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# OPTIMIZE DIGITAL MARKETING CAMPAIGNS USING MODERN TOOLS

Review  
Article

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## Abstract

*Online marketing poses many challenges especially in terms of focusing and ensuring that the messages capture the target audience's attention, interest, differentiating the company from the competition which is fierce in the online environment. Moreover, given the dynamics of the online space, digital campaigns need to be optimized along their life cycle according to the customers behaviour and market insights. There is an increasing number of tools that allow marketers a better customers analytics as well as guiding them through how to optimize their digital marketing campaigns accordingly. This paper focuses on a theoretical approach, it looks at the importance of campaign optimization, analyses how some of the current modern tools work (online heatmaps, eye tracking techniques, Cookies/programmatic, fingerprinting, HTTP referrer) and finds out whether they can indeed improve the daily work of the digital marketing specialist as well as the user journey. The results are expected to prove the benefits of online science and continuous developments in the area.*

## **INTRODUCTION**

This paper focuses on a theoretical approach and aims to serve as basis for further research. It looks at the importance of campaign optimization, analyses how some of the current modern tools work (online heatmaps, eye tracking techniques, Cookies / programmatic, fingerprinting, HTTP referrer) and finds out whether they can indeed improve the daily work of the marketing specialists as well as the user journey. The results are expected to prove the benefits of online science and continuous developments in the area.

Firstly, the paper highlights the necessity of campaign optimization in digital marketing in order to develop the using of web analytics to organizations, then reliefs some modern tools for campaign optimization like eye tracking technique, heatmaps, fingerprinting, HTTP referrer. In the end, there are some example of modern tools results in online marketing campaigns.

### **THE NECESSITY OF CAMPAIGN OPTIMIZATION IN DIGITAL MARKETING**

Marketing is not a fixed science. There is no one perfect solution that can fit any case, any audience. Given that its key points are personalization, being customer centric and focused on the user's behavior and that all these are variables that change on a regular basis taking into consideration multiple factors, a marketer must permanently adapt its activity and especially campaigns in order to remain relevant for its target audience.

The changes that happen in the transformation of traditional marketing into digital marketing are happening at a large scale and could even become overwhelming to some extent for those not prepared. There are new tools, paradigm that enrich, simplify and speed the way marketers address their audiences. (Jayaram, Manrai & Manrai, 2015)

In digital marketing, such a constantly shifting environment, marketers should make sure to optimize their campaigns as much as possible. Among other challenges, online platforms offer the unique advantage of being able to use modern instruments that allow the view on customer insights and their behavior in real time. (e.g. what customers have clicked on a landing page, what offers they were interested in, where they spend most of their time, what their feedback was etc). Digital strategists can and should take advantage of that valuable information and optimize their online marketing campaigns accordingly.

Before developing a marketing optimization strategy that would emphasize the role of web analytics, businesses first need to make a careful analysis and see how web analytics are currently

involved in the commercial value and how they will be involved in the future as well. An option would be to identify the potential value added generated by web analytics to the commercial performance and compare it to the current situation. (Chaffey & Patron, 2012)

One of the key points that digital technologies help with is enabling an adaptive process. Using these technologies, businesses can now create more value both for their clients and for themselves. They can now develop new and more valuable user experiences as well as building and increasing the interactivity that they have with their customers. The adaptability of digital technologies can be seen at all levels, including tactics, processes and clients. (Kannan & Li, 2017)

Also, the nature of how most of the digital tactics function allows and actually demands for them to be optimized both in order to gain better results and also decrease the costs.

## **AD NETWORK**

Such examples are the Ad Network type campaigns. Through the Ad Network, marketers develop their campaigns defining aspects such as ads, prices, budget impressions (the display of an add to a viewer) as well as ongoing period of time which refers to the timeframe for which the campaign will be available. It's the Ad Network's responsibility further on to decide on how to distribute the ads to the users so that it can maximize the value for the client and also match their criteria. (Freire, Truzzi & Costa, 2015).

Given their performance analyzed after a certain period of time after the start point, the digital strategist can begin to optimize in terms of budget, sites to be used, triggering behavior and so on.

## **SEARCH ENGINE OPTIMIZATION**

The approach search engines (SEs) follow in order to collect and rank data has drastically changed during the last three years. From a link and popularity-based ranking scheme, Google, Bing and Yahoo! SEs nowadays try to capture user experience. Search Engine Optimization (SEO) methods also have to be always updated so that they can cope with the changes that appear in the search engine ranking strategy. The SEO goal in the end is to provide the basic policy to optimize websites, in order for the sites to manage to succeed in higher and better related rankings in the search engines and have better targeted traffic. (Mavridis & Symeonidis, 2015)

Organic search is one of the most trustworthy, reliable and cost-effective tactics for digital marketing. This can really pay off both in terms of

good results and efficient budget, as long as digital marketers make sure their websites or landing pages are optimized for the search engine.

