

# Compared Efficiency of Internet Banner Ads and Contextual Sponsored Links on the Internet

## A Preconscious Memorization and Behavioral approach

### 1. Introduction to and interest of this research

Since 1994 and the creation of the very first internet banner, advertisement has conquered the web while aiming to reach out to new customers. Forecasts show that investments on web ads are still growing, despite the current economical crisis. Nevertheless, in spite of the creation of new advertisement media, two ad types continuously lead the box office of internet ads: *Advertisement Banners* and *Sponsored Links*. Internet users are consistently facing ads while browsing the web. What are the effects of these exposures?

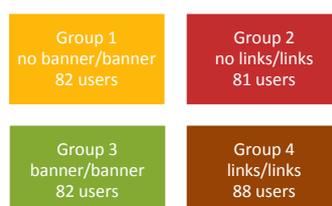
Advertisement models on the web assume that catching users' attention is the key: from the exposure comes the attention which will influence the user and his/her behavior. But do we really need to stimulate users' attention? And can we? As a matter of fact, while advertisement was rapidly growing on the web, internet users have adapted their behavior to the constant presence of ads thus creating the *Banner Blindness* effect also known as the *Ad Avoidance Effect*. The general behavior is that internet users do not look at advertisements anymore. Banner Blindness, allowing the brain to understand the general pattern of a website, enables users to unconsciously know where ads should be on a website thus leading users to avoid areas where ads usually are.

*How can we measure advertisement efficiency while ads are avoided?*

This work offers to explore the effects of ad exposure on the unconscious memory: we know that part of the brain memorizes stimuli even unconsciously when exposed to them. That effect was proven for *Advertisement Banners* by Dr. Arnaud Pêtre. Nevertheless, no study was ever led for the most important ad type concentrating the majority of investments on the web: *sponsored links*. *Advertisement Banners* and *contextual Sponsored Links*<sup>1</sup> being located on the very same spot, I suggest we compare their preconscious memorization and study the implications of such ad types on internet users' behavior. We will be aiming to especially understand the differences between the ad avoidance of these two ad types.

### 2. Experiment

Four user groups were defined to lead this study. An experimental brand was created along with a website. No ads, an advertisement banner, or a sponsored links were displayed on the website depending on the user's group.



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<sup>1</sup> Contextual sponsored links differ from standard sponsored links: standard links are located on search engine pages and contextual links are located on general web pages

A series of six questions is asked to all users while browsing the website via a small frame at the bottom of the screen. The objective is to draw users' attention away from ads by simulating an information gathering browsing experience thus creating the ad avoidance effect. We then measure the amount of time users spend answering these questions. At the same time heatmaps are generated: they reflect where users clicked while browsing the website, depending on their group. At the end of that first test, users are directed toward the preconscious memorization test.

## 2.1 Preconscious Memorization

Under the false pretence of a visual acuity test, users are asked to describe a series of 10 images as defined by Dr Pêtre's method. We measure the ability of users to accurately describe an ever clearer image of the ad they've just seen. We then compare at which degradation level users are able to fully describe the image. A statistical study allows us then to see the impact of the ad type on the preconscious memory.



Level 6 degradation



Level 9 degradation

## 2.2 Behavioral study

The third and final part of the study consists in a series of question aiming to establish if there are any difference in the cognitive, emotional, and behavioral avoidance of sponsored links and advertisement banners. We also measure the unaided awareness, gross recall, gross recognition etc... for the created brand. Based on Cho and Cheon's framework we try to understand how and why internet users avoid ad, and the differences between the avoidance of banners and links. We study variables such as user hindrance, interruption, distraction, lack of incentive... Collected data are studied on five points Osgood scales, trying whenever possible to create dimensions after verifying their existence via Cronbach's alphas.

## 3. Major results

### 3.1 Time spent of the website

Internet users not exposed to any ads take around 307 seconds to browse the experimental website and answer the six questions. Users subject to the advertisement banner take an average of 359 seconds and those subject to the sponsored links take roughly 390 seconds to answer the very same six questions. This conveys the idea that web advertisement is a hindrance in its whole and that sponsored links seem to impede users' browsing experience more than banner ads.

### 3.2 Clicking Heatmaps

Heatmaps of users' clicks confirm these preliminary results showing that control groups do not hesitate to click on the whole surface of the menu icons whereas groups subject to ads concentrate their clicks on the center of the icons, as if users were trying to avoid clicking on the ads.

### 3.3 Preconscious Memorization

When studying the descriptions of the image for the preconscious memorization study we can conclude that:

1. There is a preconscious memorization of sponsored links, and Dr. Prêtre's findings on banner ads are confirmed.
2. Banners are better memorized preconsciously than links: the descriptions of the degraded banners are more accurate earlier than that of links

### 3.4 Behavioral study

The conscious memorization of banners (unaided awareness, gross recall...) is also better than that of sponsored links, but it was not possible to determine any *significant* difference between the avoidance of banners and links. That being said, even if not significant, all measured indicators hint toward a stronger avoidance of banners than links. It is possible then, that banners are more avoided than contextual sponsored links without any explicit proof. Moreover, it also seems that banners tend to hinder users' browsing experience more than links.

### 3.5 Web Advertisement model: an evolution might be necessary?

Since its creation, Web Advertisement has evolved from a global display retribution model to the famous pay per click model where the cost of the advertisement campaign is determined by the number of clicks on the displayed ads. Nevertheless, as we have proven here, there IS a proven unconscious effect of ads on the web. And it's all the more strong that it directly affects memory. It is well-founded then to question the current evolutions of the web advertisement model toward "pay per call" and "pay per sale" where the cost of a campaign solely depends on a number of effective sales. As we have proven an unconscious advertisement effect exists, it is therefore not possible to fully know all induced effects of ads regarding sales.

We can also wonder on the investment changes that are have been happening for several years with a shift from display ads to sponsored links. Memorization being better for banners, wouldn't those be preferable to links considering that there is no significant difference in the ad avoidance behavior of internet users and that ads are generally avoided by advanced users?