Reducing User Avoidance of Sponsored Search Results: The Effects of Social Influence Cues

Completed Research Paper

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Abstract

Whether and how social influence cues can reduce users’ avoidance of sponsored search results (SSRs) remain a puzzling and critical issue in IS research. This study employed an implicit theory perspective to investigate the effects of social influence cues on SSR avoidance. This theoretical perspective suggests that in e-commerce context, SSR avoidance is driven by various implicit theories of consumers regarding sponsored products (e.g., “sponsored products must be of low popularity or quality”). Through a laboratory experiment, we observed a matching effect that a social influence cue could reduce users’ behavioral and psychological SSR avoidance when the cue (e.g., high ratings on the quality of sponsored products) directly addressed the active implicit theory (e.g., a concern on the product quality). In addition, social influence cues could also reduce consumers’ attentional SSR avoidance. This study advances our understanding of the effects of social influence cues on consumers’ judgment and behavior.

Keywords: Social influences, sponsored search, consumer avoidance behavior, implicit theories, laboratory experiment

Introduction

Organizations allocate a large amount of their marketing budget for online sponsorships. According to recent reports, revenues on global sponsored searches accounted for more than 50% of the overall online advertisement revenues in 2015 (PriceWaterhouseCoopers 2016). The global online sponsored search
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The expenditures in 2015 exceeded $29.40 billion (PriceWaterhouseCoopers 2016). Despite the increasing popularity and importance of sponsored searches, users often avoid SSRs in the presence of both sponsored search results (SSRs) and organic results produced by search engines (Agarwal et al. 2015; Jerath et al. 2014). Such avoidance reduces the click-through rate (CTR) of SSRs and hence negatively affects the revenues of search engine providers (Jansen and Mullen 2008). Therefore, SSR avoidance can jeopardize the long-term viability of the “pay-per-click” business model enabled by sponsored search. Marketers’ response to user avoidance of SSR has been to develop methods of presenting prior consumers’ ratings and reviews in favor of the SSRs. These ratings and reviews can serve as social influence cues that can affect others’ evaluations and behaviors. This research focus on the effects of these social influence cues on users’ SSR avoidance under the context of product search in e-commerce.

A stream of research in the information systems (IS) domain has investigated how the social influence cues affect the decisions and behaviors of IS users toward IT artifacts (Bhattacherjee and Sanford 2006; Lewis et al. 2003; Stieglitz and Dang-Xuan 2013; Venkatesh and Morris 2000). However, some issues remain unsolved regarding the effects of social influence cues on SSR avoidance. First, users generally have a relatively negative evaluation towards SSRs in the presence of both SSRs and organic results. This context is different from prior studies, which normally assume IT users do not hold strong initial attitude or behavior tendency toward IT artifacts. When holding this assumption, social influence cues have shown to have strong positive effects on persuasion and forming others’ attitude (Cheung et al. 2009; Kuan et al. 2014) whereas limited research has been conducted thus far to examine the effectiveness of social influence cues in situations where IT users already hold negatively valence reactions (e.g., SSR avoidance).

Second, various types of social influence cues are available in e-commerce environments. For example, the number of prior customer purchases (e.g., “Over 140 people have bought it”, Over 140 bought) (Amblee and Bui 2012) and the product quality ratings (amazon.com) are some of the most commonly presented cues (e.g., cues like 4.8 out of 5 stars in amazon.com). The question is whether these cues are all effective in reducing SSR avoidance. Studies on sponsored search have found that increasing the CTR of SSRs cannot be easily achieved (Fang et al. 2015). This may be the reason why the CTR of SSRs still remains in such a low level (http://www.wordstream.com/blog/ws/2016/02/29/google-adwords-industry-benchmarks, retrieved on 7th, May, 2016).

Third, different types of avoidance exist in the context of SSRs, such as “users avoid paying attention to the SSRs,” “users avoid clicking the SSRs,” and “users avoid liking the SSRs” (Cho and Cheon 2004). The question of whether different social influence cues exert the same effect on these types of SSR avoidance remains unanswered. Reducing consumers’ avoidance of paying attention to advertisements through some physical features (e.g., bright color or attractive pictorial) has been a popular topic in the marketing discipline (Pieters and Wedel 2004; Rosbergen et al. 1997). However, these physical features may not affect consumers’ attitudes or behavioral decision on the advertisements (Moore et al. 2005; Sun et al. 2013). Therefore, it remains unclear that how and to what extent online social influence cues affect different types of SSR avoidance.

To address the above questions, this study draws upon a perspective of users’ implicit theory on SSRs to advance our understanding of the effects of various types of social influence cues on different types of SSR avoidance. Users’ implicit theories (also called lay theories or naive theories) on SSRs are users’ implicit beliefs and concerns on the sponsored product or on the sponsor. For example, a user may hold the belief that sponsored products must be unpopular or have low quality; otherwise the vendors have no need for sponsorships to promote their products. Studies in the marketing discipline have widely applied the implicit theories to investigate how and why consumers avoid persuasion tactics (e.g., advertisements and sponsorship) (Campbell and Kirmani 2008; Schwarz 2004). A key premise of this research is that users’ avoidance of SSRs, especially the behavioral and psychological avoidance, is driven by their implicit theories about these SSRs, and that the social influences cues can reduce SSR avoidance by addressing these implicit theories.
Avoidance

Avoidance has been widely studied in psychology as a strategy used by individuals to cope with negative experiences, such as stress (Holahan and Moos 1986), anxiety (Elliot and McGregor 1999), and depression (Bolger and Zuckerman 1995). Other similar phenomena include “escape response” (Dunkel-Schetter et al. 1992; Folkman et al. 1986) and “psychological / physical disengagement” (Major et al. 1998; Tougas et al. 2005). Previous studies have identified three types of individuals’ avoidance on information and advertising, namely, attentional avoidance, behavioral avoidance (or physical avoidance), and psychological avoidance (or emotional avoidance) (Cho and Cheon 2004).

Attentional avoidance in advertising research is reflected by how users intentionally keep their visual attention away from an advertisement. For example, Krugman (1995) found that less visual attention is given to commercial breaks than to programming. That is, people tend to ignore advertisements during commercial breaks. Schmitt (2003) also found that commercial breaks attract less visual attention than normal television programs.

