



Contextual Targeting: Leverage trustworthy content to improve ad efficacy

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In this age of digitalization, consumers are becoming more aware of how companies acquire and use their data for advertising purposes (Weiss 2020). This is aided on the regulatory side, as the General Data Protection Regulation (GDPR) in Europe and California's Consumer Privacy Act have raised awareness of data privacy issues (Ghosh 2018a, 2018b). This creates a fine balance for companies who would like to use targeted advertising but at the same time be cautious of overstepping privacy boundaries (John, Kim, and Barasz 2018). As a result, some advertisers have experimented with alternatives, such as contextual targeting (e.g., Lobschat, Osinga, and Reinartz 2017; Rutz and Trusov 2011; Zhang and Katona 2012).

In lieu of using personalized user data to improve targeting outcomes, contextual targeting can still deliver the right message over the right media. Traditional contextual targeting leverages *what* is written on a webpage, rather than user data, to determine advertising targeting criteria. Such information includes categories, topics, and keywords that are used to taxonomically define the content (Lobschat, Osinga, and Reinartz 2017; Wu 2015; Zhang and Katona 2012). Contextual targeting provides the following advantages: First, consumers may be in a receptive mindset for ads that appear on a relevant web content or topic (Goldfarb and

Tucker 2011; Yaveroglu and Donthu 2008). For example, ads for a financial company could be more effective when placed on pages with finance related content. Second, advertisers may be able to identify higher quality leads based on the types of people who browse a certain type of content (Wu 2015).

Newer contextual targeting identifies *how* the article is written. Characteristics like credibility, presence of opinion, stylistic properties, and sentiment of content can influence consumers' response to advertisements. Advertisers can leverage characteristics from a webpage's content and associate it with the ad (Stewart 2003). This allows advertisers to extend their targeting beyond audience or general topics to quality attributes, such as the trustworthiness of the webpage, that strategically align with brand values. For example, ads for financial services may benefit from appearing on pages with trustworthy content.

While targeting based on how an article is written represents a new category of contextual targeting, a key question is, can it be a profitable strategy? Advertisers are generally hesitant to migrate away from personalization for fear that it will impact their advertising performance. To answer this question, our research team collaborated with NOBL Media (an adtech company), Cossette Media (a creative marketing and communications agency), and Sun Life Financial (a financial services company).

The contextual targeting strategy for Sun Life Financial's campaign places ads not only on pages that match its financial industry topically and its audience, but also on pages that exhibit important characteristics related to its brand, such as trustworthiness. We define "trustworthiness" as an abundance of characteristics that are associated with quality and credibility, and an absence of characteristics that are

associated with low-quality (e.g., harmful contents, such as extreme emotion, hate speech, misinformation, conspiracy theory, etc.). Trustworthiness is calculated for each web page using a formula that is the product of multiple indicators determined by Natural Language Processing (NLP) and Machine Learning (ML) models. Each indicator is designed to analyze a specific characteristic of a webpage that is known to signal credibility and quality, particularly linguistic and rhetorical patterns in the webpage content. Examples are listed in Table 1. Each indicator generates a numeric, weighted value that modifies the overall trust score, which ranges from -10 (untrustworthy) to 10 (very trustworthy).

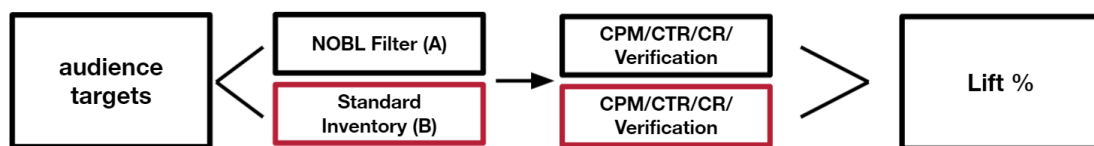
Table 1: Indicators to rate web page text

