

# Heat Maps to Track Customer Traffic and Provide User Analytics for Business Improvements

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**Abstract:** The present paper deals with analyzing how heatmaps can track customer traffic and provide user analytics information for improvement. Incorporating various techniques such as click maps, mouse movement, scroll maps, confetti maps, and attention maps can enable the business to gain insights into the behavior of customers through the website and how this allows the web content to improve the experience of users by improvising the marketing strategies.

**Keywords:** Heat Maps, Customer Traffic, User Analytics, Marketing, Clickmap, Scrollmaps, Mouse Movement Map, Attention Map, Confetti Heatmap

## 1. Introduction

To increase the effectiveness of web content, it is critical to identify how businesses utilize web content for customer traffic tracking. One of the possible ways of obtaining the data for web activity studying is analytics tools which often provide the possibility of results interpretation with the help of the graphs as scanned data. In the case of aggregated data, it is quite usual to use heat maps, which are visual diagrams with color codes that may represent, the number of clicks/taps within a specific area of the Web page and the areas that are accessed more often in a specific scroll of the page [4].

However, the procedure for the use of Heatmap is introduced for analyzing several gigantic databases to visually pinpoint singular instances, or clusters of potential data entities and also found its users among cartographers and method's followers [6]. The idea of criticizing the Heatmap in a general framework leads to the following questions: Such issues include correct settings of the heatmaps, how to interpret this method, etc. Various studies within previous research studies have used the heatmap method because of its visualization and technicality, applicability of the heatmap to different types of datasets, and a brief description of the heatmap method [5, 12]. Therefore, the purpose of this study is to analyze how heatmaps can track customer traffic and provide user analytics information to the business for improvement.

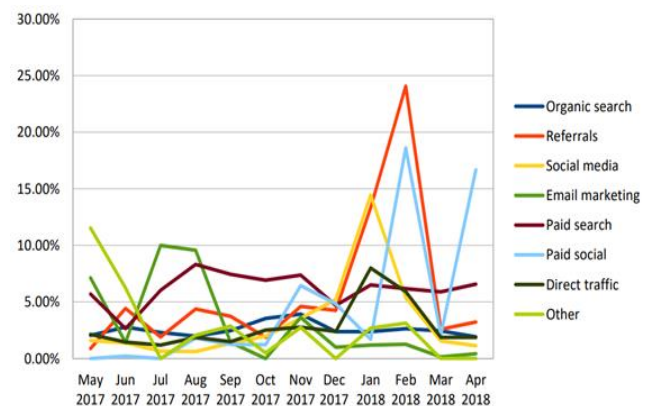
## 2. Literature Review

A clear identification of one's audience and their handling of some form of content in the modern world of digital marketing is essential [2, 10]. To help with this, there is a growing trend of software incorporating marketing automation aspects as well as analytical tools used in digital marketing. To better use such software types, it is crucial to comprehend how heatmaps track customer traffic and provide user analytics information to the business for improvement.



**Figure 1:** Steps of Inbound Process to Lead Creation  
(Source: Kantalainen, 2018) [1, 8]

The figure above illustrates inbound marketing that uses Blog content, Social media posts, White papers, Infographics, and Newsletters through Emails to capture and convert customers. An important role in this process belongs to SEO since it helps a potential customer find the marketer's content through which they can find a needed product or service. The positive experience in turn convinces the customer to share the content and therefore contributes to marketing the product or service.



**Figure 2:** Conversion Rate From Different Platforms  
(Source: Kantalainen, 2018) [1]

As shown in the above figure, the extent of meetings has stayed comparatively steady apart from one notable upward spike

between the period of September 2017 to January 2018, reaching its peak in November 2017, with an average of 15,636 sessions per month, and a median of 12,356. Since 45,47% of the points in the amount of sessions in November 2017 consist of paid social, it is a fair assumption that the influx of visitors is caused by successful social media campaigns before anything else. This is reflected in other metrics to an extent, as the bounce amount through paid social throughout November 2017 was 5,78 percentage points lower than the preceding month and the contact conversion was 5,23 percentage points higher than the previous month [1].