Many studies have focused on the behavioral response of individuals when avoiding specific information. For instance, Sweeny defines avoidance as “any behavior intended to prevent or delay the acquisition of available but potentially unwanted information” (Sweeney et al. 2010, p340). Typical behavioral information avoidance phenomena include people's actions of avoiding information about their genetic risks for cancer (Howell and Shepperd 2012), and avoiding clicking unwanted banner advertisements (Burke et al. 2005).

Psychological avoidance occurs when individuals psychologically or emotionally keep distance from unwanted information (Brickman and Bulman 1977; Ditto et al. 2003; Howell et al. 2014; Miles et al. 2008; Narayan et al. 2011). Some studies have also used the term “mental disengagement” as a similar coping strategy for negative experiences as “psychological avoidance” (Burker et al. 2004; Hughes and Russell 1993). Psychological avoidance is usually related to emotional reactions of individuals toward specific information. For example, Miles and his colleagues (2008) describe information avoidance as emotional reactions, such as anxious or fearful on that information.

These three types of avoidance are related yet differ from one another. First, their antecedents are different. For example, visual attention is usually driven by physical features of an advertisement whereas psychological avoidance is related to consumers’ emotional reactions (Miles et al. 2008) and behaviorally avoiding clicking SSRs may be driven by consumers’ habituation (Sun et al. 2013). In addition, consumers’ perceptions on advertisements are important predictors on their behavioral and psychological avoidance (Baek and Morimoto 2012; Cho and Cheon 2004).

<table>
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<tr>
<th>Types of Avoidance</th>
<th>Antecedents</th>
<th>Ways to reduce avoidance</th>
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<tr>
<td>Attentional Avoidance</td>
<td>Physical features of a target</td>
<td>Attract consumers’ visual attention</td>
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<td>Behavioral Avoidance</td>
<td>Habituation and perceptions on a target</td>
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behavioral avoidance on banner advertisements) (Sun et al. 2013). As consumers’ perceptions on the advertised products lead to their psychological avoidance, changing consumers’ perception may reduce their psychological avoidance (Kelly et al. 2010). Table 1 presents the differences among the three types of avoidance.

Social Influence Cues

The effects of social influence have been explored in marketing and consumer research with respect to persuasion and attitude changes (Wood 2000). IS literature has also identified social influence as one of the most important external motivators that affect people’s acceptance and usage of a technology (Bhattacherjee and Sanford 2006; Lewis et al. 2003; Venkatesh and Morris 2000).

Drawing on prior literature, this study investigates two common types of social influence cues in e-commerce: (1) information cues that indicate high sales volume of the sponsored product (“sales volume cue”) and (2) information cues that suggest high rating by prior customers on the quality of the sponsored product (“quality rating cue”). The first type, “sales volume cue,” indicates how popular the sponsored product is, whereas the second type, “quality rating cue”, addresses how prior customers evaluate the quality of the sponsored product. These two types of social influence cues have been widely utilized in both research and practice and proven to be effective in influencing online consumers’ decision making (Jeong and Kwon 2012; Li et al. 2015; Shen et al. 2015; Sundar et al. 2008).

The high sales volume cue is commonly adopted by websites to positively affect the click and purchase behavior of potential customers. Cues that induce product popularity, such as “the best-selling item” (on eBay.com), “customers who bought X also bought Y” (on amazon.com), and “hot products” (on taobao.com), are widely used. Online marketers use these cues as persuasion claims to gain positive responses from consumers (Webcredibles 2008). Previous e-commerce research has also shown that persuasion claims on “product popularity” (for instance, “94% of consumers bought this product after viewing this site”) significantly increase the purchase intentions of consumers (Jeong and Kwon 2012). Similarly, in the group purchase context, Ambler and his colleagues (2012) also found that presenting higher sales information (for example, “Over 140 people have bought”) on a deal would lead to more positive outcomes, such as higher attention from consumers.

Product quality ratings are another typical social influence cues that consumers usually seek when making decisions, because product quality is difficult to directly observe especially in online stores (Kirmani and Rao 2000; Szybillo and Jacoby 1974; Wells et al. 2011). For example, Li and her colleagues (2015) found that the positive reviews of online consumers on restaurant quality (e.g., food and staff service quality) could significantly increase potential customers’ purchase intention in that restaurant. By presenting the opinions and actions of other users (i.e., manipulated social influence cues), Sundar and his colleagues (2008) detected a bandwagon effect (i.e., people doing things that other people are doing regardless of their own beliefs) in the online shopping context. These cues on product or service quality created a mental process in the minds of consumers (e.g., “if others think this is good, it should be good”), thereby enhancing their attitudes and intentions to purchase these products and services (Sundar et al. 2008).

Consumers’ Implicit Theories

We adopt the implicit theories perspective to explain the SSR avoidance phenomenon. This perspective postulates that people often use implicit theories (also called “naïve theories” or “lay theories”), which are usually informal and common-sense explanations, in their daily lives to make sense of their environment and to form decisions. These explanations often “diverge from formal, scientific explanations of what actually happens” (Furnham 1988; Jain et al. 2009). Individuals tend to make use of implicit theories, especially when they lack complete information for making decisions (Deval et al. 2013; Faro et al. 2010), such as in the context of e-marketplace where consumers have little interactions with the e-vendors.

Despite the prevalent effects of implicit theories, previous studies on implicit theories suggest that people usually hold multiple competing (sometimes contradictory) implicit theories (Hung and Wyer 2008). The relative effect of these implicit theories depends on many factors, including the characteristics of marketing communication and other situational cues (Campbell and Kirmani 2008). Recent studies have confirmed that the effects of implicit theories depend largely on which theory is active at the time of judgment (Deval et al. 2013; Hung and Wyer 2008).
In this study, we identified and empirically tested two key implicit theories on SSRs: **popularity theory** (that is, consumers believe that sponsors promote their products through SSRs because these products are not yet very popular) and **quality theory** (that is, consumers believe that the sponsors promote through SSRs because the quality of the sponsored product is not yet widely recognized) (Bobinski et al. 1996; Ford et al. 1990; LaBarbera 1982; Lichtenstein et al. 1989; Raghubir and Corfman 1999; Raghubir et al. 2004; Semenik et al. 1986). These two specific implicit theories are two of the most commonly discussed and cited ones in the marketing, consumer behavior, psychology, and economic literatures on how individuals perceive the motives of vendors (companies) in promoting their products through advertising. Note that these theories are related but differ from one another. For example, a product may not be popular despite having favorable quality because of its high price.