Through Search Engine Optimization marketers try to obtain better results by improving the ranking in the search engines. This is related directly to the number of frequency of views on a page, so the most important and crucial thing is to follow user's online behavior in order to adapt accordingly. (Egri & Bayrak, 2014).

### **PAID SEARCH**

Opposite to organic search which mostly depends on the natural ranking of pages, paid search consists in those sponsored ads for which marketers pay the search companies so that their pages will turn up first in user searches. The most common used company for this is Google and it usually functions on a pay-per-click basis which means that companies will be charged each time a user clicks on their ad. Usually these ads appear either on top or on the right side of usual search results. (Gauzente, 2010).

In such paid search campaigns, the digital marketers need to make sure they are tracking on a regular period of times the results in order to be able to optimize the campaigns accordingly, both in terms of content (e.g. keywords), as well as in terms of budget.

In terms of bidding, companies should do an analysis comparing their most important KPIs in terms of digital activities, such as high ranking, volume of visitors to a page and their openness to pay a certain budget to meet their targets. They also need to bear in mind what their competition is bidding and their objectives as that will influence the price of the auction. (Laffey, 2007)

### **PAID FACEBOOK ADS**

Without any doubt, social media plays a crucial role in a buyer's journey. Speculating the large number of people using these types of channels, social networks have developed their own form of paid advertising. They offer digital marketers the option of personalizing and optimizing their campaigns on the go, taking into consideration various criteria such as demographics, budgets, real-time analytics. Given the fact that these ads most of the time function on a bidding type of process, marketers must carefully analyse their investment, real-time results and make sure to optimize as much as possible, both in terms of content, delivery characteristics, audience, as well as in terms of budgets.

Given all this, it is of growing importance that marketers do not focus only on user's general

online behaviour, but they must also analyse how their users interact and how they feel about various advertising tactics that are available on the social media platforms. Depending on this, they can adjust their segmentation approach, as well as predict future online behaviours. (Clark & Calli, 2014).

A very important part of the new digital marketing approach is "closing the loop". (Breur, 2007) According to the author, companies should take into consideration results from previous campaigns, analyse and take advantage of key learnings for future marketing tactics. These new Marketing Optimisation and Automation tools allow running multiple campaigns in parallel, but also share the learning and best practices by tracking results very closely and comparing them.

Campaign optimization is undeniably one of the key aspects that need to be handled in digital campaigns. The online environment provides a large pool of insights and opportunities that can help the digital marketer to provide both a better experience to the customer, as well as better results for the company, with more efficiency.

In order to be able to take better advantage of the above mentioned, new, modern and improved tools have been developed that can help marketers base their decisions on relevant data and insights from their customer online journey.

### **MODERN TOOLS FOR CAMPAIGN OPTIMIZATION**

Today, our business or personal life unfolds in the online environment, so it's clearly that the companies want to find out more about their customers as well as us, the customers want to be specifically targeted with offers and services. For this to happen web developers are using methods to track user's movements in the online world. There are different methods and techniques to help the companies to achieve this. Either if is eye tracking technique, cookies, heatmaps, fingerprinting or HTTP referrer, companies are more and more willing to pay for this and results are visible instantly.

### **EYE TRACKING TECHNIQUE**

Eye tracking method is meant to gather information regarding the user cognitive process while surfing on the company landing page. These trackers are collecting user's interest by monitoring the movement of the eyes. The movements of the eye carry the visual attention when the eye is exposed to external stimuli processed by the brain (Sharafi, Soh & Gueheneuc, 2015).

There are intrusive and non-intrusive method to apply eye trackers, depending on the campaign's budget and the willingness of the user to be open (Zhou et al, 2017).

Eye tracking methods are used to investigate the online behaviour of the consumer, the search interest so that the specialist can find out the emotional and cognitive process so that this is further predicted and interpreted in testing so that the final campaign placed in market is to be customized on consumer needs. Of course, there are certain metrics taken in consideration when analysing the process, however fixation duration and fixation count are primary ones and basically are self-explanatory, fixation duration represents the amount of time needed to gaze at something – interpreted as longer reflects the interest on the individual to a certain product/asset on your landing page. In addition, the fixation count as the previous one shows the number of fixation the eye had on the page, this one can reflect the level of understanding and processing certain concepts/topics (Luan, Yao & Zhao, 2016).

