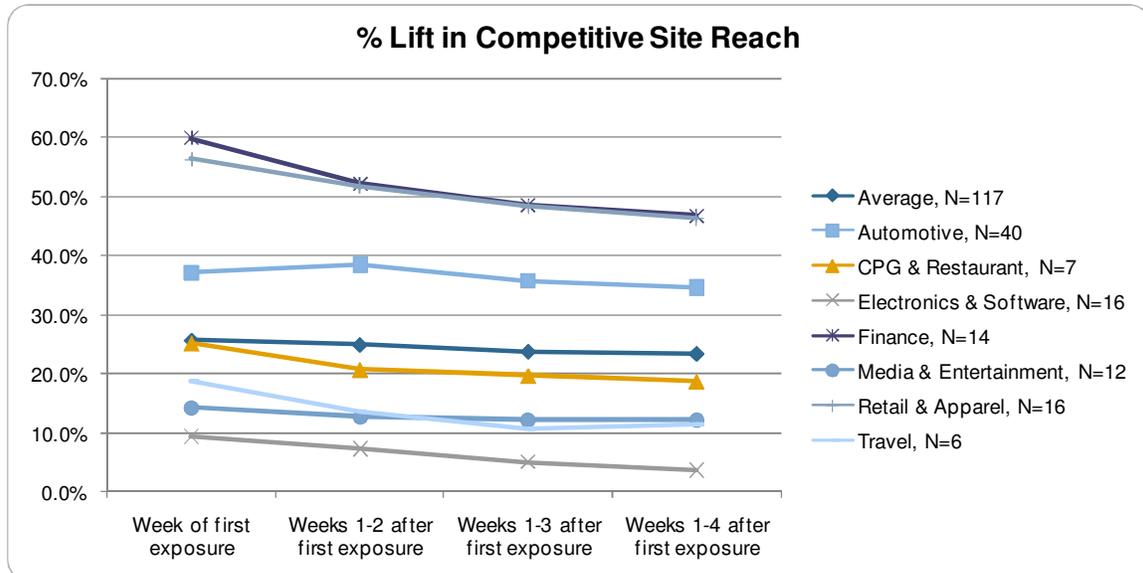

% Lift in Competitive Site Reach

Legend:
- Average, N=117
- Automotive, N=40
- CPG & Restaurant, N=7
- Electronics & Software, N=16
- Finance, N=14
- Media & Entertainment, N=12
- Retail & Apparel, N=16
- Travel, N=6

X-axis: Week of first exposure, Weeks 1-2 after first exposure, Weeks 1-3 after first exposure, Weeks 1-4 after first exposure

Figure 5. Percent Lift in Competitive Site Reach

However, it's in the interaction between the advertiser site lift and the competitive site lift that one really sees the dynamics at play. Retail & Apparel generates the greatest proportional "halo effect" through the 4-week period, with lifts for the competitive set staying in close proximity to the lifts generated for the advertiser's site.

Retail & Apparel also has the smallest spread between lift generated for the advertiser site compared to the competitive set, by far. This category is often associated with shorter purchase cycles and more comparison shopping: Not necessarily large purchases, but large enough to warrant comparison shopping.

