

# UNDERSTANDING CONSUMER'S RESPONSES TO SPONSORED LINKS ON A SEARCH ENGINE RESULTS PAGE

*Research in Progress Paper*

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## Abstract

*Given that there are over hundreds million websites in the world, it is very difficult for a new seller in the Internet to receive attention from consumers without search engine advertising, such as sponsored link in a search engine results page. The authors propose the qualified click rate, (the proportion of qualified prospects' clicks out of total clicks) as another important dependent variable, which can complement the click through rate, which has been commonly used as a single dependent variable by most existing studies to model searchers' behavior on a sponsored link. In addition, this paper reports preliminary study results of searchers' preference regarding three features of a sponsored link, which has the potential to increase clicks from qualified prospects. The three features are: (1) having subdirectory that matches the keywords typed, (2) having bold font keywords in the description, and (3) having prefix www on the display URL. The preliminary results based on a quasi-experiment with forty nine participants suggest that people prefer having all three features and the information diagnosticity and situation normality are useful to explain participants' reasons of preference.*

**Keywords:** sponsored links, search engine result page, text ads, click through rate, www, key words

## Introduction

One of the key challenges from the viewpoint of online sellers, especially new entrants into the business, is how to attract potential customers to their websites. Given that there are over 133 million websites in the world as of September 2011 (domaintools.com 2011), it is very difficult for a new seller to receive attention from consumers without advertising. No matter how good a seller's website is, it would be useless if no one visits the website. For these new sellers, sponsored search engine marketing is one of the most feasible ways to reach potential consumers, as nearly nine out of ten people depend on search engines to find local businesses (NetRatings 2007). Most search engines (e.g., Google) display small text ad for sellers on the top and/or the right side of a search results page when people (hereafter searchers) enter keywords that sellers have predetermined. In return, sellers pay for each click on their ad to a search engine provider. This short ad is called "a sponsored link."

According to eMarketer.com, spending for sponsored links (search engine advertising) in the U.S. reached over 10 billion dollars in 2008 (Lyris.com 2011). This accounts for around 45% of total spending on online advertising in 2008 in the U.S.

This paper examines consumer responses on a sponsored link on a search engine search results pages. The objectives of a sponsored link include: attracting prospects and discouraging irrelevant prospects (Jacobson 2007). Although previous studies modeled factors that influence consumers' clicks on a sponsored link, they focused on only one dependent variable, clickthrough rate (CTR), which refers to the number of clicks out of the total number of exposure of an ad. Although we agree that CTR is one of the most important measures for ad performance, it does not capture the whole picture. For example, it does not show how many relevant prospects (e.g., those who have the potential to purchase a product from a store) made clicks out of the total number of clicks (hereafter the rate of qualified customers' clicks (QCR)). In an extreme case, nobody purchases from the seller even when many people visit a store by clicking through a sponsored link (thus, CTR is high), then the high CTR is useless. In addition, sellers pay a fee for each click; hence, irrelevant clicks mean cost to the sellers. Consequently, there is a need to develop an integrated model that includes QCR as well as CTR as final dependent variables. In our project, we intend to fill this gap. Through a series of studies we intend to propose an integrated model that identifies what factors determine QCR and CTR.