Notably, these implicit theories on SSR are identified as two representatives in the context where SSRs match users’ search queries. Although there are other implicit theories such as **relevance theory** (that is, consumers think online advertisements are of low relevance to their goals) (Baek and Morimoto 2012; Cho and Cheon 2004), these theories were not chosen because they are not applicable in the current context.

The popularity and quality theories are developed based on the perceptions of consumers on sponsored products. In terms of popularity theory, according to common consumers’ knowledge, sellers promote their products through advertising or sponsorship mainly because “[the product] is unpopular” (Lichtenstein et al. 1989), and “to increase the volume of sales and production” (Semenik et al. 1986). Users perceive the sponsored product as being less popular than the other products shown in the organic search results. Choosing a less popular product involves higher risk (Campbell and Goodstein 2001), especially in the e-commerce context in which consumers mostly have no prior interaction with the sellers. Therefore, the perceived low popularity of SSR can lead to SSR avoidance of users.

The negative evaluation of SSRs by users can also be driven by their beliefs that the sponsored product has low quality. Much evidence in the literature shows that consumers usually perceive the advertised product as having low quality. For example, Raghubir (1999) found that “consumers associate promotions with inferior (product) quality,” and similarly, Lichtenstein (1989) suggested that consumers evaluate the attribution of promotion as “[the product]’s performance is poor.” This implicit theory originated from the inferences of consumers on the price-quality relationship, which suggests that a low price (e.g., “sales” and “promotion”) is usually associated with low product quality (Gardner 1971). Users obviously prefer organic results with higher quality to SSRs (Wells et al. 2011). Therefore, their implicit perception on the low quality of a sponsored product leads to SSR avoidance.

**Hypotheses Development**

**Social Influence Cues and Attentional Avoidance of SSR**

We contend that a social influence cue can reduce users’ attentional avoidance on SSR. Attracting users’ visual attention is not difficult, and many ways can attract users’ attention. For example, studies on online advertising have indicated that the use of warm colors (e.g., red) and high color contrast between the background and the text can effectively attract the visual attention of consumers (McCarthy and Mothersbaugh 2002; Putrevu and Lord 2003). The response time (that is, time to locate the target item) of consumers on a website area with more salient features becomes shorter (Benbasat and Dexter 1985; Hong et al. 2004; Jarvenpaa 1989).

Awareness and visual attention usually react faster than perceptions and actions because they react without active or conscious (Kellogg 1980). Regardless of its textual content, an advertisement captures the visual attention of consumer relying on a peripheral process, which is automatic, less effortful, and fast (Öhman et al. 2001; Pieters and Wedel 2004; Rosbergen et al. 1997). This process may help an SSR with a social influence cue attached to it to establish an attentional priority of users. Therefore, once a social influence cue is presented alongside the SSR, it can easily capture users’ attention, thereby reducing their attentional avoidance on SSR, regardless of the kind of social influence cue presented. Hence, we propose that:
H1: Users’ attentional avoidance on an SSR will be lower when a social influence cue is presented (sales volume cue or quality rating cue) alongside the SSR than when no social influence cue is presented.

Matching Effects of Social Influence Cues on Behavioral Avoidance and Psychological Avoidance

A matching effect between a social influence cue and users’ active implicit theory is proposed. A matching effect means that a positive social influence cue reduces SSR avoidance under a matching condition compared with other conditions. A matching condition is when a cue invalidates a user’s particular negatively-valenced implicit theory on SSRs that is active at the time of judgment. This effect is mediated by consumers’ perception on the SSR associated with the active implicit theory. The matching conditions we identified are as follows:

1) A sales volume cue is presented alongside an SSR when the popularity theory is active. A high sales volume cue would invalidate the popularity theory of SSRs, that is, the lack of popularity of a sponsored product (DeSarbo et al. 2002).

2) A quality rating cue is presented alongside an SSR when the quality theory is active. A positive quality rating cue would invalidate the quality theory of SSRs, which pertains to consumers’ belief of the lack of recognition of the quality of a sponsored product.

Social influence cues may “mismatch” the active implicit theory of users in other conditions. That is, when a positive sales volume cue (a quality rating cue) is presented alongside an SSR while consumers’ active implicit theory is the quality theory (popularity theory). For example, when a consumer receives a social influence cue indicating how popular the sponsored product is while his/her priority concern is about product quality. We predict that consumers’ behavioral and psychological SSR avoidance will be lower under a matching condition compared with that of under mis-matching conditions or under a condition when no social influence cue is presented (i.e., a no-cue condition).

The basic premise of this matching effect is that the social influence cue addresses the consumers’ critical concerns triggered by an active implicit theory. Consumers’ make their decisions based on a certain implicit theory that is active at the time of judgment (Deval et al. 2013; Dou et al. 2010). The product attribute associated with an active implicit theory becomes heavily and critically weighted in consumers’ evaluations (Yi 1990). The perception of consumers on sponsored products implied by the active and negatively-valenced implicit theory determines consumers’ decision on whether or not they would avoid the SSR. Taking the popularity theory as an example, an active popularity theory has two consequences: 1) the perceived popularity of a product becomes the most salient and critical concern in the minds of the consumers when they evaluate a product, and 2) sponsored products are considered as having low popularity. Consumers apply the popularity theory in their judgment and make decisions to avoid the SSR. A similar mechanism can be applied for scenarios when a quality theory is active.

However, decisions made by implicit theories are unstable, because these decisions usually appear suddenly and effortlessly and at times do not require the awareness or intentions of the decision makers (Chen and Bargh 1999; Fazio 1986; Kardes et al. 2004). These decisions could be persuaded and revised by external cues especially when these cues violate an individual’s implicit theory (i.e., an implicit-theory-inconsistent information), such as a social influence cue under a matching condition. Inconsistent information triggers an individual’s constructive processing to resolve the initial perception formed based on an implicit theory (Meyers-Levy and Tybout 1989).