Lift drops off most sharply for Travel and Consumer Electronics, and for these two categories, the lift in the competitive set drops are among the largest as well, but the overall spread narrows. That is, visiting effects attenuate rapidly for the site itself, and also does for the competitive set, but a little more slowly.
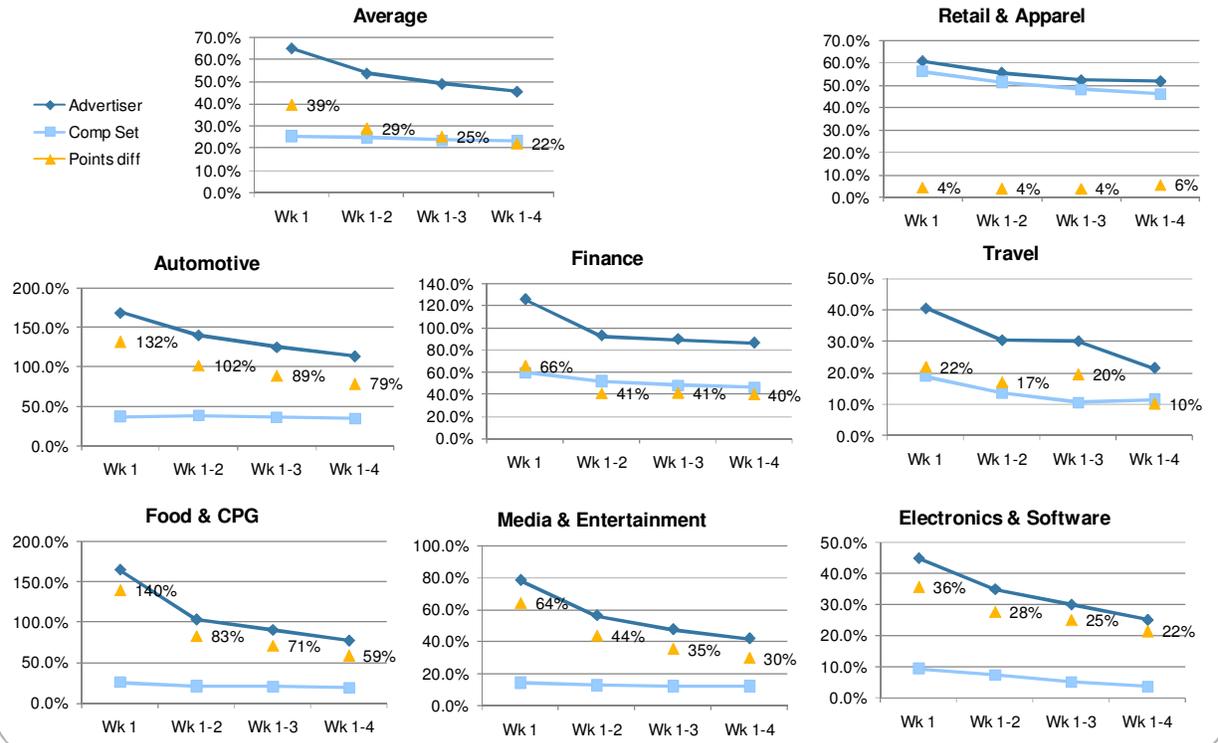
Advertiser vs. Competitive Set % Lift

Figure 6. Advertiser vs. Competitive Set Percent Lift

(III) THE IMPACT OF DISPLAY ADS ON BRAND, GENERIC, AND COMPETITIVE SEARCHES

A relatively small percentage of users exposed to an online display ad subsequently conduct a search using an advertiser's Trademark/Brand term. However, this dynamic is important because of the synergy between display ads and search (which will be discussed later in this paper) and because a Trademark or a Brand search can be a significant indicator of purchase intent.
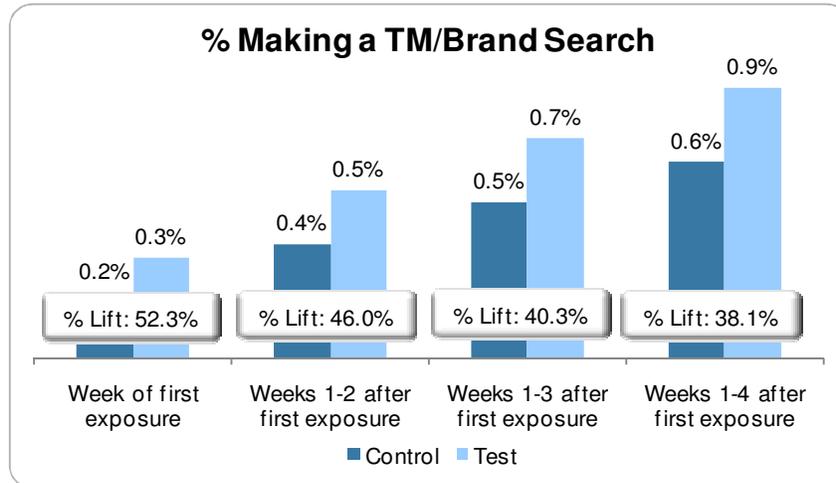
Figure 7. Percent Making a Trademark or Brand Search

