Web Analytics: Increasing Website's Usability and Conversion Rate

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ABSTRACT

Today, the web users surf many different websites regularly in the course of their daily lives. The usability and conversion rate of a website reflect the kind of experience the web users have on the website. The success of a website rides on the usability and conversion rate of the website. The higher the usability and conversion rate of the website, the better the website is functioning. Web analytics consists of a series of metrics and techniques which are used by webmasters to gauge their website's usability and conversion rate. This paper aims at further exploring the contribution of web analytics to increase the website's usability and conversion rate. This can be used by organizations to increase the usability, conversion rate and SEO ranking of their websites and make the websites to sell rather than to simply exist.

Keywords

World Wide Web, communication capacity, usability, conversion rate, SEO, Web Analytics, Page Views, Time on Site, Internal Searches, New Visitors, Return Visitors.

1. INTRODUCTION

With each passing day corporations, political groups, organizations etc. are tapping into the vast expanse of Internet and using the World Wide Web (www). Surfing Internet has become an integral part of the modern life and users often visit many different websites daily. The World Wide Web (WWW) has continued to grow at very rapid speed in both the sheer volume of traffic and size and complexity of Web sites[1]. This immense potential of websites for global outreach has got the attention of the webmasters all around the world. Websites are, therefore, an important communication channel for the corporations, political groups, and organizations etc. because of their capability to disseminate information incurring low-cost, capacity to interact, and ability to reach different audiences globally.

An important strategy of organizations for increasing business' sales is to get new customers – this is what marketing and promotion are all about and for many businesses this relies on their websites. Websites can, among other things, gain strategic advantages for organizations, such as facilitating institutional change, attracting prospective applicants, building community, and sharing knowledge[2]. However, the achievement of these and many other goals through the use of websites is heavily dependent upon the website's communication capacity. A website which cannot effectively communicate with its web users does not serve its purpose to the organization. Iwaarden et al. [3] reported that

70% users leave the website if the page response exceeds 12seconds. The communication capacity of a website can be gauged from the usability and conversion rate of the website.

The International Standards Organization's ISO9241 standard, defines usability as the "effectiveness, efficiency and satisfaction with which specified users achieve specified goals in particular environments"[4]. Website usability is the measure of the ease of use on a website by its visitors. Web usability is about making the website in such a way which is easy, fun, and logical for users, so that they can enjoy using the website and they can utilize it to find what they need[5]. Web usability is about making your website in such a way that your site users can find what they're looking for quickly and efficiently[6]. For example, a key feature of website usability is the ease of navigation through the website. A website clearly and cleanly laid out with a logical progression of areas and topics tends to appeal to the web users and therefore has high usability. On the other hand a tangled website, where it is hard to move around on, presents a challenge for the web users to access the information they want and therefore has low usability.

The website's usability and conversion rate go hand in hand. The basic distinctness between a website that sells and a website that simply exists is the good conversion rate. A conversion rate is measured by the number of potential visitors performing the desired action, whether the action is buying a product, filling out a form, or some other goal of the web page[7]. For example, if a specific webpage has 100 visitors via a pay per click ad, and one of those 100 visitors buys the product the website sells, then the conversion rate for that specific ad is one percent.

According to the Web Analytics Association, Web Analytics (WA) is the measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing web usage[8]. Web Analytics can be defined as the act of increasing a website's persuasion and relevancy to achieve higher conversion rates[9]. Web analytics consists of a series of metrics and techniques which are used to analyse the performance of a website. Web analytics can, thus, be used to measure the website's usability and conversion rate.

2. LITERATURE REVIEW

MyrtheSwaak et al.[10] presented that the website characteristics namely usability and visual attractiveness have an important relationship with the web users trust in the company. The results stated that the contribution of website design characteristics to the success of the company is

significant. And Web users' trust in the company is also affected by the perceived usability of the website, which in turn is strongly related to the actual usability of the website. They also stated that in the case of prolonged use of the website, information usefulness and usability might become more important for the web users.

AlexieiDingli et al.[11]proposedUSEFul - a framework which aims to automate website usability evaluation process. The framework allows the addition, modification or deletion of guidelines without changing the code that references them. The framework was able to automatically identify the majority of usability violations when comparison was carried out between the evaluation results carried out using the framework against published evaluations of web sites carried out by web site usability professionals. The framework enables a non-expert in the field of usability to conduct the evaluation. It not only reduces the costs of usability evaluation but also facilitates the evaluation in various stages of the design process.