The underlying cognitive mechanism of how a social influence cue under a matching condition reduces SSR avoidance can be traced to the stereotype revision literature, which considers an individual’s stereotype or implicit knowledge as a hierarchical structure that evolves through experience (Ashmore 1981; Brewer et al. 1981). The basic premise is that when an individual encounters a phenomenon that deviates from his/her established stereotype, the individual does not change his/her stereotype entirely but rather develop a subtype to include such an incongruent phenomenon. For example, when a person meets a German visitor who violates his/her stereotype of Germans being efficient, this stereotype evolves to include “efficient Germans plus a subgroup of Germans who are inefficient” (Weber and Crocker 1983). This change is because schema or implicit theories are developed through long-time experiences and thus
are almost impossible to entirely change within a short time (Hamilton 2015; Rothbart 1981). Therefore, the underlying mechanism of a social influence cue on reducing avoidance is not to change their general implicit theory on sponsored products but to generate a mental process to overcome the violation between the existing negatively valence implicit theory and their positive perceptions on a sponsored product.

Integrating the preceding logic into the current context, we argue that consumers’ perception on a particular SSR is developed and reframed when their popularity theory of SSR is active and when they observe a high sales volume cue presented alongside that SSR. The active popularity theory helps consumes form an initial negative perception on the SSR. When individuals encounter implicit-theory-inconsistent information (i.e., an information cue that the sales volume of the sponsored product is high), they will attempt to extend and revise their implicit theories to understand such inconsistent information (Dou et al. 2010; Weber and Crocker 1983). That is, their popularity theory evolves into “overall, the sponsored products are still unpopular, but this particular sponsored product is very popularity.” As such, the consumers’ popularity theory has not entirely changed. Rather, the specific sponsored product now belongs to a newly generated subgroup of popular sponsored products. Through this process, the consumers’ perceived popularity of the sponsored product increases. A similar logic is applicable to a quality rating cue under the matching condition when the quality theory is active.

By contrast, under a mis-matching condition, the social influence cue deals with an inactive decisional attribute and is less likely affects consumers’ decision, because the decisional attribute is not a key concern at the time of judgment (Campbell et al. 2000; Dou et al. 2010). Such cue is considered to be less valuable and less likely to be taken into account in the decision making of reactions toward SSRs. Therefore, a positive social influence cue has a minimal effect on reducing SSR avoidance under a mis-matching condition.

In sum, compared with a no-cue condition or mis-matching conditions, the sponsored product under matching conditions is perceived as having high popularity (when the popularity theory is active and a high sales volume cue is presented) or high quality (when the quality theory is active and a high quality rating cue is presented). Through these critical perceptions, the consumers become more willing to click the SSR and the affective attitudes of consumers toward the SSR also become more positive, thereby reducing their psychological SSR avoidance.

Therefore, the following hypotheses are proposed:

**If users’ popularity theory on SSRs is active:**

**H2a:** When a high sales volume cue is presented, the behavioral SSR avoidance and psychological SSR avoidance of users will be lower than that when no social influence cue is presented.

**H2b:** When a high sales volume cue is presented, the behavioral SSR avoidance and psychological SSR avoidance of users will be lower than that when a quality rating cue is presented.

**H2c:** The effects of the high sales volume cue on the behavioral SSR avoidance and psychological SSR avoidance will be fully mediated by the perceived popularity of the sponsored product.

**If users’ quality theory on SSRs is active:**

**H3a:** When a high quality rating cue is presented, the behavioral SSR avoidance and psychological SSR avoidance of users will be lower than that when no social influence cue is presented.

**H3b:** When a high quality rating cue is presented, the behavioral SSR avoidance and psychological SSR avoidance of users will be lower than that when a sales volume cue is presented.

**H3c:** The effects of the high quality rating cue on the behavioral SSR avoidance and psychological SSR avoidance will be fully mediated by the perceived quality of the sponsored product.
Methodology

Experimental Design

Table 2. Experimental Design

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Social Influence Cue</th>
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<tbody>
<tr>
<td>No primed &amp; no social influence cue presented:</td>
<td>No Social Influence Cue (All: Eye-tracker + Non-eye-tracker)</td>
</tr>
<tr>
<td>Group 1 (28 in total: 0 eye-tracker + 28 non-eye-tracker)</td>
<td>Sales Volume (All = Eye-tracker + Non-eye-tracker)</td>
</tr>
<tr>
<td></td>
<td>Quality Rating (All = Eye-tracker + Non-eye-tracker)</td>
</tr>
<tr>
<td>Primed Popularity</td>
<td>Group 2 (28 = 14 + 14)</td>
</tr>
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<td></td>
<td>Group 3 (28 = 14 + 14)</td>
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<td></td>
<td>Group 4 (28 = 14 + 14)</td>
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<tr>
<td>Primed Quality</td>
<td>Group 5 (28 = 14 + 14)</td>
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<tr>
<td></td>
<td>Group 6 (28 = 14 + 14)</td>
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<tr>
<td></td>
<td>Group 7 (28 = 14 + 14)</td>
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</table>

A two (active implicit theory: popularity theory vs. quality theory) by three (social influence cue: no social influence cue vs. sales volume cue vs. quality rating cue) between-subject design was employed (Table 1). In addition, a control group (no specific theory active and no social influence cue) was also included. For experimental purposes, a consumer-to-consumer (C2C) e-commerce context was selected because the use of social influence cues, as manipulated in this study, is also applicable to C2C contexts.

To comprehensively measure users’ SSR avoidance, a multi-method approach was used, including participants’ gaze data from eye-tracking method as attentional avoidance, participants’ actual click behavior on the SSR as behavioral avoidance and their self-reported ratings as psychological avoidance. With this multi-method approach to capture users’ SSR avoidance, the common method bias could be minimized (Burton-Jones 2009; Podsakoff et al. 2003).

Table 2 presents the groups and sample size for each group. Each group had 28 subjects with half of them assigned to the eye-tracking condition (except for the control group) and their gaze data were recorded as a measure for their attentional avoidance during a product-search task, while the other half performed the product-search task without going through the eye-tracking task.

Tasks and Procedures

The experiment was conducted in a laboratory located in a university in China. Upon arrival at the laboratory, the participants were briefly informed that the study was intended to investigate “how consumers choose products from taobao.com” (currently the largest C2C website in mainland China) (https://en.wikipedia.org/wiki/Taobao, retrieved in 7th, May, 2016). The participants were then shown a short introductory video to ensure they had understood the experiment. The taobao.com website served as the basic context for the experimentally manipulated search results page. The Taobao-style website of the search results page was chosen because taobao.com is one of the most popular C2C websites in the world.
After the introduction, the participants were asked to complete the following tasks:

1. **Priming task** (only for the participants who were assigned to priming conditions), in which the implicit theory of the participants on SSR was activated by reading a priming article.