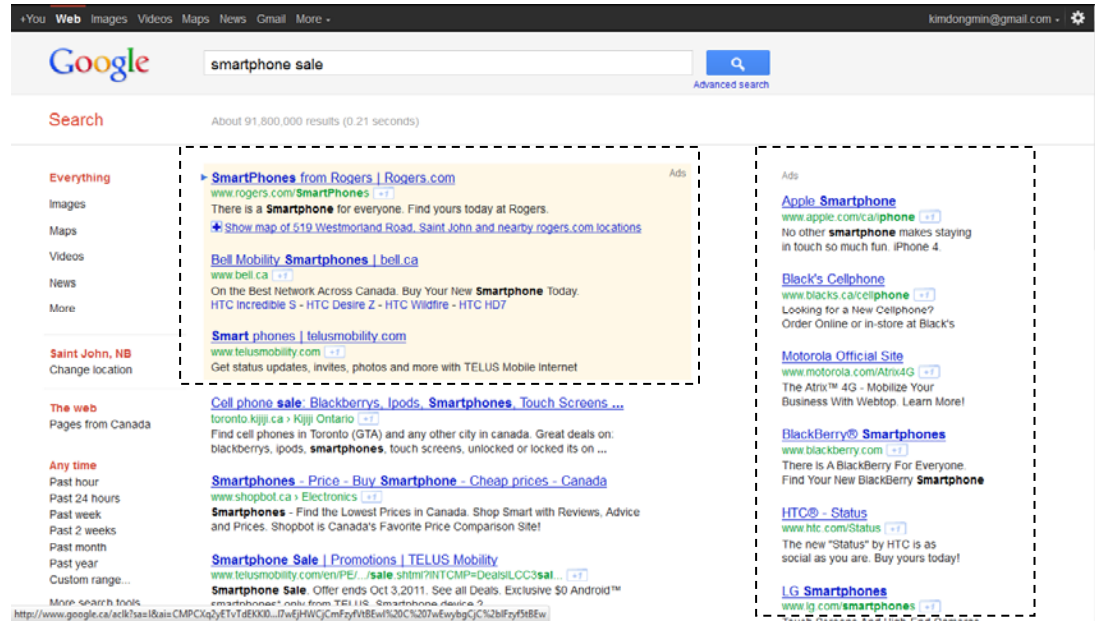
According to Jacobson (2007), there are two ways to discourage clicks from irrelevant prospects, those who do not have any interest in a product of the store. The first way to avoid irrelevant prospects is to select specific key words rather than generic ones (Jacobson 2007). A store can avoid irrelevant prospects' clicks by choosing specific key words that clearly signal what product it sells. However, it is practically impossible to filter all the irrelevant prospects out using specific key words partly because it is difficult to develop specific key words to fit just a product in a store and more importantly because a store sometimes tends to choose generic keywords as well in order not to miss any relevant prospect's clicks. The second way to avoid irrelevant prospect's click is to make an effective sponsored link, which can signal whom this store is for (Jacobson 2007). Our focus in this study is on the latter. As a preliminary study for our project, this paper examines searchers' preference of several features in a sponsored link on a search engine results page, which have the potential to increase clicks from qualified prospects. They are: (1) having subdirectory that matches the keywords typed, (2) having bold font keywords in the description, and (3) having prefix www on the display URL. These features are suggested to be effective by practitioners (Jacobson 2007). The objectives of this study are to empirically confirm these practitioners' wisdom and explore underlying reasons.

## Literature Review and Predictions

Search engine marketing is studied in various aspects. One stream of research (Aggarwal et al. 2006; Feng et al. 2007; Varian 2007) focuses on designing an effective auction mechanism from the viewpoint of search engine providers (e.g. Google, Yahoo!, etc.). Another stream focuses on sellers' strategy to maximize the effects of sponsored links from the view point of sellers who display an ad on a search results page (Animesh et al. 2011; Dou et al. 2010; Kitts et al. 2004). Still another stream focuses on searchers' perceptions of sponsored links (Animesh et al. 2011; Dou et al. 2010). This study focuses on the latter, searchers' perceptions of sponsored links.

In sponsored search engine advertising, sellers bid on keywords that are related to their products and services for placement on a search engine's search results page. When searchers type keywords on a search engine page (e.g.,

Google and Yahoo), the search engine displays sellers' ads on a search results page. In the screen below, the top portion and the right side section (marked with dotted boxes) is where seller's ads are placed (here after a sponsored link section).



The ad display-position (or rank) on a sponsored link section is determined by several factors, such as bidding price, number of clickthrough, relevance of websites, etc. (adwords.google.com). Although the detailed rules are not released, an ad with a higher bid, a higher clickthrough rate (CTR: a percentage of number of clicks on an ad from number of showing an ad), and a more relevant website is placed in a higher position in a sponsored links section (Animesh et al. 2011). Sellers do not pay for showing an ad, but pay if searchers click the link on an ad to visit the seller's website. In this regard, sponsored search engine advertising is also called "pay per click (PPC)" advertising (Animesh et al. 2011).

While sponsored links can be used as a way to enhance brand images as demonstrated in Dou et al. (2010), the main goal of an ad in a sponsored link section in most cases (especially in cases of small and medium size internet stores) is to find qualified customers. As a result, the ad content differs from that of typical ads in a magazine or newspaper. Ads on a sponsored link section focus on highlighting that a seller has the information that searchers are looking for while typical ads in a magazine focus on increasing brand attitudes (Jacobson 2007). Ads in a sponsored link section serve like metadata or index cards in a library where unambiguous representation is very important (Jacobson 2007).

