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Online Advertisement Using Web Analytics Software:
A Comparison Using AHP Method

Manu Sharma, Advertising and Marketing Area, School of Management, Doon University, India
Sudhanshu Joshi, Operations and Supply Chain Area, School of Management, Doon University, India
https://orcid.org/0000-0003-4748-5001

ABSTRACT

This article describes a analytic-hierarchy-process (AHP) application to identify and evaluate the best online advertising analytics software. This technique is multi-criteria and used in this study by comparing the top four web advertising analytics software. AHP uses pair-wise comparison of matrices. There are six criteria identified for evaluation: Ad scheduling, ad targeting, creative banner rotation, features, performance, cost and for each criterion, a matrix of pair-wise comparison with web-analytics software i.e. Google analytics, Accenture Analytics, Funnel and, Moat Analytics were evaluated. AHP is an effective method for multi-objective decision-making, and optimization. Thus, it helps web advertisers to evaluate the existing web advertising analytics software for posting their web advertisements.

KEYWORDS

Advertising Analytical Framework, Advertising Analytics, AHP, Online Advertisement, Optimal Internet Advertising Budget Allocation, Search Engine Optimization (SEO), Web Analytics

1. INTRODUCTION

Recent years has witnessed phenomenal growth of internet users and similar trends are expected in near future as well, although 3.9 billion people are still not adoptive towards online usage for personal and commercial activities (WEF, 2018). Therefore, 'Internet inclusion' becomes a significant challenge and its cornerstones include- ICT Infrastructure, affordable user charges, IT awareness, Cultural acceptability, and user-oriented content (Nisha, 2016).

With fast emergence towards cyber-driven society, the users become the center of attraction for commercial advertisers, directly or indirectly through Internet websites. Big Commercial websites include, Google, Yahoo, Hotmail, engage into huge portfolio of free Internet services to its users while generate revenue from advertising (Cvijikj & Michahelles, 2013). Conceptually, Web Advertising uses web to deliver promotional/advertising messages to existing and potential consumers and it becomes the focal strategy for online websites (Kumar & Sethi, 2009; Roel & Fridgeirsdottir, 2009).In recent times, Web advertising has become a multi-domain entity (banners, popups, pay-per, sky scrappers,

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interstitial, etc.) with varieties of underlined activities (viz. inter and intra Communication, content-oriented Communication and Customer Initiated Communication) with the primary aim to generate Sales Revenue (De Haans, Wiesel, & Pauwels, 2016).Web advertising has addressed an exponential growth from $72.5 billion in FY 2016 to $88.0 billion in FY 2017 (Interactive Advertising Bureau, IAB 2018). The business models are more agile and adaptive towards technological changes and recent advancements to enhance their Advertisement revenues (Kumar, Jacob, & Sriskandarajah, 2006; Javan et al., 2018; Kaul et al., 2018). The adaption includes customization and dynamic optimization of online advertisement (Amiri & Menon, 2003; Gilbert & Powell-Perry, 2001). Firms are still engaged in optimizing the strategies for enhancing the efficiency of web advertising (Hanssens, 2009; Sethuraman, Tellis, & Briesch, 2011; De Haans, Wiesel, & Pauwels, 2016).

The industry has witnessed the transformation in the pattern of Revenue models, portfolio management. 'Brand-keywords' paid search is gradually become passive with the changing business, while 'Non-Brand keywords' influences new and casual users (Blake, Nosko, & Tadelis, 2015). Frequent, retargeting based on customer product preferences and purchasing history becomes also important (Braun & Moe, 2013; Lambrecht et. al., 2014). Also, online advertising coverage becoming more advanced and has replaced offline marketing (Li & Kannan, 2014). Besides, Budget allocation decisions across various forms of advertisements, have also become an area of concern for marketers (Dekimpe & Hanssens, 2007; Karuga et al., 2001; O'keefe 1998; Raghu et al., 2001).

Advertising analytics software help marketers to understand the integrated behavioral intentions of consumers and also facilitate them to create new market and revenue generation (Adler, Gibbons & Matias, 2002). Based on the Delphi Method approach, the study has analyzed top four advertising analytics software mostly used by the social networking sites and the online marketers. The AHP method has been adopted to evaluate the web-advertising software.

2. LITERATURE REVIEW

Theoretically, Advertising is a form of communication that deploys an openly sponsored, non-personal message to promote the awareness for selling a product/service or an idea. The aim of the form of marketing communication is to convince customers about company's services or products to purchase them. Due to change in consumer behavior, there is a growing interest of both, Practitioners and Researchers in determining the profit-maximizing advertising strategies (Buratto, Grosset & Viscolani, 2006; Jiang & Ma, 2018). The growing usage of the Internet has substantially changed the existing business models (Assija, Baliyan & Jain, 2018). Although, Internet advertising is more expensive and effective in places, where restrictions are enforced on offline advertising (Goldfarb & Tucker, 2011; Tian, Qin & Liu, 2018). Marketers need to enhance their research for identifying the best advertising analytics software to target online customers. Personalization, integration and real-time interactions are the key strategies for online target customers. With the help of the user's responses, mainly user's search engine and its queries identify which advertisement has to be displayed on the websites (Amiri & Menon, 2003; Kumar, Dawande & Mookerjee, 2007; Asdemir, Kumarand Jacob, 2012; Sun et.al., 2017; Rui, Liu, & Whinston, 2017).

Based on the consumer's media usage, firms are instrumenting their cross-media advertising synergy by defining optimal media mixes, for different types of media users (Dens et al., 2018). The overall impact of consumer's participation positively influences the brand equity. The term 'Advertising Analytics 2.0' defines the set of activities incorporating optimizing strategies including personalization, multimedia integration, and real-time interaction depicted in Figure 1. It broadly uses statistical models to analyze the causal effect among consumer behavior and advertising, based on a variety of variables viz. Market Conditions, Marketing Actions, and Competitive Activities (Duan & Cao, 2015; Rosenkrans & Myers, 2018). Ana Advertising Analytics is done by using analytic engines, based on various models to attribute each variable with agility, accurately, having an aim to optimize marketing mix (Brettel & Spilker-Attig, 2010; Deng, Gao & Vuppalapati, 2015; Jobs

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