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USING FIRST-PARTY WEBSITE IDENTITY FOR REMARKETING ATTRIBUTION AND OPTIMIZATION

Contemporary marketing budgets can stretch into the billions, and advertisers frequently adjust spending to capitalize on the channels that generate the most business and provide the best return on investment (ROI). Coordinated efforts to promote a brand or product, known as campaigns, are commonly used to solicit commercial growth. Modern marketing techniques rely heavily on virtual venues, allowing advertisers to reach customers and users through easily monitored means. By collecting data on user behavior, businesses are able to tailor their efforts to a smaller population of their market (e.g., in some cases, to individuals).

Remarketing campaigns attempt to engage users after they've interacted with an advertiser's website or application. Previous users are presented with advertisements pertaining to the website or application to encourage a conversion. Conversions may be defined differently for different advertisers and can be any action an advertiser wishes for a user to perform, such as making a purchase or providing the advertiser with desired information. Conversion data is an essential component of marketing analytics, and is used to determine the effectiveness of a marketing strategy.

Armed with consumer data, marketers can evaluate which websites or media to invest in and manage targeting practices. Remarketing allows brands and advertisers to leverage their previously established relationship with a user, adding to the value of an experiment by focusing remarketing efforts on an engaged, interested population.

The population of "remarketing lists," which contain repeat visitors to a designated website, can be controlled from the website. A remarketing list is a collection of identifiers of visitors, and allows targeting tactics as well as creation strategies to be evaluated and optimized in a manner equivalent to that used in the management of website content. Remarketing lists allow advertisers to set goals such as reaching all website visitors or appealing to visitors who did not convert.

Strategies for effective remarketing involve showcasing different product categories to different visitors or re-engaging visitors with items in their shopping cart who have not made

purchases. Existing customers are critical to maintaining a consumer base, and can be reached by up-selling or cross-selling through offers for complementary products or services. Dependable customers are already familiar with and interested in the brand or product being marketed, and advertising can be customized to retain patronage.

To collect online consumer data in order to create records of visitors such as remarketing lists, advertisers exploit first-party identifiers. Commonly used identifiers include HTTP cookies – small pieces of data stored in a user’s web browser by a website while the user is browsing the website and sent back to the server every time the user loads the website to notify the website of the user’s previous activity. Cookies are a state-preserving mechanism for websites to track a user’s actions and interactions. A general dichotomy of cookies exists: first-party cookies are set by the website visited by the user, while third-party cookies belong to domains different from the one shown by the web browser.

Emerging concerns regarding the tracking of online user activity have prompted a large proportion of users to block third-party cookies, reducing the power of an experiment conducted with groups allocated by using third-party identifiers. Granular consumer data can be acquired through forming test groups using an advertiser’s own trusted cookies. Two distinct types of first-party cookies are commonly used: generic cookies which record a user’s presence immediately upon arrival at a website; and more personalized cookies which are used for tracking user activity such as purchase history, site preferences, or shopping cart items.

Historically, evaluating the ROI of remarketing campaigns in a truly causal way has been difficult. Marketers often rely on simple attribution models: rules, or sets of rules that determine how to allocate credit for conversions, to measure the effectiveness of advertisements. One such model – “last click attribution” – assigns all credit to the last ad impression served to a user, which is correlational but not necessarily causal. While elementary attribution models are inexpensive to use and provide basic insight that can be used to manage campaigns, it is possible and common for these models to assign credit to ineffectual impressions. Users may have already wanted to make a purchase or perform an action – the model does not produce robust results with respect to causation.

Marketers may run large-scale, controlled experiments which are causal and offer detailed feedback, but these operations are costly in terms of time and money. Some advertising testing such as geographically targeted experiments engage analogous techniques, but these experiments are generally more expensive to run. Geo-testing is widespread and covers whole cities; millions of people: experiments are forced to consider the entire population regardless of interest in the product or brand. A large, mostly irrelevant, population dilutes the results and hinders modern data-driven decision-making.