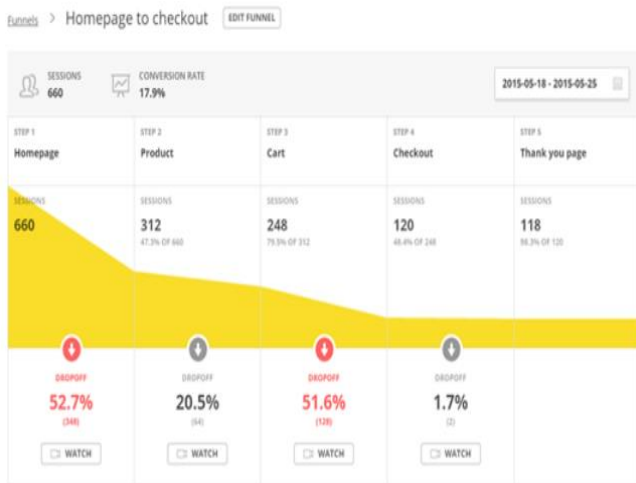


Figure 3: E-commerce Conversion Funnel (Source: Kantalainen, 2018) [1]

The above figure shows how conversion funnels enable us to discover where and which part of the conversion visitors abandon during the process. The figure demonstrates an e-commerce conversion funnel and such a necessary step to conversion as the home page, product page, adding a product to the shopping cart, and checkout.



Figure 4: User Behaviour Flow and Customer Traffic (Source: Kantalainen, 2018) [1]

The above figure gives the user data on unique page views, average time spent on the page, bounce rate, and exit rate. Through Behaviour Flow, behavior can describe exactly the

course and the point at which a visitor leaves during the session.

### 3. Tasks

The paper through secondary qualitative methodology analyzed the task for heat maps that track the customer traffic and provide the user analytics information to the business for improvement. There are several ways of heat maps to increase customer traffic through the website where the interaction of the users/customers is occurring. These several kinds of heat maps are the clickmap, scrollmaps, mouse movement map, attention map, and confetti Heatmap. The following are discussed:



Figure 5: Real-Example of Clickmap (Source: Tondor, 2019) [3]

As shown in the above figure, click maps are basic and effective instruments for visualizing users' actions. It is like a heat map that reveals the areas where visitors click on business websites and which specific web objects are clicked with the highest frequency if backed up by an adequate amount of data. highlight areas of the business website that work best and areas that do not work well or areas of high activity. A proper click map may go on to point out where the placement of a form any call to action button or any other important page element should be [3, 11].

A click map indicates the portions of a website, that are clicked, and a scroll map reveals portions of a business website that are scrolled most. Similar to click maps scrollmaps also use a color-coded scale to inform businesses where the users scroll, Scrollmaps allow us to determine where customers lose interest in a business page and where on the page business can improve their experience. On the other hand, a mouse movement map is about pointing out where the customer goes with their cursor on the business website. Mice indeed have an 86% relation to where one looks, a fact that will enable the webpage to track through the path a user's mouse takes and what part of the business website customers are looking at [3].



**Figure 6:** Real-Example of Mouse Movement Map  
(Source: Tondor, 2019) [3]

As shown in the above figure, a mouse movement map is a representation of how users move with the mouse when navigating through a certain website. mouse trails for business websites are 86% synchronized with eye trails, so looking at the trail of business users' mouse informs owners where, roughly, their eyes are focused on specific business site



**Figure 7:** Real Example of Confetti Map  
(Source: Tondor, 2019) [3]

On the other hand, to track customer traffic, the above figure shows how confetti Heatmap allows to see where users are clicking and can give important information about the kind of visitor, who is clicking the business page. In the case of confetti maps, business owners can monitor the specific location of clicks by the referrer browser, and search keywords. Also, confetti Heatmap offers one more additional perspective on how exactly users are interacting on the site.