2. **Eye-tracking training task** (only for the participants who were assigned to eye-tracking conditions), in which the participants practiced the use of the eye-tracking device.

3. **Product-search task**, in which the participants search for an iPhone 5s case in taobao.com and read the search results page. The participants’ reactions on the SSR were recorded.

Following the product-search task, the participants were asked to complete a post-task questionnaire including the main constructs. All experimental sessions lasted for approximately an hour. The participants received RMB 30 Yuan as compensation for their participation. Figure 1 presents the experimental flow of this study.

### a) Priming Task

The purpose of the priming task was to activate a specific implicit theory of a participant. Similar to previous studies, priming was operationalized by asking the participants to read a manipulated article to trigger their implicit theories (Campbell and Kirmani 2008; Deval et al. 2013; Dou et al. 2010).

The priming article was from a recent marketing survey report of AC Nielsen (a famous consulting company) that introduced the phenomenon of sponsored search in taobao.com. To activate the negatively-valenced implicit theories, the report was manipulated to present awareness of the question “What kinds of sellers/products use sponsorships in taobao.com?” For the popularity theory primed conditions, the article concluded that “86% of the sellers who are using sponsorships because they lack confidence in their products’ popularity.” Similarly, for the quality theory primed conditions, the article concluded that “86% of the sellers who are using sponsorships because of their lack of confidence on consumers’ recognition of their products’ quality.”

After reading the priming article, the participants were required to summarize the main idea of the article as a manipulation check. The participants then underwent a short filler task to clear their short-term
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memory and avoid demand effects (Deval et al. 2013; Dou et al. 2010; McConnell 2001). Figure 2 presents the screenshot of priming article that participants read in the experiment.

b) Eye-Tracking Training Task

Commensurate with necessaries of an eye-tracking study, the participants were asked to place and fix their head on a small and comfortable chin rest to ensure that their gaze data would be captured successfully (Janiszewski and Warlop 1993; Rosbergen et al. 1997). A set of calibrations was processed. In the calibration, the participants were asked to look sequentially at a group of 16 dots on the screen. The research assistant immediately corrected any calibration error whenever an error occurred. The calibration process lasted for 10 to 15 minutes. Afterwards, the participants were asked to browse a piece of sports news irrelevant to the experiment for five minutes to help them get used to wearing the eye-tracking device. The training task was then concluded, and participants entered the product-search task.

c) Product-search Task

The main experimental task was for the participants to search at taobao.com for an “iPhone 5s case” (iPhone 5s was a popular mobile phone model at the time of the experiment) for self-use. A search results page was then presented to the participants. The participants were asked to read this search results page, and their reactions toward the search results were recorded. Figure 3 presents the screenshot of a search results page.

During the product-search task, the participants could freely browse the search results page without time constraints. They could click on specific products (either the SSR or any of the organic results) whenever they were interested in receiving detailed information as if they were browsing the page as usual. All click behaviors were recorded by the background server. Nevertheless, they were not provided with detailed information on the product they clicked in order to minimize potential confounding effects of different product information. The participants were informed that they would not see the product details. After the experimental task, the participants answered a questionnaire on the key variables.

The participants were informed that the manipulated search results page was returned by taobao.com as the first results page for “iPhone 5s case.” The search result page was scraped from real taobao.com, but...
only the top sponsored result was retained. A pre-test was conducted to confirm that the manipulated page was perceived by the participants as a real search results page from taobao.com. The page displayed 10 products. The 10 products on the search results page were chosen because they would not generate a “choice overload” phenomenon (Bollen et al. 2010). These products included a sponsored product from a sponsor at the top of the page (i.e., the SSR), followed by organic results. All products matched the search query (i.e., an “iPhone 5s case”) but came from different sellers. In the condition in which no social influence cue was presented, not a single social influence cue was presented alongside the SSR. A high sales volume cue or quality rating cue was presented with the SSR depending on different experimental conditions assigned to a particular participant.

Social influence cues were manipulated to be presented alongside the SSR in a rectangular zone with 200 pixels wide and 48 pixels high. A large amount of sales for the sponsored product in the previous week was presented (i.e., : 151 sales last week, and ranked top five in the industry) as a high sales volume cue. The high quality rating cue was operationalized as the average quality rating of a sponsored product by previous buyers (i.e., using a popular five-point scale form such as : 4.9 over 5.0 points on average, and ranked top five in the product category).

**Measurements**

A multi-method approach was used to measure the three dimension of SSR avoidance, including participants’ visual attention on the SSR, actual click behavior on the SSR and self-reported ratings. First, the participants’ visual attention on the SSR was captured as indicator for their attentional avoidance of the SSR. Second, the participants’ actual clicks on the SSR link were used as a primary observation of consumers’ behavioral reactions to an SSR. Third, consumers’ psychological SSR avoidance was captured using the self-reported ratings developed from traditional studies on advertising and information avoidance (Cho and Cheon 2004; Frey 1982; Howell et al. 2014; Miles et al. 2008).

Three items of consumers’ perceived popularity of the sponsored product were adopted from Mishra (1993) and Netemeyer (2004). These items address the most important concerns in the consumers’ minds on a product’s popularity, including “popular or unpopular,” “widely accepted or not,” and “liked by other consumers or not.” All the items were 7-point scales.

In terms of perceived product quality, we measured this construct based on Boulding’s (1993) and Erdem’s (2004) research, with items on consumers’ overall perception of a product including “durable or not” and “well-crafted or not”. All the items used 7-point Likert scales.

The participants’ gaze data were captured using an eye-tracking device to analyze their attention allocation (Cyr et al. 2009). Following Duchowski’s (2007) suggestions on eye-tracking methodology, two main measurements for gaze data were analyzed (that is, percentage of fixation on SSR and percentage of time on viewing SSR). The percentages of fixation and time on SSR were measured using the following formulas:

\[
\text{Percentage of fixation on SSR} = \frac{\text{Number of Fixations on the SSR Zone}}{\text{Total Number of Fixations on the Search Results page}}.
\]

\[
\text{Percentage of time on viewing SSR} = \frac{\text{Time on viewing the SSR Zone}}{\text{Total Time on viewing the Search Results page}}.
\]

**Data Analysis and Results**

**Descriptive Results**

Among the 196 participants, 80 were male and 116 were female. The age of the participants ranged from 19 to 28 years. All participants had more than four years of Internet use and at least three online shopping experiences in taobao.com in the last 12 months. An analysis of variance (ANOVA) indicated no significant differences in terms of the participants’ age, Internet experience, and online shopping
Reducing SSR Avoidance by Social Influence Cues

experience (all $p > 0.1$) across different experimental conditions. Table 3 reports the descriptive statistics of the data.

