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BEYOND THE LAST CLICK:
MEASURING ROI AND CONSUMER ENGAGEMENT WITH CLICKSTREAM ANALYSIS

by Megan Halscheid, Micheline Sabatté and Sejal Sura

ABSTRACT
IMC best practices tell us about the importance of measuring ROI and assigning financial value to our marketing communications program. For advertisers running paid search programs, the ROI measurement of specific keywords in a campaign is based on the “last click”—a metric that records the last paid search ad that a user clicks on before a conversion. While this measurement technique is an accepted practice in the estimated $10 billion paid search industry, it does not give the complete picture of ROI because it hides the value of keywords that assist with a conversion. Instead, there is a need to recognize the keywords that consumers click on before the “last click.” With Clickstream Analysis—the process of analyzing paid search data to assign value to all keywords in a consumer’s clickstream that assist in a conversion and to measure consumer engagement at the keyword level—online advertisers now have a better way to quantify the value of individual keywords in their paid search portfolio, which can help them more accurately measure ROI and the performance of their paid search programs.

“Half the money I spend on advertising is wasted; the trouble is I don’t know which half.”

John Wanamaker’s famous confession refers to the ongoing challenge many marketers face in trying to measure the value of marketing investments. Measurement is not an easy task. It is especially difficult for global corporations, with multiple product lines, to account for the various internal and external forces that affect marketing performance, and to accurately gauge results across channels.

Typically, direct marketers are more ROI-focused and tend to experience greater success with measurement than their brand advertising counterparts. However, even in the online channel where clicks are tracked, cookies are dropped, and users carry their IP address passport as they seamlessly travel from site to site, accurately accounting for the value of online investments is difficult. As AdWeek’s digital editor, Brian Morrissey, explains, “Despite the Web’s rep[utation] as a highly accountable medium, holes remain in everything ranging from how many people visit a Web site to gauging which ads lead to sales.”

This article will examine the challenges of measurement, specifically in the context of paid search online advertising, and describe how a solution, called Clickstream Analysis, addresses these challenges. Clickstream Analysis enables advertisers to better measure ROI and consumer engagement of individual keywords within their paid search programs.
Advertisers expect to spend $24.9 billion in 2008 on online advertising, which represents a 17.4 percent increase from 2007. Online advertising encompasses paid search, rich media/video, display ads, classifieds, lead generation, e-mail and sponsorships. The online research firm eMarketer estimates that paid search, which refers to paid listings, contextual links and paid inclusion, will account for approximately 40 percent (or roughly $10 billion) of the total online advertiser spend. These tremendous budgets mandate financial accountability for digital marketing investments. Measuring marketing effectiveness and return on customer investment are critical components of the integrated marketing communications (IMC) framework. IMC thought-leaders and husband and wife pair—Don and Heidi Schultz—identify the fourth step in the IMC Five-Step Planning Process as estimating the return on customer investment. In this critical step of assigning financial value to marketing communications programs, “managers can not only demonstrate that marcom is providing positive returns on investments, but they can drill down to specific cases to determine which elements were more effective and efficient.” In applying this concept to paid search, online advertisers must drill down to assign financial value, or ROI, to each keyword in their paid search portfolio. In doing so, advertisers can determine which keywords are most effectively and efficiently driving conversions. Paid search campaigns can include thousands of keywords. Advanced techniques are required to analyze the true value and performance of each keyword.

Online advertisers track several metrics within their paid search campaigns to determine keyword performance. Figure 1 provides an overview of the top metrics tracked by online advertisers.

**Metrics matter**

“Last click” attribution carries significant consequences for all paid search advertisers. Although this tracking mechanism allows advertisers to better manage their paid search programs, it does not consider the consumer click activity that may have preceded the last click leading to the final conversion. This keyword is referred to as the “last click.”

**Putting the 'last click' on a pedestal**

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<table>
<thead>
<tr>
<th>Metric</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressions</td>
<td>Number of times a paid search ad is served by a search engine</td>
</tr>
<tr>
<td>Clicks</td>
<td>Number of times a paid search link is clicked on</td>
</tr>
<tr>
<td>Click-through rate</td>
<td>Percentage of clicks on a paid search ad listing out of the total number of times the ad is served</td>
</tr>
<tr>
<td>Conversions</td>
<td>Number of final transactions or leads generated by search clicks</td>
</tr>
<tr>
<td>Conversion rate</td>
<td>Percentage of conversions on an advertiser’s site generated from a paid search click out of the total number of times that paid search listing is clicked on</td>
</tr>
<tr>
<td>Click costs</td>
<td>Fee for every click generated by a listing on the search engines</td>
</tr>
<tr>
<td>ROI</td>
<td>Sales through paid search keyword divided by the keyword’s click costs. Return on investment can be calculated at the keyword, ad group, campaign level, etc.</td>
</tr>
</tbody>
</table>

Source: “Search Engine Optimization & Marketing Glossary” provided by Search Engine Marketing Professional Organization (SEMPO)
a generic keyword, for example, “cell phone,” prior to searching on a branded keyword, such as “ACME cell phone.” Often, generic keywords have higher costs associated with them due to higher demand and competition. However, consumers tend to search by generic keywords as they first begin their research online. Generic keywords, therefore, offer significant value to advertisers as they reach consumers early in the decision-making process.