Exposure to a display ad generated a greater average lift in search reach (% of users conducting a search query) using Generic terms than Trademark/Brand searches. This may seem counterintuitive, but it does not necessarily follow that display advertising is ineffective or inefficient in generating searches that may eventually lead to a purchase. In a study commissioned by DoubleClick in 2005, *Search Before the Purchase: Understanding Buyer Search Activity as it Builds to Online Purchase*, comScore found that the majority of pre-purchase search activity (both in terms of searches and clicks) actually involved generic terms, not the merchants' brands.
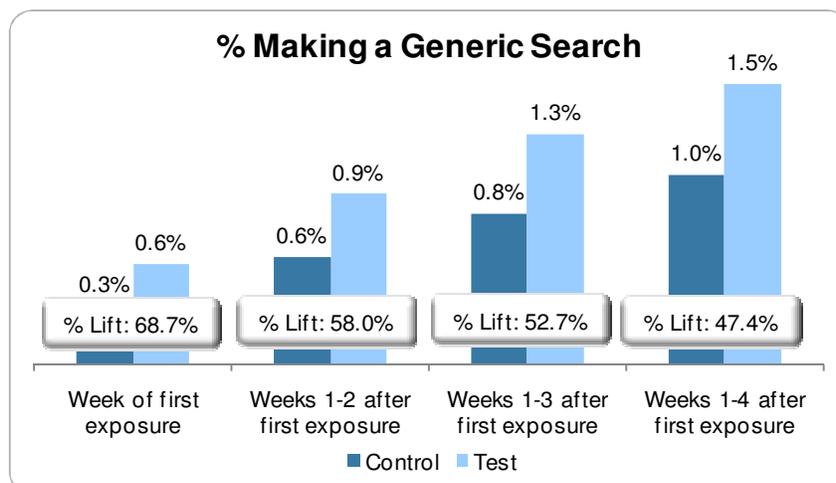

Figure 8. Percent Making a Generic Search

The percent lift in the percent of users who searched using a competitive brand term typically tracked well below brand and generic searches.
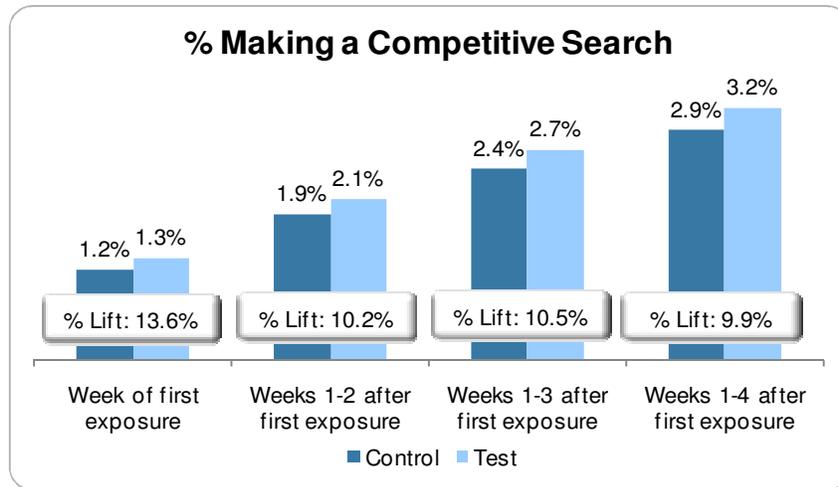