An important concept that the authors think is very relevant in the sponsored link context is perceived information diagnosticity (Menon et al. 1995). Information diagnosticity refers to consumers' assessment of the usefulness of the information in making evaluative judgments and choice (Aboulnasr 2006). Non-diagnostic information would result in multiple interpretations (Herr et al. 1991). Pavlou et al (2007) and Jiang and Benbasat (2004) reported that high levels of perceived diagnosticity of product information could reduce uncertainty of product quality. In the same token, high levels of information diagnosticity is expected to reduce uncertainty of an ad's content; hence, searchers can judge with higher confidence whether or not an ad is for them. As a result, irrelevant prospects are less likely to click the ad because they can judge with higher confidence that this ad is not for them. In these regards, QCR would be higher with high perceived diagnosticity of an ad than with low perceived diagnosticity of an ad.

There are several ways to increase perceived information diagnosticity. First, explicitly describing the customer group can attract the right target group and avoid irrelevant groups (Jacobson 2007). For example, adding *hotel for family* can signal that the hotel welcomes both young and old customers (Jacobson 2007). It also implies that this place is not for dating couples who like quiet places (Jacobson 2007). Second, showing entered keywords with a bold font or as a subdirectory of a seller on a display-domain line for instance may signal that a seller has understand searchers' needs (Jacobson 2007).

Another interesting concept is situation normality, which refers to "the environment is in proper order and success is likely because the situation is normal or favorable" (McKnight et al. 2002; McKnight et al. 1998). When searchers

make a decision whether or not they click on an ad, they are likely to check if the situation is normal. Any abnormal symptoms (e.g., spelling errors) would make them rethink clicking. Related to situation normality, we predict that omitting www prefix in a domain name in the display URL line of an ad could make searchers feel abnormality of situation (e.g., amazon.com instead of www.amazon.com).

Theories to be applicable	Predictions
Information diagnosticity	<ol style="list-style-type: none"> <li>1. Searchers would prefer ads that include searcher's key words as a sub directory than ads that do not include them as a sub directory.</li> <li>2. Searchers would prefer ads that include searchers' key words with a bold font than ads that include searchers' key words without a bold font.</li> </ol>
Situation normality	<ol style="list-style-type: none"> <li>3. Searchers would prefer ads that include the prefix WWW in a domain name than ads that do not include the prefix WWW in a domain name.</li> </ol>

## Research Method

These predictions were examined in a quasi-experiment.

A paper based experiment was conducted in classes. Students in an undergraduate MIS course and an MBA class were recruited in a university campus. Participants in an undergraduate MIS course have received 0.5 % bonus mark of their course and participants in an MBA class received candies. Participants were asked to complete a survey during the break of classes. The survey instruction asks participants to imagine that they are visiting Google to search for a laser printer to buy in an Internet store and that they entered "laser printer" as keywords. Then they read the following three pairs of sponsored ads to determine which ads they would like to click. For each selection, participants are asked to write reasons for their choice.

<a href="#">Laser Printers Prices</a> <a href="#">www.myclient.com</a> Hardware for Home or Office. Deals on <b>Laser Printers Prices!</b>	<a href="#">Laser Printers Prices</a> <a href="#">www.myclient.com/printer</a> Hardware for Home or Office. Deals on <b>Laser Printers Prices!</b>
<a href="#">Computers - Cheap</a> <a href="#">www.calibex.com/</a> Get Used to Incredible Bargains on <b>Laser Printers. See Many Models!</b>	<a href="#">Computers - Cheap</a> <a href="#">www.calibex.com/</a> Get Used to Incredible Bargains on <b>Laser Printers. See Many Models!</b>
<a href="#">Printers Cheap</a> <a href="#">www.myclient.com</a> Electronics at Wholesale Prices. Stop Paying Retail and Save Now!	<a href="#">Printers Cheap</a> <a href="#">myclient.com</a> Electronics at Wholesale Prices. Stop Paying Retail and Save Now!

The order of presentation within each pair of ads was controlled to prevent the potential bias from the order of presentation (Two versions of a survey were prepared where order of presentation within each pair was opposite between the two versions; the left side ads in a version were shown in the right side in the other version). Approximately half of the participants were exposed to one version and the other half were exposed to the other version.

