

Chapter 2

Artificial Intelligence Applied to Digital Marketing

José Eduardo Aleixo

ISCAP, Polytechnic of Porto, Portugal

José Luís Reis

University of Maia, Portugal

Sandrina Francisca Teixeira

 <https://orcid.org/0000-0002-5859-0002>

ISCAP, CEOS, Polytechnic of Porto, Portugal

Ana Pinto de Lima

 <https://orcid.org/0000-0001-7804-8010>

ISCAP, CEOS, Polytechnic of Porto, Portugal

ABSTRACT

In a time when the interest in artificial intelligence (AI) is increasingly gaining prominence, being considered by many as the beginning of the 4th Industrial Revolution, this chapter of this book explores, using qualitative research methodology, the impact resulting from AI applied to digital marketing. The analysis of interviews with ten experts in AI and digital marketing, from different sectors of economic activity, showed that the impact of AI on marketing roles, skills, and capabilities is significant and will continue to develop in the future. This study reinforces that the impact of AI on digital marketing offers capabilities that allow more efficient and effective execution of marketing actions, allowing a global view of the audience, as well as the personalization and customization of the experience in real-time. The study proved that there is a need for investment in training by marketing professionals. The study also reveals that at the center of ethical concerns are concerns about the monopolization of data and its inappropriate, deliberate, or involuntary use.

DOI: 10.4018/978-1-6684-9324-3.ch002

INTRODUCTION

The creation of the Internet as we know and understand it today, revolutionized in a notorious and permanent way the way the world, organizations and people operate and communicate with each other. This new paradigm opens doors for emergence in Era of the Internet of Things (IoT). The term Internet of Things is defined as a set of interconnected computerized tactics, digital and mechanical devices, that hold the ability to transmit data over the internet without any human involvement (Singh et al. al., 2020). The new technological era consists of the connection between the digital and the physical world, thus allowing people a constant connection using objects (things) (Braga, 2020). The insertion, application, and use of IoT causes changes abrupt changes to the way communications and interactions are carried out, resulting in new opportunities and challenges for organizations and, consequently, for digital marketing.

Of all the technologies conveyed and rejuvenated with the appearance and comprehensive application of IoT, which has gained greater prominence in the business world and, simultaneously, has been studied and worked on is, Artificial Intelligence (AI) (Braga, 2020). Through an investigation carried out by Demandbase (2019), only 18% of marketers who participated in the study are using AI, 22% to implement, 24% evaluating its use and 20% planning its adoption (Demandbase, 2019). In addition, another study by Demandbase, Salesforce Pardot and Demand Metric, referring to the difficulties of adopting AI in digital marketing, demonstrates that 55% of the respondents presented the cost of implementation as barriers, 52% the lack of necessary skills and 31% said they did not know where and how to start (Viveiros, 2019). AI, by itself, is a complex and vast subject in its specificities and applications. General knowledge about what AI is, where it is inserted, what it does and what is its purpose, it is vague and little known in detail. Despite the lack of understanding widespread about this technology, AI has shown potential to offer new and better capabilities/benefits to marketing, especially regarding use of the digital environment. The premise consists of the ability of AI to allow the digital marketing efficiency and effectiveness, capabilities to acquire in-depth knowledge and across users/consumers, increased impact and success of marketing, automation and process execution facilities, predictive capabilities, and real-time actions. The union and cooperation of the two areas will lead to strategies, objectives and competences required for the work execution of a marketer are changed (Sterne, 2017), thus presenting the need to understand the impacts, benefits, current capabilities, and difficulties, as well as the acquisition of potential future trajectories.

The emergence of the Internet of Things (IoT), enabling constant connectivity between the digital and physical realms. This paradigm shift has ushered in new opportunities and challenges for organizations and digital marketing. Among

50 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/artificial-intelligence-applied-to-digital-marketing/333957

Related Content

From the Real Ant to the Artificial Ant: Applications in Combinatorial Optimization, Data Clustering, Collective Robotics and Image Processing
Moussa Diaf, Kamal Hammouche and Patrick Siarry (2012). *International Journal of Signs and Semiotic Systems* (pp. 45-68).
www.irma-international.org/article/from-the-real-ant-to-the-artificial-ant/101251

Application of Computational Intelligence Techniques in Wireless Sensor Networks the State of the Art
Subhendu Kumar Pani (2016). *Handbook of Research on Computational Intelligence Applications in Bioinformatics* (pp. 441-461).
www.irma-international.org/chapter/application-of-computational-intelligence-techniques-in-wireless-sensor-networks-the-state-of-the-art/157498

An Efficient Coronary Disease Diagnosis System Using Dual-Phase Multi-Objective Optimization and Embedded Feature Selection
Priyatharshini R. and Chitrakala S. (2017). *International Journal of Intelligent Information Technologies* (pp. 15-36).
www.irma-international.org/article/an-efficient-coronary-disease-diagnosis-system-using-dual-phase-multi-objective-optimization-and-embedded-feature-selection/181873

Osteoarthritis Disease Prediction Based on Machine Learning Techniques
V. Sathya, Shalini Parthiban, M. Megavarshini, V. Shenbagaraman and R. Ramya (2024). *Enhancing Medical Imaging with Emerging Technologies* (pp. 86-98).
www.irma-international.org/chapter/osteoarthritis-disease-prediction-based-on-machine-learning-techniques/344664

Strictness Petroleum Prediction System Based on Fuzzy Model
Senan A. Ghallab, Nagwa. L. Badr, Abdel Badeeh Salemand M. F. Tolba (2017). *Fuzzy Systems: Concepts, Methodologies, Tools, and Applications* (pp. 715-737).
www.irma-international.org/chapter/strictness-petroleum-prediction-system-based-on-fuzzy-model/178419