

Are Brand Attitudes Contagious? Consumer Response to Organic Search Trends

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Research Abstract and Goals

Traditional brand tracking data have been used by marketing managers for decades to understand consumer response to brands. Marketers and advertisers are highly enthusiastic about the opportunities that the new online tool *Google Insights for Search (IFS)* provides to monitor “rising searches” and analyze consumer search trends. *IFS* augments traditional brand tracking data in unprecedented ways, but is important for another reason: Google Insights for Search does not only monitor trends, *it can influence them*. We theorize that organic search results provide a natural measure of the attention being directed toward a brand in a social sphere, quite distinct from measures derived from brand tracking studies, and propose that consumers are influenced by observing *IFS* trend results, and infer brand attitudes of social groups from which these results were drawn. These inferred social attitudes then influence the consumer’s own attitudes through a social contagion effect. To test these ideas, we propose a two-stage project. First, we validate that aggregate user search history (*IFS*) correlates with traditional brand tracking metrics (WPP). The validation stage will establish that organic search trends relate to consumer brand attitudes at the aggregate level. Second, we use six design factors and a series of experiments to investigate under what conditions – and by what processes - consumer brand attitudes, attitudes toward the ad, and related market response measures can be influenced by observation of brand search trends. The results will show how marketers and advertisers can organize organic search results to enhance consumer engagement with the brand and the search process. Our research also opens the door to important investigations of the impact on attitudes of search trends derived from social networks or other socially segmented online audience groups such as social shopping sites. The proposed research will also extend our knowledge of the social contagion process to online search more generally, arguably the most important online consumer behavior.

Keywords: social contagion, audience engagement, consumer search, advertising effectiveness

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1. Technical Description

1.1 Motivation

Traditional brand tracking data have been used by marketing managers for decades to understand consumer response to brands. In the past several years, the Internet has given rise to a natural laboratory of new data and tools for brand tracking that have the potential to offer not only deep insights for marketing managers, but also radically restructure the marketing research landscape. One of the newest such tools is *Google Insights for Search (IFS)*. With *IFS*, the market researcher can view numerous general and category-specific search trends for selected keywords and perform a variety of marketing-relevant keyword comparisons.

If the volume of blog posts in the last few months regarding the *IFS* tool is any indicator, it seems obvious that this new tool has the potential to dramatically enhance our understanding of consumer reactions to brands and ads¹. Marketers and advertisers are highly enthusiastic about the opportunities *IFS* provides to monitor what Google terms “rising searches,” and explore consumer behavior with a seemingly endless combination of filters and comparison options to analyze search trends in near real-time.

While it is clear that this tool augments traditional brand tracking data in unprecedented ways, we believe *IFS* is important for another reason: Google Insights for Search does not only monitor trends, *it can influence them*. Since the tool is publically available and easy to use, any consumer can use *IFS* as a search tool to compare brands or products. We argue that simply observing the results from *IFS* trend searches produces social contagion effects that can influence consumers’ attitudes toward brands and advertisements. Researchers have previously demonstrated that the online search experience can positively impact brand attitudes (Mathwick and Rigdon 2004) and that brands are an important quality signal (Smith and Brynjolfsson 2001) for consumers using price comparison engines, but to our knowledge, no research has investigated whether or how consumers’ knowledge of search trends for brands may influence their attitudes toward brands and advertisements for those brands. The finding that consumer brand attitudes can be influenced by observation of social trends reflected in searches for those brands can enhance our understanding of how social contagion operates in online settings and has important implications for brand strategy and advertising effectiveness.

1.2 Brand Attitudes are Socially Contagious

Individuals are susceptible to the influences of others. Psychologists, sociologists and economists have long had a deep interest in the processes by which individuals are influenced by the observed behavior of other individuals either acting alone or in groups, whether referring to these processes as social influence, social contagion or neighborhood effects, respectively. This interest is enjoying a strong resurgence, perhaps owing to the expanded opportunities for studying social contagion and related concepts in various online contexts.

Salganik, Dodds and Watts (2006) examined social contagion of music choice in an experimental “music market.” They operationalized social influence by allowing respondents to observe the frequency with which songs had been downloaded by others. Compared to a condition in which no such information was provided, their results make clear that social influence exerts an influence on respondent preferences, over

¹ “It’s basically search data porn for marketers.” (Matt McGee, August 6, 2008, <http://sphinn.com/story/63791>)

and above respondents' own initial preferences for music. In an empirical modeling framework, Bell and Song (2007) investigated the influence existing customers have on prospective customers at an online service by modeling trial (initial customers' first orders) over time and geographic regions. They operationalized social contagion in terms of physical proximity as captured by zip codes and found significant neighborhood effects that influence the probability of trial.

In a similar vein, we argue that organic search results provide a natural measure of the attention being directed toward a brand in a social sphere, quite distinct from measures derived from brand tracking studies. We propose that consumers are influenced by observing *IFS* trend results, and infer brand attitudes of social groups from which these results were drawn. These inferred social attitudes then influence the consumer's own attitudes through social contagion effects. Multiple processes can produce attitude change following observation of *IFS* trend results. As one example, *IFS* results conflicting with prior views would evoke dissonance arousal, leading to attitude change (Cooper and Croyle 1984). In keeping with our past work (see for example Hoffman and Novak 1996; Novak, Hoffman and Yung 2000 and Novak and Hoffman 2009), we adopt a social cognition framework in which consumers' motivations affect their information processing abilities which in turn influence their attitudes and behaviors toward brands.