Figure 9. Percent Making a Competitive Search

Over the studies where these types of searches were tracked after exposure to a display ad, we see that the largest lifts in reach were among users who made a search using a generic term related to the category of the display advertiser.
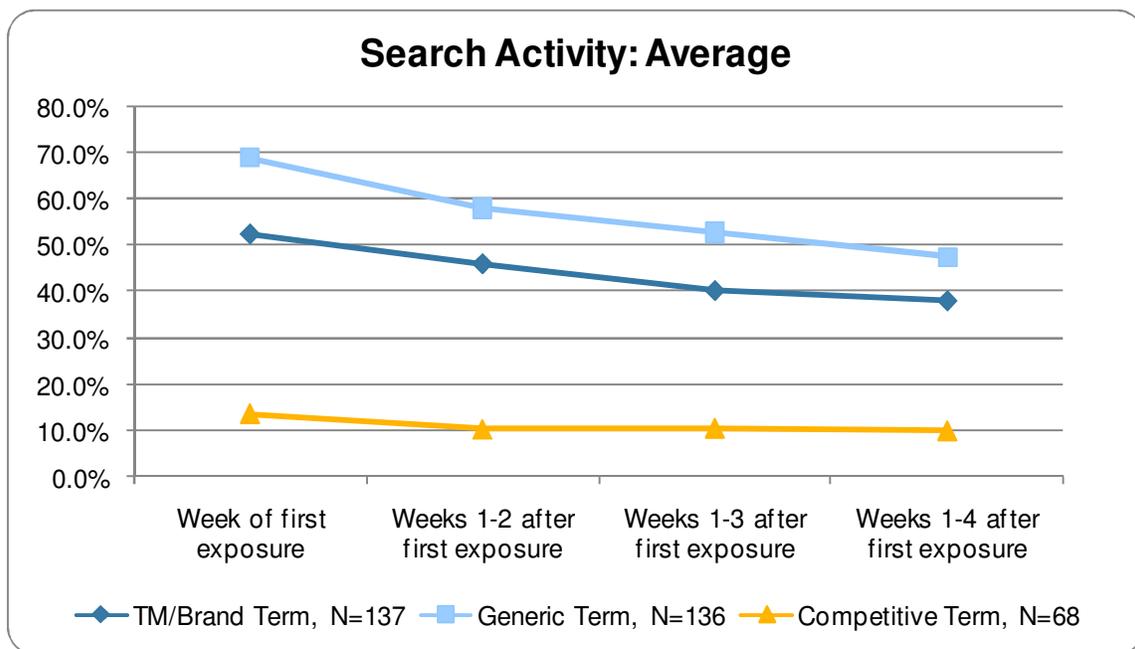

Figure 10. Percent Lift in Search Reach by Type of Search

(IV) THE IMPACT OF DISPLAY ADS ON SALES

For eCommerce sites, it has long been a challenge to quantify the impact of online advertising on sales. It is commonly known that a purchase rarely takes place during the same session as an exposure to an ad, and even more rarely as a result of a click. It is therefore critical to observe the latent effects of advertising exposure on purchasing, which often extend to days or even weeks beyond the ad exposure.

For bricks and mortar retailers, the challenge extends even further, to the necessity of quantifying the effects of online advertising on offline sales. The magnitude of the lift in offline sales generated by online advertising is significant and would certainly not be captured by a pay-per-click cookie-based measurement approach. The current lack of visibility into offline purchasing consistently leads to dramatic underestimation of display advertising ROI.

In examining the impact of display ads on buyer penetration, we see that the percentage lift is much higher online than offline, with an average online buyer penetration lift of 42.1%, compared to a lift of 10.1% in offline buyer penetration. However, because the bases are larger for offline purchasing, the net impact in new or additional buyers is larger offline than online.

Per-buyer purchasing both on- and offline show minimal gains.