### **HEATMAPS**

Heatmaps are one of the techniques that visually shows the customer's interest on your page. It can bring information regarding the places where the customer clicked/tapped, scrolled, being a very important tool used to improve/optimize digital campaigns in real time. For example, if the campaign display's a hero-banner without a link behind and the heatmap shows that the user has clicked the hero-banner, it tells you that user is expecting to find a link there – this way you can improve your campaign ongoing (Rashid, Soo & Sivaji, 2013).

### **COOKIES/PROGRAMMATIC**

Another example are cookies – these are small parts of text that carry information between servers and browser in case the browser will be accessed in the future by the same user – this way it remembers the user previous actions on the page such as items in the shopping basket. They are also used to customize, to easily authenticate but also to track user behavior. But because of all this they are raising also security issues in regards of privacy therefore they should be used only if the user allows it (Yue, Xie & Wang, 2010).

However, from a company perspective information such as age, sex, wage, spending habits, hobbies and interest, items you bought or are interested to buy, if you are travelling in the near future and other data are very important to know to better target you in their online marketing campaigns but

also in your journey on the world-wide web (Beck, 2015).

There are two major types of cookies – the ones that once the user exist the page are discarded and are called sessions cookies and there are the one that exist till they are deleted or if they expire. However, depending of the region where the marketing campaign take place these are either blocked from the start or will be blocked per request, here we are referring to the opt-in/opt-out countries (Kierkegaard, 2005).

Therefore, when planning a digital campaign, the marketer needs to take in consideration their audience preference towards privacy, needs, journey and security. Of course, on the other hand your customer can erase them, block them or even set the browser options to not allowed them. However, the developers found way to make some of these cookies to not be deleted or even to recreate itself from scratch, in this category are distributed the Flash cookies. Through the years of science and discover these were replaced by HTML5 techniques, E- tags and some other methods that are more efficient and luckily to provide the results desired.

### **FINGERPRINTING**

Canvas fingerprinting is another online user tracking method, although similar to the rest of the tools in its area, this method is very subtle and hard for the user to detect it and block as it is with the cookies. While cookies offer you the possibility to opt out, in the case of fingerprinting identifier the control is taken away from the user, mostly because these trackers are held in the browser and not on the user desktop as it is with the cookies and the ones that have access to it are actually the developer of the software. Using HTML5 canvas particle instead of the traditional cookies it allows websites to track and identify visitors (Anon., 2016).

As it was mentioned above, this type's most obvious characteristic is that is very hard to be detected by a regular, at least, user. For this reason, they are placed in the area of stealth tracking tools mostly because of impossibility to blocking or removing them. On the other hand, from user perspective this kind of tracking methods because of the above reasons, become an intrusive way to collect information from them; however most of companies admitted they are using it.

Nevertheless, this technique use browser's Canvas API (which is a Windows functionality) – meaning that almost everyone at some point were targeted by a company that uses this method either if where are not aware of this fact. Among some other characteristics, it was noticed that they also extract images without the knowledge of the user and it

doesn't seem to be any way to automatically block canvas fingerprinting.

### **HTTP REFERRER**

Hypertext transfer protocol so called on short HTTP is an app through which is being distributed information on the world-wide web (being practically the foundation of communication in the online environment). The way this works is very simple and is being used daily by almost everyone. When a user visits a landing page of a certain IT company, for example, there are being transferred multiples hypertext requests to servers under which the page is coordinated – some have the responsibility to bring certain images some to request information from user and there are others responsible to track user on the Internet. However, these trackers work in user benefit so that can offer a better user journey when surfing on internet, to also offer targeted advertising and customized online marketing campaigns (Wu, Liu & Zhang, 2015).

This technique it's based on user's activity on Internet and his proactively action of opening the webpage – this way the referrer/referring page it is actually, the link between his action and the page on which he wants to arrive; this usually is shown in the upper side of the page and it's also called URL (which stands for universal resource locator). Practically a referrer is the URL address of a previous item which led to this request. Generally, websites log referrers are part of their attempt to track users and use this information further in their report data – this kind of information could as well as in the other cases of the tracking tools mention above – be a violation of privacy. Therefore, it is very important for the user to be aware of the possibility to disable this functionality of sending referrer information – and also for companies to inform the user of this so that they are not be considered threats to the user privacy. There are methods for users to block this kind of information by installing firewall software that has functionality to prevent referrer spread to any collectors – however, the aim of companies are not to invade user's privacy but offer them better client journey, targeting them with specific assets that they observed they would be interested in, include them in targeted marketing campaigns helping them to search and find easier and faster what they are looking for etc, all this so that their online time be well spent.