This publication introduces an improved method of evaluating ROI of remarketing campaigns using first-party identifiers to form control and treatment groups for experimentation. First-party identifiers are the most potent parameter available with which a researcher can form control and treatment groups: they are granular, allowing identification of individual participants, and cost effective. Relative effectiveness of different content can be assessed by splitting the population of users into treatment and control groups using first-party identifiers. This is a form of split testing, in which two variants – the control and treatment – are tested in a randomized, controlled experiment.

In some implementations, other forms of persistent identifiers, such as third-party cookies, may be used to divide the user population into control and treatment groups. While less effective due to the lower availability of third-party tracking and subsequent skewing of available data, the use of cookies nonetheless provides more precise results with regards to the influence of certain marketing strategies on users than the use of coarse apportioning means such as geographical location. In other instances, identifiers such as application-generated identifiers, comment IDs, user IDs, and user-ID overrides may be used in place of cookies. The methods detailed in this publication are not limited to the use of identifiers explicitly listed or described, and any available, accessible user identifiers may be used for populating a remarketing list, dividing a user population, and identifying successful remarketing events.

Data obtained from such experiments can be fed into sophisticated attribution models, such as data-driven attribution, to improve estimates of the ROI of remarketing advertising and address bias issues in current testing methods that would otherwise be difficult to fully resolve. Ostensibly subjective choices made in marketing content can be demonstrated as objective using

split testing, as experimental results will either reject or fail to reject a hypothesis on the measurable effect of a design on ROI.

An exemplary attribution model is data-driven attribution, which analyzes every step of the user's journey, regardless of whether it ends in a purchase. The data-driven attribution model compares conversion path structures and the associated probability of conversion assuming a certain order of events. Difference in path structure and the associated difference in conversion probability are the foundation for the algorithm which determines weights for each of the studied marketing channels. The more impact a certain marketing channel has on the conversion probability, the higher the weight of this channel in the attribution model.

Website content experiments employ similar experimental design techniques – however, the results obtained are typically used to improve the effectiveness of content on the website rather than budgeting or campaign targeting optimization in advertising contexts. The application of split testing framework in the problem space of evaluating and optimizing marketing budget on search and display advertising channels offers a solution to the problem of inaccurately identifying the source of advertising influence on consumer behavior.

Inaccuracies can arise from unknown cross-device interactions, in which a user accesses content on one device and performs a later action or conversion on a different device with a different identifier. Controlling for such interactions and compensating for measurement losses due to imperfect identifiers may be done using first-party identifiers and hashed identifiers to pare a population to only users that are signed-in and known. By filtering for known users prior to splitting the population, the effects of one user using multiple devices and being assigned to multiple variations are diminished.

Content optimization and marketing optimization have largely been treated as separate domains; this method bridges the two by recognizing that in the specific case of remarketing, one system can be used to solve the other. Content optimization is the practice of altering a website to appear more attractive to search engines. Being presented sooner on a search engine's list of results can increase traffic, and therefore business, and is a vital element to a brand's success. By applying this method of conducting controlled experimentation to remarketing, marketers can obtain detailed, precise results at a low cost.

FIG. 1 is a flow chart of the described method of evaluating and optimizing marketing campaigns according to an illustrative implementation.

An advertiser's server may receive one of its own cookies which has been associated with a device of a user who has previously interacted with the website. Using the cookie as an identifier for the user device, advertiser may assign the cookie to either a control group or a treatment group. Upon a user's return, the server receives the cookie of the user device and determines whether the cookie has been assigned to the control group or the treatment group. Once the user's group assignment has been established, the advertiser serves the group-appropriate content to the user.

In some implementations, the control group is not served any content, while the treatment group is served with an ad. Different visual representations of the same information could be presented to the two groups. Significant improvement in conversion is sometimes seen by altering seemingly minor elements such as font, color, and image choice, and layout and presentation. The order in which content is presented to users, or visitor flow, may be tested. In some implementations, fewer elements could be displayed in order to decrease distraction of the user from the objective – conversion. The content served to the control group of users may be the currently used version, while the treatment group of users is served the same content modified in some respect.