V) THE ROLE OF SEARCH IN CONSUMER BUYING

In a 2006 study of the role of search in consumer buying in the Consumer Electronics & Computers categories, comScore and Google found that direct online effects (dollars spent during the same session as the search) only comprise 16% of the value of total consumer spending generated by search activity. Purchases made online up to 60 days post-search accounted for an additional 21%, but by far, the latent offline effects far outpaced the combined online effects of search advertising, accounting for 63% of total dollars generated.
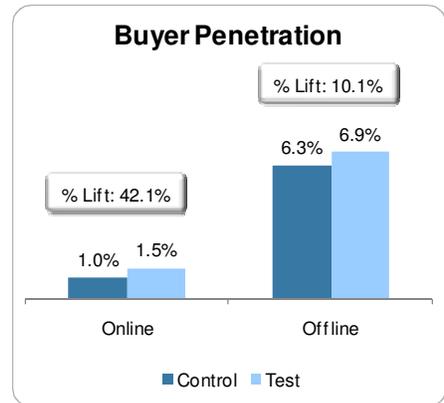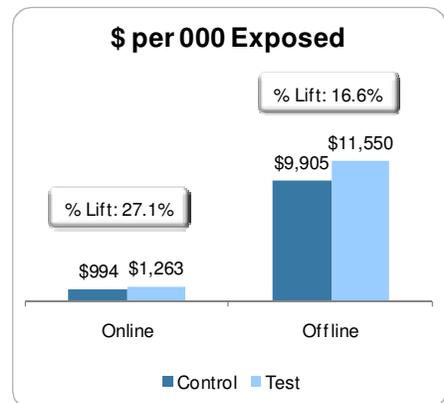

Figure 11. Buyer Penetration

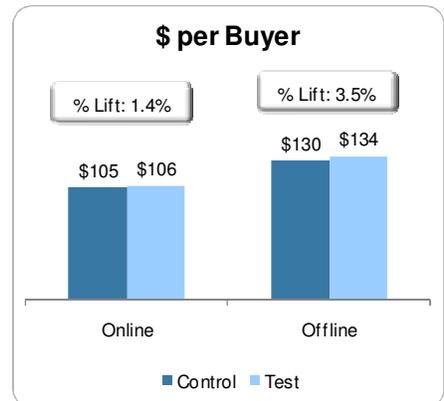**Figure 12. Dollars per 000 Exposed**

Figure 13. Dollars per Buyer

VI) THE SYNERGISTIC IMPACT OF DISPLAY AND SEARCH ADS ON SALES

In this series of studies, we examined the impact of search and display separately as well as in combination. The impact of search ads alone on consumers' buying behavior was found to be clearly greater than that of display ads alone. This is true both in terms of the ads' impact on online buying as well as the impact on offline sales. This is not surprising because consumers responding to search ads are much more likely to be "in the market" for buying the advertised product. However, it must be remembered that the reach of display ads is typically much higher than that of search ads. For example, in the studies conducted by comScore, approximately 81% of the consumers who saw an ad received only a display ad, while a much lower 8% received only a search ad. When the lift factors are weighted by the reach of the ad, display ads typically emerge as being able to generate a higher total lift in sales.

Conventional wisdom says that media works best when multiple programs are used together, and we do indeed see clear synergies between search and display. Both in terms of the impact on buyer penetration and dollar sales (per thousand consumers exposed), it's clear that the combination of search and display together is greater than the sum of the impact of display and search ads separately. The synergy is notable.