As a result of this study, and others conducted since then, advertisers have recognized the need to better understand the value of generic keywords and to evaluate keyword performance accurately. In response to an information gap in the marketplace, Performics, a performance-based marketing agency headquartered in Chicago, Ill., developed a product called Clickstream Analysis. This product provides insights from the analysis of “last click” data in combination with prior consumer search activity to better evaluate keyword performance, and to more effectively manage paid search programs.

Clickstream attribution methodology: every click counts!

When a soccer game is won, it is the entire team that celebrates because each person on the team contributed to the victory. It is not simply the forward who scored the winning goal, but the goalie who blocked the opponent’s shots, the mid-fielder who passed the ball and the team members cheering from the sideline who deserve recognition for the victory.

Just like players on a soccer team, Clickstream Analysis applies an attribution methodology that allows each click in a stream, not just the last click, to receive credit for a conversion. Figure 2 illustrates this concept with an example of a $120 ACME cell phone purchase.

Here, the last click keyword—“ACME pink cell phone”—receives all the credit for total direct sales for the transaction. The keywords “cell phone” and “pink cell phone,” which also assisted in the conversion, do not receive any credit for the transaction and their ROI is zero. Without proper attribution, the true assist val-

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**Figure 2** Without Clickstream Analysis, the last click receives all the credit for a conversion. Used with permission from Performics. All rights reserved.
Just like players on a soccer team, Clickstream Analysis applies an attribution methodology that allows each click in a stream, not just the last click, to receive credit for a conversion.

The value of these generic keywords remains hidden. Advertisers who follow the “last click” measurement standard forfeit the chance to better optimize their search campaigns.

Clickstream Analysis uses the GUID (global unique identifier) to connect all the keywords that consumers click on in the clickstream. By tracking all the clicks in the stream, Clickstream Analysis’ attribution model equally distributes the transaction’s sale value across all keywords resulting in conversion. Continuing with the prior ACME cell phone example, each keyword in the clickstream now has an “adjusted sales” and “adjusted ROI” associated with it, as indicated by Figure 3.

Now, the two keywords in the clickstream occurring before the last click—“cell phone” and “pink cell phone”—receive one-third of the credit, or $40, for the sale. The adjusted ROI is calculated by dividing the adjusted sales by the click cost per keyword. The value of these keywords is no longer hidden.

Measuring consumer engagement and brand awareness

What if keywords have a low ROI, but still generate a high volume of clicks? Beyond ROI metrics, advertisers should also evaluate paid search keywords based on their contribution to consumer engagement with the brand. Advanced analysis of a consumer’s clickstream reveals the impact of each keyword that is clicked upon. When a consumer clicks on a keyword, and does not convert, three different outcomes may occur:

1. A consumer continues to search and click on other terms including brand keywords
2. A consumer continues to search and click on other terms including non-brand (generic) keywords
3. A consumer does not take any further action beyond the original click

Figure 3 With Clickstream Analysis, all keywords that assist with a conversion receive credit. Used with permission from Performics. All rights reserved.
Figure 4 With Clickstream Analysis, keywords are assessed based on three types of outcomes. Used with permission from Performics. All rights reserved.

Figure 4 illustrates these three different scenarios, which are referred to as downstream brand clicks, downstream non-brand clicks and “drive-by” clicks, respectively.

A good way to measure consumer engagement through an advertiser’s paid search program is to evaluate the type of downstream clicks that a particular keyword generates. A downstream click is the subsequent click generated after the initial click on a paid search ad. In the prior example, depicted in Figure 4, a consumer searches on a generic keyword “pink cell phone,” clicks on the advertiser’s listing, performs another search for “ACME pink cell phone” and then clicks on the advertiser’s branded listing. This downstream brand click is a strong indication of the consumer engaging with an advertiser’s brand and a good example of how paid search can promote unaided brand awareness.

Keywords generating non-brand clicks are also valuable to a paid search program. In this scenario, a consumer clicks on an advertiser’s generic keyword listing, then performs another search and clicks on a different generic keyword listing from the same advertiser. These non-brand, or generic, clicks indicate an increase in the consumer’s aided brand awareness.

Every time a consumer clicks on a paid search listing, he/she engages with a Web site and a brand. Consider a person walking through a shopping mall who visits a store, even for a few moments. This visit offers the brand an opportunity to make an impression on the consumer. The more often a consumer visits this store, the more likely he/she is to make a purchase, or convert. The same logic applies to keywords that drive multiple clicks within a clickstream. With Clickstream Analysis, this “multi-click” behavior indicates a greater likelihood of conversion, based on multiple interactions.