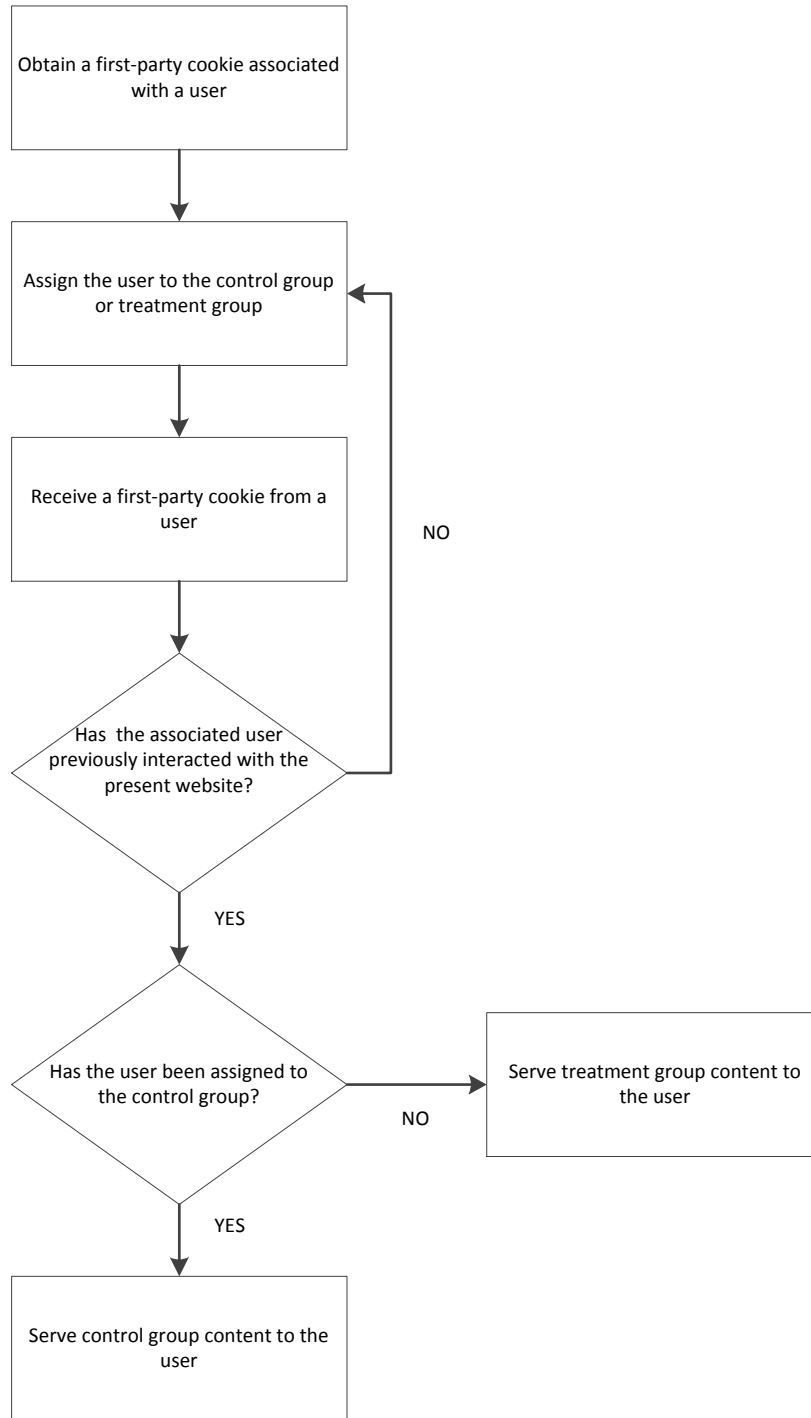


FIG. 1

ABSTRACT

An improved method of evaluating and optimizing marketing campaigns utilizes first-party cookies to facilitate split testing. Users are assigned to control or treatment groups to assess the relative effectiveness of two different approaches. Marketers can produce precise, granular estimates of the ROI of a particular campaign by combining content optimization and marketing optimization in the context of evaluating campaign strategy.