Indicators	High Trust Score	Low Trust Score
Credibility	Content is objective, comprehensive, balanced, and professionally written, includes sourced information, and uses evidence-based logic.	Content may be subjective, stylistically unprofessional, biased, and not well-sourced. It may present fallacies or illogical claims. There may also be derogatory and demeaning comments on the page.
Opinion (labeled/not labeled)	Content either 1) does not express an opinion or 2) if it does, it is labeled as such.	Content expresses opinion, judgment, or statement of value about something or someone, and it is not clearly labeled as opinion.
Adverbs	Content has a low ratio of adverbs to overall total number of words.	Content has a high ratio of adverbs to overall total number of words.
Title and content match	Title and text align.	Title and text do not align (for example, the title is misleading or not related to the actual content)
Spelling	No or low misspellings	Many misspellings
Clickbait	Contains few or no clickbait techniques	Headline or text contains clickbait techniques, such as all caps, questions, exclamations, and excessive use of adjectives.
Extreme sentiment	Content includes little or no emotional language and does not attempt to persuade through emotional appeals.	Content includes emotionally charged language (positive or negative), and it attempts to persuade through emotional appeals.

To assess the impact of webpage trustworthiness on the effectiveness of advertising that is displayed by contextual targeting, we conducted a field experiment. We randomly assigned consumers to one of the following two conditions: treatment or control. In the treatment condition (A), we used NOBL targeting to only bid for ads on high quality pages. For the purposes of this experiment, we considered a high quality page to be one that either received a trust score of 5 or greater or that resided on a domain that received a score of 4 or greater, based on the average score of 10 or more pages on that domain (see the Appendix for a distribution of trust scores across over 1 million pages). In the control condition (B), we used standard brand safety policies for placement decisions. Note that the advertising platform run by Cossette Media includes standardized settings to filter out apps, websites, and content that fail to meet brand safety criteria. The treatment and control conditions placed ads on both similar and different domains.

Figure 1 illustrates the experiment.

Figure 1.



The data were collected from a Sun Life display advertising campaign that ran from April 18 to June 20, 2021. The campaign was set up in Cossette Media's programmatic advertising platform. In the Treatment condition (A), 163,240 NOBL scored page URLs were sent through via an API connection for targeting. For each

page URL, we tracked the number of impressions, clicks, and amount of money spent (i.e., cost per click). We also monitored the resulting web page activity on Sun Life’s own website and collected the total number of webpage visits arriving from each ad and page URL. We then compared these key performance indicators for users in the treatment condition with users in the baseline condition.

Table 2 summarizes our results, which suggest that the trustworthiness of the website plays an important role in the success of online advertising. Specifically, consumers in the treatment condition (e.g., those who were contextually targeted with ads on more trustworthy pages) exhibited a 110% higher valid click-through rate and a 39% lower cost-per-click. In other words, targeting consumers on trustworthy sites increased subsequent ad response at a more cost-effective rate. In addition, an important effect of targeting more trustworthy pages is a reduction in the invalid traffic. Consumers in the treatment condition exhibited a 56% reduction in measured invalid clicks (e.g., fraudulent or unintentional clicks) and a 37% reduction in measured invalid impressions. Please note: the measured invalid traffic referenced here is removed from the statistics analyzed.

Table 2: Main Results

	Control: Open Exchange	Treatment: NOBL (Score of 5+)	Results
Total pages	852,102	118,886	86% fewer pages
Impressions	8,148,143	7,077,152	13% fewer impressions
Clicks	1,443	2,624	82% more clicks
Cost per click	\$13.39 CAD	\$8.17 CAD	39% lower CPC

Click-Through Rate	0.0176%	0.0371%	110% higher CTR
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To further test the robustness of our results, we analyzed the data across domains that had both treatment and control conditions. That is, the main difference between the two conditions is the specific pages that displayed ads. This allowed us to control for the type of users that are attracted to a particular domain and compare the effects of ad placement on different quality pages within the domain. Our results indicated that ads on trustworthy pages resulted in an 87% increase in click-through rate and 41% decrease in cost-per-click.

To understand the process in which contextual targeting works, we assessed the route in which conversions, defined as the number of page views on Sun Life's website, happened. In the data, we monitored conversions. A click-through conversion occurs when consumers click an advertisement to arrive at and browse the advertiser's (i.e., Sun Life's) website. Alternatively, a view-through conversion occurs when consumers view the advertisement and then browse Sun Life's website at a later time. View-through conversions measure conversions that occur within 14 days after seeing, but not clicking, a display ad. In our data, conversions following a click-through conversion generated only 1.2% of the total converted page views. The remaining 98.8% were view-through conversions.