Table 3. Descriptive results of Experiment 1: mean (std dev.)

<table>
<thead>
<tr>
<th>Priming</th>
<th>Social Influence Cue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Social Influence Cue</td>
</tr>
<tr>
<td>Perceived Popularity of the Sponsored Product (Cronbach’s $\alpha = 0.88$, AVE = 0.81)</td>
<td>4.57 (1.26)</td>
</tr>
<tr>
<td>Perceived Quality of Sponsored Product (Cronbach’s $\alpha = 0.89$, AVE = 0.75)</td>
<td>4.46 (1.00)</td>
</tr>
<tr>
<td>Psychological SSR Avoidance (Cronbach’s $\alpha = 0.77$, AVE = 0.81)</td>
<td>3.84 (1.39)</td>
</tr>
<tr>
<td>Behavioral SSR Avoidance: number of clicks (percentage of clicks)</td>
<td>9 out of 28 (32.14%)</td>
</tr>
<tr>
<td>Percentage of fixation on SSR</td>
<td>/</td>
</tr>
<tr>
<td>Percentage of time viewing SSR</td>
<td>/</td>
</tr>
</tbody>
</table>

**Manipulation Checks**

For the priming task, the participants assigned to the priming conditions were asked to summarize the main idea of the priming article they had read. One research assistant and one of the authors judged the accuracy of the participants’ summaries, and all the participants summarized the articles accurately. All the participants assigned to the popularity theory (quality theory) primed conditions successfully used the word “popularity (quality)” to state their concerns about the sponsored products. In addition, the participants were asked to rate whether the priming article was easy to understand (from 1—“very difficult” to 7—“very easy”), credible (from 1—“very incredible” to 7—“very credible”), and convincing (from 1—“very unconvincing” to 7—“very convincing”). The results indicate that the participants considered the priming article as easy to understand (M = 6.04), credible (M = 5.65), and convincing (M = 5.46).

The results presented in Table 3 further revealed that the manipulations of priming were successful. In particular, the participants’ perceived popularity of the sponsored product was significantly lower after the popularity theory was primed (Group 2, no social influence cue is presented, M = 3.93) than that in the control condition (Group 1, M = 4.57 vs. 3.93, $p < 0.05$). Moreover, perceived quality of sponsored product was also significantly lower in participants assigned to quality theory primed conditions (Group 5, no social influence is presented, M = 3.74) than those assigned to the no priming condition (Group 1, control group, M = 4.46 vs. 3.74, $p < 0.05$).

Among whole fixations and time located in search results page, participants allocated 17.07% of their fixations on the SSR and 13.38% of their time on the SSR. This result indicated that the participants successfully noticed the sponsored search results. As for participants’ visual attention on social influence cues per se, the participants’ average numbers of fixation located on social influence cue zone were 12.29 (N = 84). And the participants’ average viewing time on social influence cue zone was 3.18 seconds (N = 84). These results indicated that when a social influence cue was presented alongside the SSR, the participants indeed paid attention on the cue.
**Attentional Avoidance**

In the product-search task, gaze data were recorded to observe the participants’ visual attention allocation as a measure of attentional avoidance. The descriptive results are presented in Table 4. An ANOVA was conducted to test whether a social influence cue could reduce the participants’ attentional avoidance on SSR (i.e., H1) compared with the condition when no social influence cue was presented alongside the SSR.

<table>
<thead>
<tr>
<th>Table 4. Results of attentional avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVs</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Percentage of fixation on SSR</td>
</tr>
<tr>
<td>Percentage of time viewing SSR</td>
</tr>
</tbody>
</table>

The ANOVA results revealed that significant differences existed among the groups in terms of the percentages of fixation and time of viewing an SSR (p < 0.005 for both percentages). In the post-hoc comparisons, we found that compared with the no social influence cue presented condition (regardless of the priming of the popularity theory or the quality theory), a social influence cue (high sale volume cue or high quality rating cue) successfully increased participants’ fixation and viewing time on SSR (all p values < 0.05). Thus, the hypothesis that a social influence cue can reduce users’ attentional avoidance regardless which kind of cue and which implicit theory is active (i.e., H1) was supported.

**Behavioral Avoidance and Psychological Avoidance**

Figure 4 demonstrates the number of clicks on a SSR (i.e., behavioral avoidance of SSR) in different conditions. Overall, the results revealed that a high sales volume cue when the popularity theory was primed and a high quality rating cue when the quality theory was primed significantly reduced participants’ behavioral SSR avoidance. The matching effect between the sales volume cue and the primed popularity theory (i.e., H2a and H2b), and the matching effect between the quality rating cue and the primed quality theory (i.e., H3a and H3b) were verified.

![Figure 4. Summary of the number of clicks on the SSR (i.e., behavioral avoidance) when the popularity theory or quality theory was primed](image)

Logistic regressions were conducted to confirm the main effect of social influence cues on behavioral SSR avoidance. Compared with the number of clicks on the SSR in Group 2 (no social influence cue and the popularity theory was primed, out of 28 participants, only four clicked the SSR), the number of clicks on the SSR in Group 3 (sales volume cue presented, 18 out of 28 participants clicked the SSR, β = 2.38, p < 0.001) was significantly higher. In addition, the number of clicks on the SSR in Group 4 (quality rating cue presented and the popularity theory primed, 9 out of 28 participants clicked the SSR, β = 1.34, p = 0.018) was also lower than that in matching condition (i.e., Group 3). The results were consistent with the
posited matching effects. Therefore, the hypotheses that when the popularity theory was primed, a high sales volume cue (H2a and H2b) could reduce behavioral SSR avoidance of the participants were verified.