R. B. Kulkarni and S. K. Dixit[12]created an interactive tool in order to evaluate web applications for empirically derived measures and also introduced a tool to calculate the aesthetic parameters of web applications. The results of the questionnaire for the empirical analysis of the web applications included four factors namely content, navigation, security and presentation. However, aesthetic factor scored on higher than other factors. Security was also a dominant factor. The tool also enabled website developers to check the quality aspects and also generate the discrepancy report of web applications. It computed more than 110 quantitative metrics to assess the web applications features. Quality factors like aesthetic and credibility were added to ISO 9126 which includes usability factor of a website. It paves way for developers to engineer web applications in a more user-friendly way and improve quality, usability, maintainability and navigation of web applications.

3. WEB ANALYTICS METRICS TO INCREASE WEBSITE'S USABILITY

The website's usability measures the quality of the web user's experience of the interaction with the website. The usability of a website directly affects the kind of the experience web users have on the website. It also signifies how user friendly the website is. The information usefulness of a website and the web users' trust in the company are significantly related to the perceived usability of the website[10]. Therefore, for a website, usability is a necessary condition for the survival of the website. A usable website can provide great benefits to the website as well as to the business.

If the web users find difficulty in using a website or get lost on a website, they leave. If the web users find a website's information hard to comprehend or the website doesn't answer their queries, they depart. The web users do not invest ample time in order to figure out a website's interface or read a website's help manual because there are a large number of other websites available at the disposal of the web users. Therefore leaving a website which is not usable is the first line of defence used by web users when they encounter difficulty.

In the classic sense, website usability emphasises on defined experiments. One method is user testing in which the user accomplishes some given tasks. It can be accomplished with the think-aloud protocol while the user is browsing through the website. Another method is Usability-expert

walkthroughs[13]. Both these methods are useful for the contextual design of individual software and in software developments for the mass market, where the user is unknown. However, both these methods are extremely resource time and consuming. There are several other methods that can be used to automate usability evaluation. Most of these methods belong to one or more of the three categories namely usability data capturing, analysis or critique. A survey is given in[14].

For the web usability evaluation tools, there is a large range of methods from syntax-checkers over web page design advisors[15] to analyzers like WebTANGO[16], which compare the characteristics of web page objects with empirically found metrics. Another method is WebRemUSINE[17] which distinguishes the recorded real user interaction information with the task model of the web application. Other web usability evaluation tools include like Bobby[18], A-Prompt[19], WebSat[20], and 508 Accessibility Suite[21]. A comparison of some of these tools is provided in[22].

The objective of Web Analytics is to understand and improve the experience of online customers, while increasing revenues for online businesses[9]. There are several web analytics metrics which can be used to analyse the website's usability like page views, time on site and internal searches as shown in Figure 1. These web analytics metrics are as follows:

Figure 1: Web analytics metrics effecting website usability

3.1 Page Views

According to the Web Analytics Association, the page view is the number of times a page was viewed[8]. A page view is triggered when a page of the website gets loaded by any web user or visitor to the website. It is the most basic of the web analytics metrics.

If the web users are coming to a website but are not viewing many pages then the website may have issues regarding the usability, design or structure of the website. The low page views for a website can be the result of disconnect between the marketing strategies that brought the web users to the website and the actual content that is available on the website.

3.2 Time on Site

The web analytics metric of 'average time on site' is used to measure how long web users stayed on the website. It gauges the time for which the web users' interaction with the website lasted. It is regarded as the key reflector of how successful the website is in attracting relevant visitors. The basic logic is that the longer the web user spends on the website the more interested he/she is in what the website offers.

Generally, the longer a web user spends on a website, the better it is. It can mean that the web users are carefully observing, reading, comprehending and reviewing the website's content, working around with the various interactive components available on the website or making a decision to buy etc. Therefore the longer average time on site can be an indicator of the fact that the web users are surfing through the website without facing any usability obstacles. On the other hand, a low average time on site can be an indicator of the fact that the web users are facing usability obstacles while surfing through the website.

It is very important that the web analytics metric of 'time-on-site' for a website is examined against the pages viewed for the specific website in order to assure that the web users are not spending their time trying harder to get to the components or contents that should otherwise have been more easily accessible.

