

Chapter 3

A Literature Survey on the Usage of Fuzzy MCDM Methods for Digital Marketing

Cengiz Kahraman

Istanbul Technical University, Turkey

İbrahim Yazıcı

Istanbul Technical University, Turkey

Ali Karaşan

Istanbul Technical University, Turkey

ABSTRACT

Digital marketing is the integrated processes of building and maintaining customer relationships using online channels to establish the exchange and flow of products, and services in the market. It is the marketing that bridges electronic technology with psychology in the marketplace. Fuzzy sets can handle the uncertainty and human-manner linguistic evaluations in digital marketing. The objective of this chapter is to summarize and classify the literature on digital marketing, which uses the fuzzy multicriteria decision making methods (MCDM), and predict the future directions for digital marketing. Our chapter will include the main definitions and principles of digital marketing with its challenges. We also give a brief definition of the fuzzy MCDM used methods in the literature. We use graphical illustrations techniques for summarizing the survey results.

INTRODUCTION

Digital marketing is the marketing which aims to promote brands and reach customers by using all advertisement segments in electronic medium. It makes use of electronic devices such as personal computers, cell phones, game consoles etc. The Digital Marketing Institution's (DMI) definition for digital marketing is "The use of digital technologies to create an integrated, targeted and measurable communication which helps to acquire and retain customers while building deeper relationships with them". Simply

DOI: 10.4018/978-1-5225-5643-5.ch003

A Literature Survey on the Usage of Fuzzy MCDM Methods for Digital Marketing

Digital Marketing's definition for digital marketing is "*Digital Marketing is a sub branch of traditional Marketing and uses modern digital channels for the placement of products e.g. downloadable music, and primarily for communicating with stakeholders e.g. customers and investors about brand, products and business progress*" (Royle & Laing, 2014).

Digital marketing differs from traditional marketing in that enabling an organization to analyze marketing campaigns and follow the actions such as which item is being viewed, how often the item is being viewed, sales event analyze, what content is not efficient, in real time. Digital marketing sometimes is called as online marketing especially in the U.S due to the fact that its proliferation area is mainly internet. Websites, blogs, e-mails, apps and social media are the platforms of digital marketing. Social media is the leading and most growing area for digital marketing.

In the U.S., online consumer spending exceeded USD 100 billion, and there is a growing rate of online demands for information goods. For example, online demands for information goods such as books, magazines and software are between 25% and 50%. Another remarkable example is Amazon. Amazon is used as a transaction channel in digital marketing. On the peak day of sellings in Amazon, November 26, 2012, 26.5 million items are ordered worldwide in all product categories. It is a record-breaking selling 306 items per second.

Digital marketing consists of five levers (Royle & Laing, 2014): Attract, Engage, Retain, Learn, and Relate. Attract part is related to acquiring and directing customers to website or webpage that selling are done. Mnemonic branding, listing in search engines, adequate bandwidth, promotions, piggyback advertising, affiliate program, banner ads are the most used tools in this part of digital marketing. Engage part is related to customers' interest and participations engagement to achieve an interaction or transaction. Informative and useful content, transaction capabilities, unique content, creative programming, lucky draws/contests, creating virtual communities, multilingual website, forums/discussion groups are the most used tools in this part of digital marketing. Retain part is related to making current customers loyal to company or brand. Dynamic content, security features, rapid information loading time, privacy statements, hyperlinks to related sites, loyalty programs, providing online order tracking, creating switching costs via communities, interactive functions are the most used tools in this part of digital marketing. Learn part is related to knowing and determining customers' behaviors to reach targets. Information capture, feedback via online surveys, webpage tracking devices, feedback via open-ended survey forms, gathering information about new potential customers, cookies, holding virtual focus groups, supporting chat groups are the most used tools in this part of digital marketing. Relate part is related to applying the learnings from previous phase to constitute value chain. Personalized communications about product/service, customized product/service, e-mails to update about new products, customized webpages, linkages to core business, real time interactions are the most used tools in this part of digital marketing (Teo, 2005; Royle & Laing, 2014; Albert & Sanders, 2002).

In digital marketing, marketing channels are important as in traditional marketing because digital marketing strategies are organized considering these channels. Mostly used digital marketing channels are e-mail, social media, content, events and Search Engine Optimization (SEO). Mostly budget allocated areas in digital marketing are data and analytics, marketing automation, e-mail marketing, social media marketing and content management.

Digital marketing's scope spans to many areas with specific goals and criteria. Tiago and Verissimo (2014) adopt the perspective of the firm to facilitate an understanding of digital marketing and social

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/a-literature-survey-on-the-usage-of-fuzzy-mcdm-methods-for-digital-marketing/205779

Related Content

Research on Optimization Scheme of Indoor Lighting Design Driven by Intelligent Algorithm

Lu Zhang (2025). *International Journal of Ambient Computing and Intelligence* (pp. 1-14).

www.irma-international.org/article/research-on-optimization-scheme-of-indoor-lighting-design-driven-by-intelligent-algorithm/391284

Building Data Warehouses Using Automation

Nayem Rahman and Dale Rutz (2015). *International Journal of Intelligent Information Technologies* (pp. 1-22).

www.irma-international.org/article/building-data-warehouses-using-automation/135903

Human Identification System Based on Spatial and Temporal Features in the Video Surveillance System

Sanjeevkumar Angadi and Suvarna Nandyal (2020). *International Journal of Ambient Computing and Intelligence* (pp. 1-21).

www.irma-international.org/article/human-identification-system-based-on-spatial-and-temporal-features-in-the-video-surveillance-system/258069

Understanding Places Exploration and Visitation via Human Mobility Mining

Shafqat Shad, Muhammad Usman, Chandan Kumar and Hadiqa Afzal (2024). *International Journal of Intelligent Information Technologies* (pp. 1-16).

www.irma-international.org/article/understanding-places-exploration-and-visitation-via-human-mobility-mining/349727

Facilitating Decision Making and Maintenance for Power Systems Operators through the Use of Agents and Distributed Embedded Systems

A. Carrasco, M. C. Romero-Ternero, F. Sivianes, M. D. Hernández, D. I. Oviedo and J. Escudero (2010). *International Journal of Intelligent Information Technologies* (pp. 1-16).

www.irma-international.org/article/facilitating-decision-making-maintenance-power/46960