1.3 Methodology

There are two stages to the proposed research. First, we validate that aggregate user search history (*IFS*) correlates with traditional brand tracking metrics (WPP). Second, we experimentally investigate how exposure to public search trends affects consumer brand attitudes, attitudes toward the ad and related marketing outcomes. The validation stage establishes that at the aggregate level, organic search trends relate to consumer brand attitudes. Thus, *IFS* can be viewed as a market research tool for capturing and studying broad trends, and a powerful adjunct to traditional brand tracking studies. The experimental stage explores in depth the role of *IFS* as a tool for providing individual consumers with a window into the broader search behavior of specified social groups, with particular emphasis on the specific question of how using *IFS* influences individual consumer attitudes. Both stages are described below.

1.3.1 Validation. The first stage uses archival data from *IFS* and WPP to establish relationships between aggregate user search history (*IFS*) and brand tracking data (using the WPP database of brand tracking studies). Such relationships would indicate that search trends data have real world importance in terms of corresponding to brand attitudes, awareness, and other metrics provided by the WPP database. While one could assume these relationships, and we do expect to confirm them, we believe it is important to establish these results empirically. One important issue is which specific brand tracking metrics are most related to *IFS* search trends. Additionally, the validation stage will permit the construction of composite measures from WPP brand tracking data which can be used to create multidimensional indices capturing brand value which can then be related to search trend results.

1.3.2 Experiments. In the second stage, we will field a series of laboratory experiments to test how exposure to search trends from *IFS* affects consumer attitudes and related outcome measures. One set of experiments will show brand ads to consumers after exposure to search trends regarding those brands. Participants will be drawn from the UCR eLab Global Panel and the UCR Student Subject Pool, as well as from consumer survey samples we will purchase from Qualtrics. Experiments will be fielded using UCR Sloan Center lab facilities, including the eLab online laboratory and the AGSM eLab behavioral lab.

The experiments are defined by 1) design factors, 2) outcome variables, and 3) moderating variables. In a given experiment, participants will be asked to carefully examine a set of results from Google Insights for Search, and depending on experiment view a brand ad, and then respond to a series of items corresponding to outcome and moderating variables. To ensure experimental control, participants will not query live versions of *IFS*, but instead will view experimenter manipulated results determined by

combinations of design factors. For example, in one condition, participants may be shown four years of *IFS* search volume history for “Sony LCD” vs. “Samsung LCD” television based upon either Chinese or US results. In some experimental conditions, results shown will not reflect actual *IFS* results in order to control for the effect of different trends. Care will also be taken to ensure that conditions are not confounded. In the LCD example, identical search volume patterns for Sony and Samsung would be shown for both the Chinese and US conditions, since otherwise pattern and geographic filter would be confounded. Each experiment will run a control group in which only outcome and moderating variables will be measured.

Six design factors are proposed. The exact set of factors and their levels will be finalized during extensive pre-testing: 1) *Geographic Region* (worldwide, country, local, e.g. similarity to self); 2) *Time Range* (4 years, 1 year, 1 month); 3) *Category Relevance* (all categories, relevant category, non-relevant category, for example for automobile brands, search volume from the automotive category vs. the food and drink category); 4) *Information* (trend lines annotated/not annotated with news headlines); 5) *Interactivity* (participants shown static images vs. interacting with the search tool); and 6) *Trend Pattern* (e.g., one increasing/one flat; both increasing; etc.).

Since the validation phase will show which WPP brand metrics relate to *IFS* search trends, this can guide selection of the most appropriate consumer outcome measures, e.g. attitude, purchase intention, arousal, attention, interest, curiosity, exploratory behavior, and desire to know more about brand. We will measure both attitude toward brand and, where appropriate, attitude toward ad, as well as what the participant believes other people’s attitudes would be (the latter stimulates experiential thinking). Variables which may moderate the relationship between design factors and outcome measures include susceptibility to social influence, emergent nature (Hoffman, Kopalle and Novak 2008), rational and experiential thinking style, and task-specific thinking style (Novak and Hoffman 2009). Additionally, we will collect hypothesized mediators, including prior knowledge in the category, brand awareness and involvement.

1.3.3. Google and WPP data sources. The following data sources will be used in the proposed research. *Google Insights for Search* will be used to obtain search volume trends for specific search terms, qualified by filters for geographic region, time, and category. We expect that publicly available *IFS* data can be used for this project. Three sources of WPP data will be used. *BrandZ and Brand Tracking Data* will be used in the validation phase of this research. *WPP Copy-testing Data* will be used to identify ads with high and low persuasion in the second stage of this research.

2. Expected Outcomes and Results

The purpose of this research is to discover under what conditions – and by what processes - consumer brand attitudes, attitudes toward the ad, and related market response measures can be influenced by observation of brand search trends. By demonstrating which traditional brand metrics best relate to social search trends, we expect these validation results to have immediate marketing research implications for Google and WPP. Our subsequent experimental results will show how design factors can be employed to best construct and display organic search results to enhance consumer engagement with the brand and the search process. Additionally, discovering how consumers are susceptible to influence from others’ searches opens the door to important future research investigating the impact on attitudes of search trends from social networks or other socially segmented online audience groups.

More broadly, the proposed research can extend our knowledge of the social contagion process to online search itself, arguably the most important online consumer behavior. In the same way that price comparison sites like PriceSpider.com show current product price in the context of an aggregate median price history, individual Google search results could be augmented with historical trends for that search query from *IFS*. If, as we propose, *IFS* trends impact consumer attitudes, it is reasonable to expect that exposure to *IFS* search trends can impact the way consumers’ search for information more generally.

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