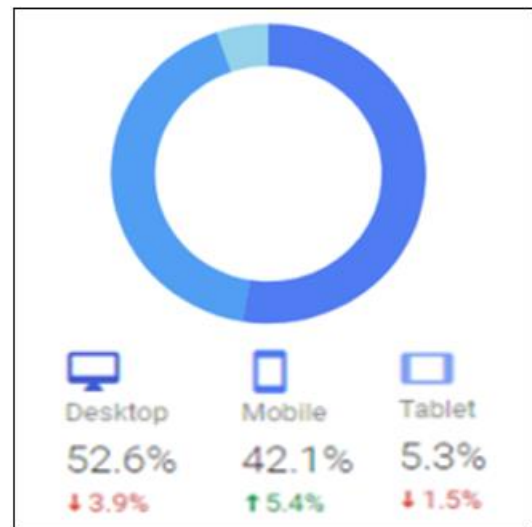
**Figure 8:** Real-Example of Attention Map  
(Source: Tondor, 2019) [3]

The above figure demonstrates how the attention map determines the sections that require editing and checking so

that people are encouraged to continue scrolling and reading the entire page. This type of heat map is especially insightful on long landing and marketing pages.

#### 4. Solution and Implementation

The increasing trend of the mobile platform has contributed to the increased standardization of mobile marketing through the Heatmap which increases the conversation rate. This has led companies to put too much emphasis on this marketing strategy to implement such Heatmap tactics to generate customer traffic through the phone. While the importance of mobile marketing was observed reduced earlier, the conversion rates are conspicuously low on mobile more particularly when compared to the desktop ones, but the ratio declining as per Google Analytics statistics. In contrast, according to Smart Insights, the research shows internationally, that there is room for additional optimization to enhance the user experience on mobile phone platforms [1].



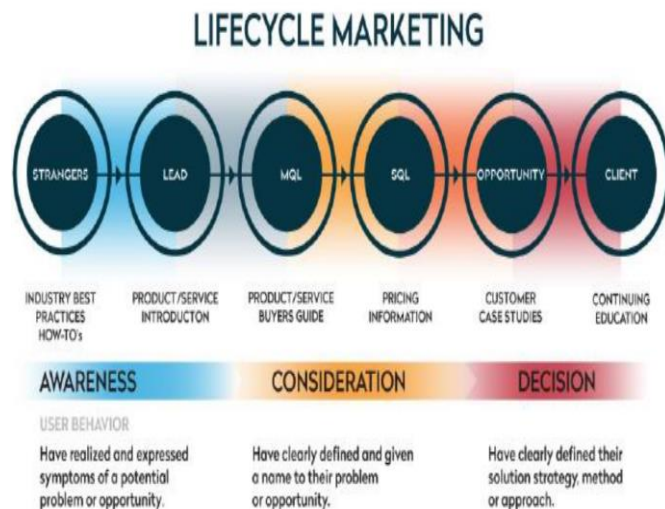
**Figure 9:** Internet Traffic Through Devices  
(Source: Kantalainen, 2018) [1]

The above figure shows companies have successfully implemented the Heatmap tactics to track customers mainly through desktops, mobile phones, and tablets. More significantly, research has recommended that there is more room for this research topic to be conducted [1]. However, in the above study, about 63% of respondents claimed that the chances of switching devices have increased. Among these, to achieve the above mobile target, smartphone visitors must convert at a 25% rate. Thus, the disparity between the two reflects the potential for additional direction and enhancement of the usage experience on the portable platforms.

For this, marketing automation has enabled companies to deliver their customers and potential customers with content, which facilitates the interaction between the two, thus improving the trust in the business among the customers [10]. Since a company that uses marketing automation software cuts the time required to perform repetitive tasks by using

automated marketing workflows, it becomes possible to dedicate a spare amount of time to analyzing the changes in the key metrics and customers' behavior and responding to them [1].

At present, marketing automation systems are implemented by more than 142 thousand companies as part of their digital marketing techniques, and as a consequence, marketing automation has increased the number of qualified leads by 451%. Moreover, the number of converted leads for productivity in sales also increased by 14.5% and 12.2% for less marketing overhead.