Clickstream Analysis also provides insight into “drive-by” clicks that do not generate any consumer action. Further analysis of “drive-by” clicks may uncover additional opportunities to
improve a campaign’s effectiveness. This analysis may reveal the landing page associated with the keyword does not correspond to a searcher’s intent. The landing page could then be optimized and tested in an effort to increase consumer conversion. In other cases, the keyword may be driving sales offline instead of motivating online activity. “Drive-by” clicks could also indicate that the keyword is simply not as relevant to the overall campaign or to the brand. By evaluating “drive-by” keywords, advertisers can uncover higher-level inefficiencies. Improving the performance of “drive-by” clicks can decrease advertisers’ overall campaign costs while improving ROI.

Bid better, bid smarter
Clickstream Analysis offers a new and improved way to measure the ROI and consumer engagement level of individual keywords within paid search programs. This advanced analysis provides strategies for better keyword bidding and investment.

Appropriate keyword segmentation is the first step in delivering smarter bid strategies. Informed by Clickstream Analysis, keywords within a campaign generally fall into three mutually exclusive groups using a proprietary methodology. The three segments are Stars, Red Flags and Brand Cows. Each keyword segment has associated strategies and actions as outlined in Figure 5.

As this chart indicates, advertisers can increase their investment in higher-performing Stars to drive more direct and adjusted sales. Red Flags can be eliminated from a search program to reduce click costs. Finally, Brand Cows, which typically have a lower ROI, should be moved to a brand-focused campaign and managed to a separate objective because these keywords drive consumer engagement. Keyword segmentation and analysis reduces the costs associated with non-performing keywords and allows advertisers to apply the cost savings towards increased investment in keywords that are more likely to generate additional sales or leads.

Conclusion
In today’s marketing landscape, online advertisers are often left making decisions based on limited metrics or performance indicators available to them. Solutions like Clickstream Analysis provide valuable insights into paid search campaigns, allowing advertisers to better understand how consumers search

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**Figure 5** Keyword segmentation strategies and actions

<table>
<thead>
<tr>
<th>Segments</th>
<th>Description</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stars</strong></td>
<td>High performing keywords that drive conversions</td>
<td>Increase sales or leads</td>
<td>Increase keyword investment</td>
</tr>
<tr>
<td><strong>Red Flags</strong></td>
<td>Non-performing keywords that are not generating any direct or adjusted sales</td>
<td>Reduce costs</td>
<td>Eliminate keywords and/or decrease investment</td>
</tr>
<tr>
<td><strong>Brand Cows</strong></td>
<td>Keywords that drive high brand engagement</td>
<td>Increase consumer engagement with brand</td>
<td>Move keywords to brand campaign</td>
</tr>
</tbody>
</table>

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Beyond The Last Click

Case Study: Getting More Bang for Your Buck

Clickstream Analysis was performed on the paid search program of a Fortune 500 consumer electronics retailer to identify potential cost savings and opportunity for incremental sales. Based on defined criteria and clickstream data, the paid search keywords were segmented into keyword buckets. About 30 keywords were identified as Red Flags, indicating that these keywords had no ROI, high click costs and low click value. In addition, over 200 keywords were identified as Stars due to their strong ROI and potential to generate additional sales.

The strategies developed based on these keyword buckets were to eliminate the Red Flags to save costs and increase the position of the Star keywords to increase sales. The estimated net results of the Clickstream Analysis strategies were a gain of $340,000 in incremental sales and a savings of $147,000 in click costs (see Figure 6).

online and to use data to drive business decisions. The insights gained through Clickstream Analysis enables advertisers to develop smarter paid search strategies that more effectively and efficiently reach consumers during their search process. A more complete evaluation of search campaigns lessens some of the challenges that John Wanamaker spoke of and many marketers since then have faced—the ability to distinguish between wasteful advertising investments and performance-based advertising that drives results.

Figure 6

Estimated Impact of Clickstream Recommendations (Illustrative)

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References


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Sejal Sura is a senior strategy consultant at Performics. Previous work experience includes management consulting at PricewaterhouseCoopers in the Data Warehousing practice, managing education services for the central region at MicroStrategy and account management for Pepsi and Unilever at NPD Group. Sura holds a BBA in finance, international business, minor in Spanish from University of Iowa and an MBA in marketing and entrepreneurship from Kellogg Graduate School of Management at Northwestern University. Sura co-presented Clickstream Analysis at the Performics 2008 Client Summit and received the following awards: MVP at MicroStrategy, third place Motorola Marketing Case Competition at Kellogg Graduate School of Management and Multicultural Leadership Award from the University of Iowa.