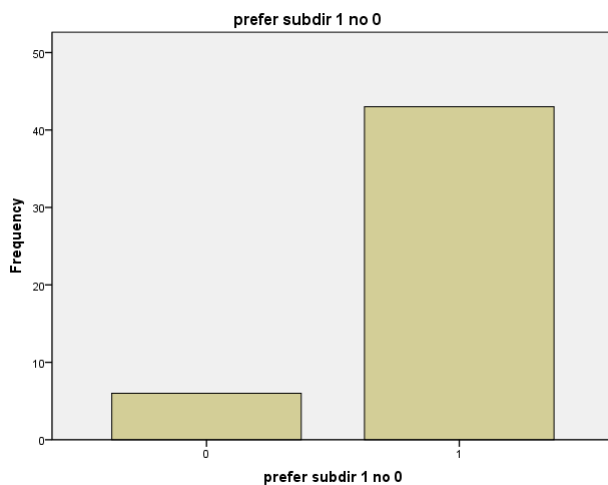
## Preliminary Results

In this paper, we report preliminary results of 49 MBA students.

The effects of the order of presentation on their preference were assessed with Mann-Whitney Utest. The effects of the order of presentation were not significant ( $p > 0.05$ ), indicating the order of presentation (one of the potential confounding variables) was successfully controlled hence there is no potential bias due to the order of presentation.

The frequencies of preference and reasons of preferences were reviewed and reported here. Participants' reasons of preferences are labeled and categorized by one of the authors to see if the participants' preferences can be explained with the theories.

Prediction 1: Searchers would prefer ads that include searcher's key words as a sub directory than ads that do not include them as a sub directory.



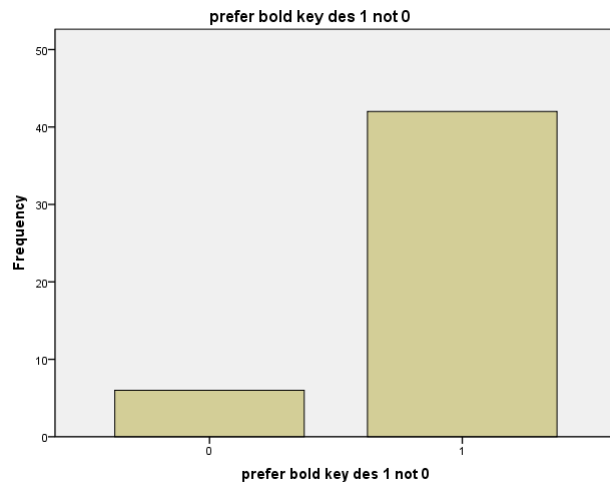
prefer subdir 1 no 0					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	12.2	12.2	12.2
	1	43	87.8	87.8	100.0
	Total	49	100.0	100.0	

Eighty seven percent of participants preferred ads that include searcher's key words as a sub directory. A few participants' reasons of preferences are listed below. This shows that 15 of participants perceived a sub directory a diagnostic queue that clicking the link would direct them to a specific landing page.

Category	Reason for preference: subdirectory
Specific Landing	To understand that specifically pointed printers pages
Specific Landing	directs me straight to the printer section of the website
Specific Landing	the link shows that it will bring me is the printer page directly
Specific Landing	the one chosen takes me directly to the printer page
Specific Landing	the ads on the right direct me to the laser printer products, I do not want to check other things when I am going to buy laser printers
Specific Landing	the link seems direct to the page wanted
Specific Landing	web address appears to take me directly to printer section of web site. Therefore less navigation
Specific Landing	if I click on link on right, I will be able to see printer section directly, same is not in left ad link
Specific Landing	it will directly takes me to printers page instead of searching the printers on the website
Specific	more specific
Specific	it is about printer but the other on general
Specific	it is more specific

Specific	because it is specific
More Detailed	the result of this link is more detail

Prediction 2: Searchers would prefer ads that include searchers' key words with a bold font than ads that include searchers' key words without a bold font.