On the other hand, only 5 out of the 28 participants clicked the SSR under the condition of no social influence cue presented when the quality theory was primed (i.e., Group 4). When a high quality rating cue was presented (i.e., under the matching condition), the number of clicks on the SSR significantly increased to 20 ($\beta = 2.44, p < 0.001$), it was also higher than the number of clicks on the SSR with a high sales volume cue ($\beta = 1.83, p = 0.002$) (i.e., under a mismatching condition). Therefore, the hypotheses on the behavioral SSR avoidance of the matching effect of a high quality rating cue (i.e., H3a and H3b) were supported.

Table 5. Results of ANOVAs

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conditions:</strong> when popularity theory was primed, dataset: Group 1 (i.e., the control group), Group 2 (no social influence cue presented), Group 3 (sales volume cue presented), Group 4 (quality rating cue presented), sample size: 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Popularity of Sponsored Product</td>
<td>13.40</td>
<td>3</td>
<td>4.47</td>
<td>3.26</td>
<td>0.024*</td>
</tr>
<tr>
<td>Psychological SSR Avoidance</td>
<td>24.90</td>
<td>3</td>
<td>8.30</td>
<td>4.87</td>
<td>0.003*</td>
</tr>
<tr>
<td><strong>Conditions:</strong> when quality theory was primed, dataset: Group 1 (i.e., the control group), Group 5 (no social influence cue presented), Group 6 (sales volume cue presented), Group 7 (quality rating cue presented), sample size: 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Quality of Sponsored Product</td>
<td>11.05</td>
<td>3</td>
<td>3.69</td>
<td>3.51</td>
<td>0.018*</td>
</tr>
<tr>
<td>Psychological SSR Avoidance</td>
<td>9.93</td>
<td>3</td>
<td>3.31</td>
<td>2.30</td>
<td>0.028*</td>
</tr>
</tbody>
</table>

For self-reported ratings, including the participants’ psychological SSR avoidance, perceived popularity and perceived quality of the sponsored product, we tested the effects of the different social influence cues based on different conditions when the popularity theory or the quality theory is primed. Several one-way ANOVAs were conducted (Table 4).

Table 5 shows that all F-statistics were significant. Post-hoc comparisons were conducted (with LSD adjustment). The results revealed that when the popularity theory was primed, as compared to no social influence cue was presented, the presence of a high sales volume cue significantly increased the participants’ perceived popularity of the sponsored product (mean difference = 0.95, $p = 0.002$) and decreased the participants’ psychological SSR avoidance (mean difference = 1.27, $p < 0.001$). This result was consistent with the matching effect (i.e., H2a). In addition, psychological avoidance under a high sales volume cue was also lower than the presence of a high quality rating cue (i.e., a mis-matching condition) (mean difference = 0.96, $p = 0.006$). This result confirmed the hypothesis in the matching effect (i.e., H2b). Moreover, the participants’ perceived popularity of the sponsored product decreased significantly after they were primed with the popularity theory (compared with the control group, mean difference = 0.64, $p = 0.04$). This result verified our assumption that the manipulated primed article successfully activated the popularity theory.

A similar pattern was observed with situations in which the quality theory was primed. Participants’ psychological SSR avoidance in the matching condition in which a high quality rating cue was presented alongside the SSR was significantly lower compared with in the condition of no social influence cue presented (mean difference = 0.78, $p = 0.01$) and in the presence of a high sales volume cue (mean difference = 0.61, $p = 0.05$). Thus, the matching effect was verified again (i.e., H3a and H3b). In addition, the participants’ perceived quality on the sponsored product significantly decreased after they were primed with the quality theory (compared with the control group, mean difference = 0.71, $p = 0.01$).

In terms of the posited mediation hypotheses, the previous analysis showed that social influence cues affected the participants’ perceived popularity or quality of sponsored product and their SSR avoidance; according to Baron and Kenny’s (1986) guidelines, the first two requirements of mediation test were satisfied (that is, IV affects DV and the proposed mediator). Therefore, logistic regressions with behavioral avoidance as DV and general liner models with psychological avoidance as DV were then
conducted to verify the mediating role of perceived popularity of sponsored product when the popularity theory was primed and the mediating role of perceived quality of sponsored product when the quality theory was primed. The results are presented in Tables 6 and 7.

**Table 6. Results of Mediation Test (Behavioral SSR Avoidance as DV)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p value</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conditions:</strong> when popularity theory was primed, dataset: Group 1 (i.e., the control group), Group 2 (no social influence cue presented), Group 3 (sales volume cue presented), Group 4 (quality rating cue presented), sample size: 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>9.09</td>
<td>3</td>
<td></td>
<td></td>
<td>&lt;0.001*</td>
<td>2.49</td>
</tr>
<tr>
<td>Perceived Popularity of Sponsored Product</td>
<td>0.91</td>
<td>0.23</td>
<td>15.25</td>
<td>1</td>
<td>&lt;0.001*</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-4.87</td>
<td>1.13</td>
<td>18.46</td>
<td>1</td>
<td>&lt;0.001*</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Table 7. Results of Mediation Test (Psychological SSR Avoidance as DV)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conditions:</strong> when popularity theory was primed, dataset: Group 1 (i.e., the control group), Group 2 (no social influence cue presented), Group 3 (sales volume cue presented), Group 4 (quality rating cue presented), sample size: 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected model (R^2 = 0.265)</td>
<td>55.38</td>
<td>4</td>
<td>13.84</td>
<td>9.64</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Intercept</td>
<td>233.42</td>
<td>1</td>
<td>233.42</td>
<td>162.59</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Perceived Popularity of Sponsored Product</td>
<td>30.47</td>
<td>1</td>
<td>30.47</td>
<td>21.23</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Group</td>
<td>11.87</td>
<td>3</td>
<td>3.96</td>
<td>2.76</td>
<td>0.064</td>
</tr>
<tr>
<td>Error</td>
<td>153.62</td>
<td>107</td>
<td>1.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1776.50</td>
<td>112</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conditions:** when quality theory was primed, dataset: Group 1 (i.e., the control group), Group 5 (no social influence cue presented), Group 6 (sales volume cue presented), Group 7 (quality rating cue presented), sample size: 112

| Corrected model (R^2 = 0.127)       | 21.00          | 4  | 5.25         | 3.88    | 0.006*  |
| Intercept                           | 166.81         | 1  | 166.81       | 123.37  | <0.001* |
| Perceived Popularity of Sponsored Product | 11.07        | 1  | 11.07        | 8.19    | 0.005*  |
| Group                               | 4.61           | 3  | 1.54         | 1.14    | 0.338   |
| Error                               | 144.68         | 107| 1.35         |         |         |
| Total                               | 1910.00        | 112|              |         |         |