3.3 Internal Searches

The expressions, keywords or terms etc. used by the web users in the website's search box can be recorded with the help of web analytics. The web analytics allows the recording and saving of such expressions, keywords and terms for the use of the web masters.

An important prospect of the website's search box is the fact that it provides a more usable navigational tool for the website. In order to find something on a website, web users can search the website through the website's search box rather than using the website's standard navigation. Webmasters can use these keywords and terms to get the direct reflection of what the web users look for on their website. Therefore, the webmasters should analyse the expressions, keywords, terms etc. used by the web users on the website's search box in order to provide a more usable website to its web users.

4. WEB ANALYTICS METRICS TO INCREASE WEBSITE'S CONVERSION RATE

According to the Web Analytics Association, conversion is defined as a visitor completing a target action. The target action can be a certain number of visitors to a webpage, buying a product, purchasing online, filling out a form, completing a registration form or some other.

It is of vital importance that the webmaster of the website has goal(s) for every web user that visits their website. In order to lay down the goal of the website, the answer to the question: "why does the website exist?" is very important and critical. Each website will have its own unique answer to the question.

For example, if the website is an ecommerce store, then the goal of the website should be to make the web users make a purchase. The goal of a website might simply be to make the web users leave a comment or share the website on other social networking websites like Facebook or Twitter. If the website is of design business, then the goal of the website should be to make the prospective web users register their ideas in your products or give you a call. Therefore, there can be multiple goals of a website. However, the conversion rate of the website is actually how many of these web users do what you want.

A website may be getting heavy traffic like hundreds of thousands of web users every day or month but if none of these web users are getting converted to prospective buyers or

customers of the website, then the huge traffic on the website is equivalent to zero visitors. There are several web analytics metrics which can be used to analyse the website's conversion rate like new visitors, return visitors as shown in Figure 2. These web analytics metrics are as follows:

Figure 2: Web analytics metrics effecting website conversion rate

4.1 New Visitors

According to Web Analytics Association, new visitors are the number of unique visitors with activity including a first-ever Visit to a site during a reporting period.

The number of new visitors is a fundamental web analytics metric. This web analytics metric can be used to gauge the overall level of traffic to the website. The websites which rely on advertising revenues as a major source of income can draw inferences about the completion of their website goals from this metric.

Many companies, political groups, organizations etc. focus primarily on getting new visitors to their websites. It is important for the organizations to increase their business' sales by attracting new customers – this is what marketing and promotion are all about and for many businesses this relies on their websites. The web analytics metric of new visitors reflect how many new prospective buyers or customers are visiting the website. A high value of the web analytics metric of new visitors is a good indicator of the conversion rate of the website.

4.2 Return Visitors

According to Web Analytics Association, the return visitors are the number of unique visitors with activity consisting of two or more visits to a site during a reporting period.

The return visitors are the most important assets of a website. The return visitors are the most vital visitors of the website because they are those web users who had seen the website before and had decided that the website was worth coming back. The return visitors of the website provide free but valuable source of traffic to the website. The return visitors are far more likely to complete or fulfil the website's target action than some other web user who is visiting the website for the first time. The target action can be anything like buying a product, purchasing online, filling out a form, completing a registration form etc.

Therefore, the success of a website is highly dependent on the number of return visitors the website have. The higher the number of return visitors of the website, the better the website is functioning. And the better the website is functioning, the better the conversion rate of the website is. The webmasters of the websites can get special insights about the needs of the web users from the number of the return visitors their websites get. The webmasters can then periodically modify their goals.

5. CONCLUSION

The webmasters constantly need to get an insight into their website's users in order to achieve their goals through the use of websites. This paper discussed several web analytics metrics which can be analysed to increase the website's usability and conversion rate. The webmasters should look at the web analytics metrics' data and understand what is happening in the website and listen to their customers' voices and then improve the website to cater to their needs in a better way.

6. FUTURE WORK

Out of the two fundamental questions (What? and Why?), this paper discusses web analytics metrics like page views, time on site, new visitors, returning visitors etc. which are important sources to understand web users' behaviour, but they explain only what is happening. The most important question remains 'Why?'. The future work aims to answer this last question and discuss several important sources of data to understand web users' behaviour on a website and thus improve the website's usability, conversion rate, performance and SEO rankings. And some useful web analytics metrics can be made accessible for the website users. It is a new way to think of the web data a new way to think about new sources of data which constitutes the entire picture of web users' behaviour in websites and then improve the website to cater to their needs in a better way.

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