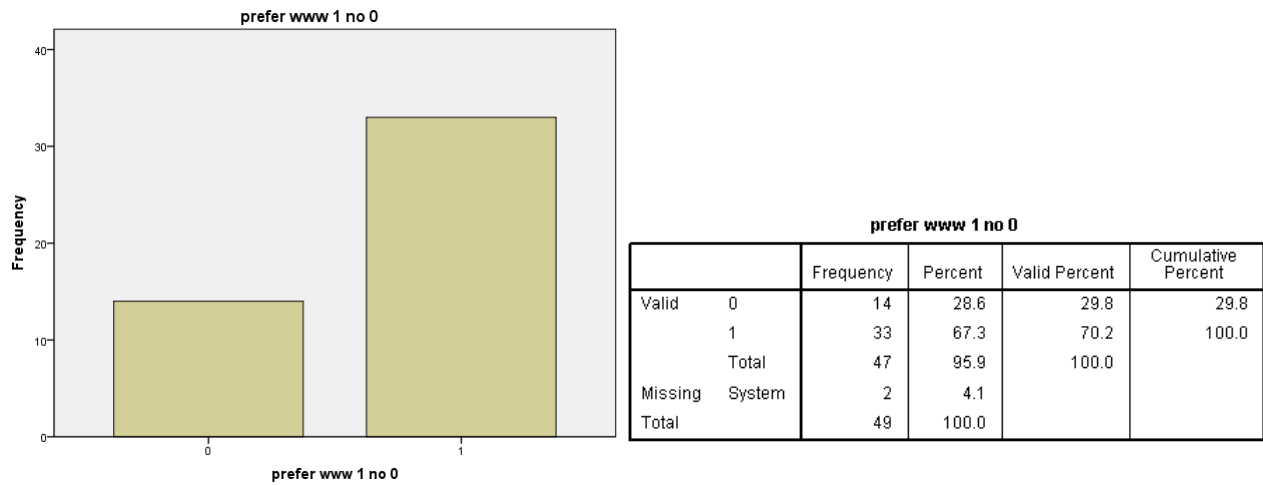
prefer bold key des 1 not 0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	12.2	12.5	12.5
	1	42	85.7	87.5	100.0
	Total	48	98.0	100.0	
Missing	System	1	2.0		
Total		49	100.0		

Over 85 percent of participants preferred ads that include searchers' key words. Participants' reasons of preference include that the bold font caught their eyes and that a store with such ads understand their need better.

Category	Reasons of preference: bold keyword
Understanding Needs	highlight on laser printers so that is what I am looking for
Understanding Needs	the emphasis is only on the laser printer which I am looking for
Understanding Needs	bold letters emphasizes what I need
Understanding Needs	this one on the right highlighted the laser printer catches my attention
Understanding Needs	the laser printer is bold chartered. I feel this link would be more relevant to my search
Understanding Needs	I like my keywords to be highlighted. That will make me feel the search engine fully understands what I'm searching at the moment
Understanding Needs	the word that in bold attract my attention because they are the words that I searched
Specific	because the bold phrase laser printers is highlighted. I think it is more specific
Specific	laser printer is highlighted; am assuming the link would specifically focus on laser printers
Noticeable	if the laser printer is easily seen, I prefer to choose this link
Noticeable	I will find it easier to read and attract especially when I'm herry
Noticeable	because laser printers is written in bold so it is easy to see the word
Noticeable	bold words catches my eyes
Noticeable	easy to notice the phrase laser printer

Prediction 3: Searchers would prefer ads that include the prefix WWW in a domain name than ads that do not include the prefix WWW in a domain name.



Sixty seven percent of participants preferred ads that include the prefix WWW in a domain name. Technically a domain name without the prefix WWW is the same as that with the prefix WWW in terms of its meaning and effect. Nonetheless searchers prefer ads that include the prefix WWW. Participants' reasons of preference include that it looks more legitimate and that it looks more complete.

Category	Reason for preference: www
Legitimate	it looks more official
Legitimate	when I saw www I think it may be a legal website. The whole link www.myclient.com makes me feel more comfortable
Legitimate	at first glance www seems to make the site appear more legitimate
Legitimate	I found the complete address more reliable and trusted www.myclient.com
Legitimate	because the name of website on the left looks more formal with www
Legitimate	the link start with www I will chose it because I think it is safer
Legitimate	www in front of the URL goes some confidence about the site's integrity (as in it is not a phishing site)
Legitimate	it seems more legitimate
Legitimate	I would choose the right ad because I think having the www gives the impression to be more serious and trustworthy without it seems like a blog
Complete	full link check easily
Complete	the url provided is a complete one
Complete	the full web address www.myclient.com
Complete	link is fully written
Complete	address complete, look more professional
Complete	complete
Comfortable	link with www makes me feel comfortable

The preliminary results show that searchers prefer all three features and that the situation normality and the information diagnosticity can be useful theories to explain why these three features increase searchers' click.

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