The results revealed that the proposed mediators (i.e., perceived popularity of the sponsored product when the popularity theory was primed and perceived quality of the sponsored product when the quality theory was primed) were significant (both p values < 0.05). Thus, the mediating role of these two variables was confirmed. Moreover, the “Group” variable was still significant in terms of behavioral avoidance. This result suggested that the mediators partially mediated the relationship between social
influence cues and the participants’ behavioral avoidance. A direct effect was still significant, leading to a partial mediation effect for behavioral avoidance. By contrast, the “Group” variable was no longer significant in terms of psychological avoidance. That is, social influence cues affected the participants’ psychological avoidance of SSRs, and this effect was fully mediated by perceived popularity of sponsored product when the popularity theory was primed and fully mediated by perceived quality of sponsored product when the quality theory was primed.

Discussion

Explanations for the direct effect between social influence cues and behavioral avoidance

In addition to the partially mediated effects of users’ implicit theories, the results of the experiment shows that social influence cues under matching conditions also have a direct effect on reducing users’ behavioral SSR avoidance. Possible explanations of this direct effect are provided as follows.

When implicit-theory-based expectations are violated, individuals usually engage in constructive processing to address the discrepancies (Meyers-Levy and Tybout 1989). Jain (2009) also suggests that when faced with implicit-theory-violation information, people usually have a greater need to scrutinize facts to resolve such violation, unlike when they are faced with implicit-theory-consistent or implicit-theory-neutral information. During the constructive processing, the users attempt to receive more information and may no longer simply avoid the SSR. Instead, they become willing to seek additional information to examine the SSR by clicking on it.

In applying the logic to the current context, when users’ popularity (quality) theory on SSRs is activated (through priming), they avoid clicking on a SSR. However, their active implicit theory is violated under the matching condition that presents a high sales volume cue (quality rating cue) alongside the SSR. This inconsistent message triggers users’ willingness for additional information to resolve constructively such disconfirmation between the social influence cues and the active implicit theory. As a result, users are likely to click the SSR to receive more detailed information on it. This action increases the click-through on the SSR without changing the users’ perceptions. Therefore, a direct effect exists between the social influence cues and users’ behavioral avoidance.

Theoretical Contributions

This research makes contributions to both research and practice. The contribution of this study to research is threefold. First, it enriches the understanding of distinctive types of SSR avoidance. According to previous studies from psychology and marketing research, users’ avoidance of SSR can be reflected by three types: attentional avoidance, behavioral avoidance, and psychological avoidance. Although reducing these types of avoidance should differ from one another, prior literature investigated advertising avoidance as a single variable (Baek and Morimoto 2012; Cho and Cheon 2004; Kelly et al. 2010). This study, by contrast, empirically confirmed that a social influence cue reduced different types of SSR avoidance with different underlying mechanisms. A social influence cue can attract users’ attention without necessarily changing their behavioral or psychological states. A social influence cue may also reduce behavioral SSR avoidance without changing the users’ perceptions. However, to reduce the users’ psychological SSR avoidance, a social influence cue must trigger the users to reframe their perceptions on the SSR. This research provided significant evidence to show the distinctions among users’ attentional, behavioral and psychological reactions in a product search context.

Second, although implicit theories have been studied extensively in the cognitive psychology and marketing fields, their application in the IS literature is very limited. By bringing in this important cognitive mechanism, we provided psychology lens centered on implicit-theory-based information processing to investigate consumer decision making in the product search context. Other studies have examined some avoidance antecedents such as relevance to the search goal (Kelly et al. 2010) and habituation (Sun et al. 2013). To our knowledge, this is the first study showing how consumers apply implicit theories about SSRs in forming their decisions when the SSRs are relevant to their search queries.
The key finding underlying the experiment was that a subtle priming can activate consumers’ implicit theories and guide their perceptions of the sponsored products.

Third, this research also extends the previous theoretical understanding on the effectiveness of social influence cues in affecting people’s decision making. We posit a matching effect between a social influence cue and an active implicit theory on reducing SSR avoidance. Rather than simply recognizing the power of social influence, this research further explores how and to what extent social influence can affect IT users’ decision making when they already have negatively valence reactions. As an underlying reason for explaining SSR avoidance, users’ implicit theory on the SSR interacts with social influence cues (i.e., matching effects). By combining the streams of implicit-theory-based information processing literature and social influence literature, sponsored search researchers could derive deeper insights into the design of product search websites and presentation of social influence cues.

Practical Contributions

This research suggests a few strategies for sponsored search in practice. First, it helps practitioners to understand users’ reactions to SSR. SSR avoidance is not only represented by users’ low CTR but also by users’ attentional and psychological reactions. Instead of simply guiding users to look at or to click the sponsored link, increasing the users’ psychological attitude toward SSRs should also be critical in improving the performance of sponsored search.

Second, search engine provider companies should be informed that the failure of the sponsored search mechanism can be caused by users’ activation of negatively valence implicit theories. Recognizing that people’s implicit theories are easily triggered, websites could present a matched social influence cue alongside a SSR.

Limitations and Future Research

This research has several limitations that deserve further research. First, this study was conducted under a scenario in which social influence cues were presented only alongside an SSR. Given that in the real world, both SSR and organic results are commonly presented with social influence cues, whether social influence cues on SSR can again reduce avoidance when both sponsored and organic results have social influence cues is still unclear. Future studies can extend this work by investigating the scenario in which both SSRs and organic results are presented with social influence cues.

Second, this study is conducted in only one cultural context (i.e., China). According to cultural theories (Bond and Smith 1996; Triandis 1994), in a collectivistic society such as China, social influence may exert stronger power in changing people’s attitudes and behaviors than in other individualistic societies. The finding provides opportunities for considering a cross-cultural study to identify the boundary conditions of social influence cues in collective and individualistic societies and to extend the current work.

Third, a possibly interesting topic is to identify the individual factors of an effective social influence cue for reducing SSR avoidance. After all, not everyone is affected by the decisions of other consumers (Simonson and Nowlis 2000). For example, in the context in which the SSR deviates from users’ brand preferences, some consumers (such as those with high levels of need for uniqueness) are not likely to follow the choices of others (Tian et al. 2001).

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