### **THE RESULTS OF IMPLEMENTING OPTIMIZING TOOLS**

This part of present paper gives some examples regarding different studies which used modern tools in order to optimize marketing campaigns.

So, the first example belongs to Tzafilkou and Protogeris (2017), which explored the direct connection between eye movements and final user perception and thinking into a web, named EUD. The main objective was to discover if final users' perception and thinking variables can be influenced by the independent variable - eye movements over interface of a web-based, called EUD system. The dependent variables for perception and acceptance were: performance, risk, usefulness; and the independent variables for eye movements were: number of fixations, number of clicks, average duration of fixations and average growing of pupil size. The conclusions of the eye tracking study were: there are significant correlations between eye movements and thinking and/or perception. Performance has direct connection to fixations, then risk has a direct connection with the growing of the pupil size and usefulness is correlated to fixation duration.

In the study of Yen and Wu (2017) were examined participants who could count arguing in the pre-test, they gave more attention to other-side information during reading webpages. In plus, users who navigated more time into other webpages were neutralized in attitude or progressed in counterargument construction in the post-test, suggesting that exerting more effort on other-side information could promote impartial reasoning. The results of this study, an online learning platform structure young learners' reading and reasoning regarding controversial issues could be designed, and future research could be addressed to the subject: detecting the influence of using the online platform on reducing student partiality during online reading processes. Also, on future research, it can be investigating deeper insights into the psychological operations contributing to lengthened viewing durations on other-side information in the NonSC group. With the underlying mechanism elucidated, recommendation system could be designed and integrated into web browsers to prompt readers with balanced information digestion and rational thinking during online reading.

Another study was conducted for analyzing the web consumer behavior and attitude on a webpage by the help of a neuromarketing analysis regarding click intention of the web users, observing pupil dilation and electroencephalogram (EEG) results. Slanzi, Balazs & Velásquez (2017) realized a study with five different web platforms investigating the brain stimuli, eye position and pupil dilation of 21 participants looking for some information tasks on

those five websites. The authors discovered some statistical differentiation between choice and no choice pupil dilation graphs, more exactly fixations together with clicks had higher score of pupil size than fixations without a click. Taking into consideration the data results, it has been proposed 7 classification models using 15 from a total of 789 pupil dilation and EEG stimuli responses obtained from a random feature selection process. Plus, the results obtained had 71% of Accuracy and shown that it can be developed a classification for web user click intention behavior by the help of stimuli from pupil dilation and EEG responses. As a conclusion, for better results is required to use better quality for instruments during collecting the data (Slanzi, Balazs & Velásquez, 2017).

The last study proposed, used eye-tracking method to identify online review search behavior of users taking into consideration the type of product reviewed. Researchers initiated two experiments, combining the classic method – auto self-survey and the modern research method - eye-tracking experiment testing a review-product, in order to understand if there is any difference between the type of review and to see who is the influence factor in purchasing decision is. The decisional problem is based on the fact that consumers search products look for attribute reviews, while consumers are buying for experience products tend to search experience based reviews. The experiments were conducted in the Chinese laboratory of Bei hang University and the samples were students. After testing hypotheses, the results of empirical experiment underlying some attitude like: users who are more active and have positive reactions to attribute based reviews when they are buying for search products; on the other side when consumers are purchasing experience products they are looking to experience based reviews. The second experiment conducted with eye tracking method, is a deeply analyses of first reaction to auto-self survey, receiving punctual information. They found that consumers of specific search products are interested and engaged more profoundly by attribute based reviews. So, when they search experience products, there is no significant difference between their fixations on experience based reviews and attribute based reviews, and then the hypothesis is partially supported. This study reliefs 'the understanding of consumers' online review search behavior regarding product type, which is necessary and provides scientific data on the classification and presentation of reviews' in order to find out the key and motivational factors of decisional buying. Also, mixing of traditional empirical method and eye-tracking method can improve the understanding of online consumer buying behavior (Luan, Yao & Zhao, 2017).

## CONCLUSIONS

The paper highlights the necessity of campaign optimization in digital marketing that increases the contribution of web analytics to organizations, then reliefs some modern tools for campaign optimization like eye tracking technique, heat maps, fingerprinting, HTTP referrer.

There are different methods and techniques to help the companies to achieve this. Either if is eye tracking technique, cookies, heat maps, fingerprinting or HTTP referrer, companies are more and more willing to pay for this and results are visible instantly.

The last part of the paper has given some examples of studies where modern tools were used in order to optimize marketing campaigns.

For the future researches, it is recommended to other modern tools, in order to contribute to the developing literature specialty, mentioning that present paper approached only a part of it, mostly the popular ones.

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