Furthermore, the results suggest that contextual targeting led to an increase in view-through conversions by 39% compared to the baseline. This means that when paired with a trustworthy site, the display advertisement delivered a superior view-through conversion rate than a strategy that did not use contextual targeting.

Overall, this finding suggests that consumers associate the trustworthiness of the content with the ad, leading to heightened brand awareness reflected by more subsequent page view activity. Note that in both conditions, the only difference is the trustworthiness of the site. This implies that consumers who view the ad on a more trustworthy site tend to browse more pages and become more engaged with the firm.

Overall, our takeaways for managers are three-fold:

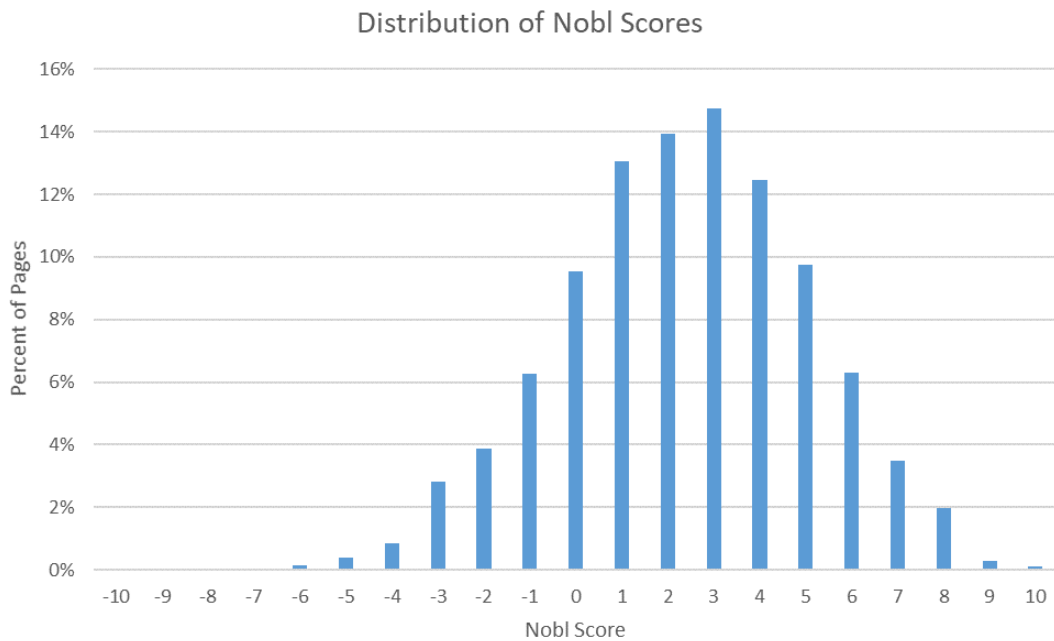
Contextual targeting matters. Contextual targeting works and may be a more appealing option than personalized targeting, given the recent trend to limit company access to private consumer data. Firms should consider devoting resources to invest in contextual targeting as they shift reliance from the traditional personalization route. Managers should also consider both what types of pages to target and how those pages are written.

Re-evaluate the need to use user-level data. Even with consumer data, firms should be cautious about taking personalization too far. Behaviorally targeted ads may be viewed as intrusive and/or uncomfortably relevant to the recipient's needs. Thus, firms need to identify how the use of consumer data can provide value to consumers (e.g., offer a better feature or product) and leverage contextual targeting to lessen the need for personalization for advertising purposes.

Trustworthy and ethical marketing improves ad efficacy. Firms can leverage trustworthy content to improve their advertising effectiveness (i.e., higher clickthrough rates, lower cost.) In addition, brands that hold trust as a core value, or marketing departments with ESG goals may consider using contextual targeting not only for relevancy but also for association with more credible content.

Appendix

Figure A.1: Distribution of NOBL scores across over 1 million pages.



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