Figure 14. Search and Display Synergies Online

The effects of the combination of search and display on in-store sales are equally dramatic. The incremental lift in buyer penetration generated by the combination of search and display ads is 4.8 points in-store, compared to 3.2 points online. In terms of dollars spent on a per-exposed user basis, the combination's impact on offline sales clearly has the potential to make a larger impact on a retailer's bottom line.
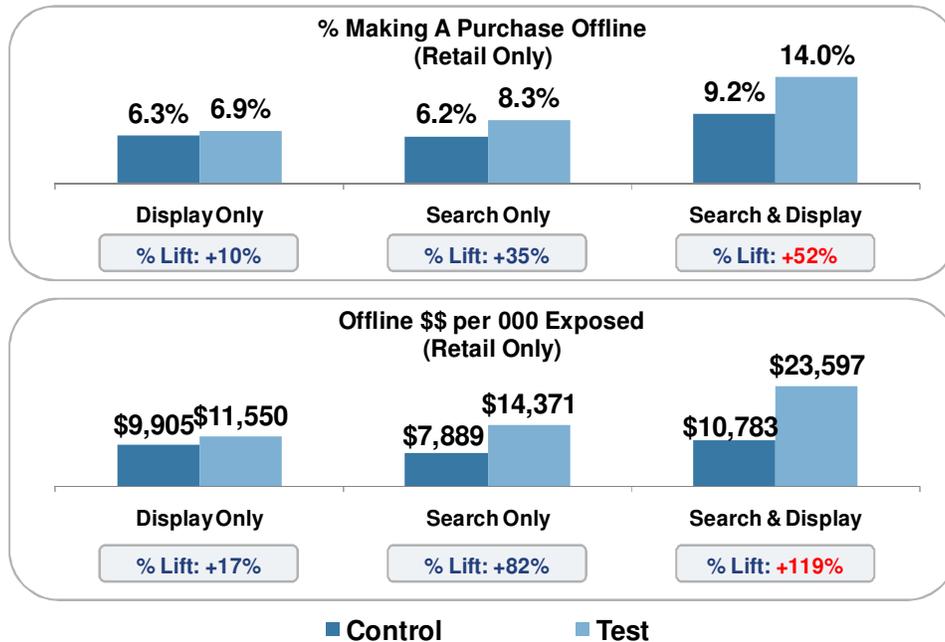
% Making A Purchase Offline (Retail Only)

	Display Only	Search Only	Search & Display
Control	6.3%	6.2%	9.2%
Test	6.9%	8.3%	14.0%
% Lift	+10%	+35%	+52%

Offline $$ per 000 Exposed (Retail Only)

	Display Only	Search Only	Search & Display
Control	$9,905	$7,889	$10,783
Test	$11,550	$14,371	$23,597
% Lift	+17%	+82%	+119%

■ Control ■ Test

Figure 15. Search and Display Synergies Offline

comScore Media Metrix is the preferred source of Internet audience measurement for advertising agencies, publishers, marketers and financial analysts. Using proprietary data collection technology and industry-endorsed random recruiting methodology, comScore Media Metrix products deliver:

- **Metrics detailing online media usage for home, work and university audiences**

- **Online visitor demographic analysis**

- **Online buying power metrics to segment audiences based on actual consumer purchases**

- **Detailed measurement of 101 U.S. local markets**

- **Qualitative consumer information, seamlessly integrated with passively captured online usage data**

- **Measurement of key ethnic segments such as the fast-growing Hispanic population**

- **Global audience measurement in dozens of countries**

- **An advanced content classification system and reporting structure available for online media.**

ABOUT COMSCORE

comScore, Inc. (NASDAQ: SCOR) is a global leader in measuring the digital world. This capability is based on a massive, global cross-section of more than 2 million consumers who have given comScore permission to confidentially capture their browsing and transaction behavior, including online and offline purchasing. comScore panelists also participate in survey research that captures and integrates their attitudes and intentions. Through its proprietary technology, comScore measures what matters across a broad spectrum of behavior and attitudes. comScore analysts apply this deep knowledge of customers and competitors to help clients design powerful marketing strategies and tactics that deliver superior ROI. comScore services are used by nearly 900 clients, including global leaders such as AOL, Microsoft, Yahoo!, BBC, Carat, Cyworld, Deutsche Bank, France Telecom, Best Buy, The Newspaper Association of America, Financial Times, ESPN, Fox Sports, Nestlé, Starcom, Universal McCann, the United States Postal Service, Verizon, ViaMichelin, Merck and Expedia. For more information, please visit www.comscore.com.

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