**Figure 10:** Buyer's Journey and Customer Lifecycle Stages  
(Source: Kantalainen, 2018) [1, 7]

The above figure shows that in the awareness stage, the content provides general info about the product or the service that informs the customer or authored posts, blog articles, tutorials, etc that can be deemed lighter. The material of the Consideration stage is also simpler such as the prices of the product or service offering on offer or a buyer's guide. Content that may be appropriate for the decision stage can be decks for the new customer which can be used to reassure the new customer or can be a set of documents that keeps educating the customer on the product or service [7,9].

## 5. Results

To analyze the results of heatmaps to track customer traffic and to provide user analytics information to the business for improvement, the secondary qualitative study proved that heat maps can be a successful tool to observe the number of customers and their activity. In addition, click maps also show where the low click density and the high click density are, which can help a business fix problems that are associated with features such as forms and calls to action. Scroll maps assist in establishing when users cease active engagement and may be utilized for apt positioning of content and requisite length. Moreover, unobtrusive navigation over a mouse reveals where the user looks to improve the following designs yielded. Lastly,

confetti heat maps highlight data on clicks while the attention maps depict which areas attract viewers and which areas do not thereby enhancing business.

## 6. Conclusion

The study found that heat maps are significant in determining the number and quality of the traffic customers as well as the presentation of users' statistics that are fundamental to the optimization of organizational performance. Moving to the next level of detail with the present variety of heat maps, click heat maps, scroll heat maps, mouse movement heat maps, attention heat maps, and confetti heat maps. This informs changes in web content, the navigation of visitors' experiences, and in some cases the necessary marketing changes. Integrating heat maps into common marketing automation tools expands the application of heat maps in real-time analytics of customers' behavior and continuous improvement, and guarantees the effectiveness improvements at higher customer engagement and conversion rates.

## References

- [1] E. Kantalainen, "Conversion rate optimization with UI & UX design," 2018.
- [2] E. Pavan, "From analytics to conversion rate optimization," *Applied Marketing Analytics*, vol. 4, no. 1, pp. 63-78, 2018.
- [3] T. Johann, "How to Use Heatmaps to Increase Your Conversion Rate." 2019.
- [4] Lamberti, Fabrizio, and Gianluca Paravati. "VDHM: Viewport-DOM based heat maps as a tool for visually aggregating web users' interaction data from mobile and heterogeneous devices." 2015 IEEE International Conference on Mobile Services. IEEE, 2015.
- [5] Netek, Rostislav, Tomas Pour, and Renata Slezakova. "Implementation of heat maps in a geographical information system—exploratory study on traffic accident data." *Open Geosciences* 10.1 (2018): 367-384.
- [6] Trame, Johannes, and Carsten Keßler. "Exploring the lineage of volunteered geographic information with heat maps." *GeoViz*, Hamburg, Germany (2011).
- [7] Clafin, J. 2014. How to plan and build an automated lead nurturing workflow.
- [8] Biedrzycki, A. 2016. The Ultimate Dictionary of Marketing Terms You Should Know
- [9] Von Zernichow, Roger, Marita Skjuve, and Ragnhild Halvorsrud. "Customer journey heatmaps: A wake-up call." *Proceedings of the 10th Nordic Conference on Human-Computer Interaction*. 2018.
- [10] Wolny, Julia, and Nipawan Charoensuksai. "Mapping customer journeys in multichannel decision-making." *Journal of Direct, Data and Digital Marketing Practice* 15 (2014): 317-326.
- [11] Liang, Weichao, et al. "Understanding customer behavior in shopping mall from indoor tracking data." 2018 IEEE 22nd International Conference on Computer Supported Cooperative Work in Design ((CSCWD)). IEEE, 2018.

- [12] Tang, Ying, et al. "Visual analysis of traffic data based on topic modeling (ChinaVis 2017)." *Journal of Visualization* 21 (2018): 661-680.