

ARTIFICIAL INTELLIGENCE IN MARKETING: A NEW ERA IN MARKETING

S. Altan Erdem, University of Houston-Clear Lake, Houston, Texas, U.S.A.

[dx.doi.org/10.18374/IJBR-24-3.1](https://doi.org/10.18374/IJBR-24-3.1)

ABSTRACT

Artificial Intelligence (AI) is becoming one of the most popular tools in marketing during the recent years. This is not entirely unexpected since out of all the functions of companies, marketing function is the most to gain from AI. After all, marketing is all about understanding customer needs, matching those needs to their products and services, and convincing those consumers to buy those products and services. These are the capabilities that AI can improve significantly. Considering the wide spectrum of the field of AI, we can investigate this topic by focusing on individual subsets of AI to have the complete picture at the end. The purpose of this paper is to review main subsets of AI and examine their actual and potential use in marketing one at a time. It is the author's hope that a review of issues raised in this paper will provide the readers with a better understanding of AI applications in marketing and their practicality in future settings.

Keywords: *Artificial Intelligence; Machine Learning; Deep Learning; Neural Networks*

1. INTRODUCTION

2018 McKinsey analysis of more than 400 advanced use cases across 19 industries and nine business functions highlighted the broad use and significant economic potential of advanced AI techniques and concluded that marketing was “*the domain where AI would contribute the greatest value*” (Chui et al., 2018). After marketing, sales and supply chain management were singled out as those domains that would benefit from AI the most. Considering how all these areas are simply different functional components of marketing, it is no surprise that increasing number of marketing executives have been embracing this technology over the recent years.

August 2019 survey by the American Marketing Association reported that implementation of AI had increased significantly. Not surprisingly, 2020 Deloitte global survey of early AI adopters stated that “*three of the top five AI objectives, namely enhancing existing products and services, creating new products and services, and embracing customer relations were entirely marketing-oriented*” (Davenport, Guha, and Grewal, 2021). Let's take a brief look at AI and its development over time.

2. DEVELOPMENT OF AI

AI was founded as a research discipline in 1956 as a result of the *Dartmouth Summer Research Project on Artificial Intelligence* which was a summer workshop of a few dozen leading researchers in mathematics, computer science, and information theory (Solomonoff, 2023). The proposal of the workshop was to test the assertion that “every aspect of learning or any other feature of intelligence can be so precisely described that a machine can be made to simulate it” (McCarthy et al., 1955). This workshop is widely considered to be the birth of AI (Crevier, 1993).

In most simplified terms, AI is a field that involves the development of algorithms that can perform numerous tasks such as learning, perception, decision-making, and advanced problem-solving. It is essentially a computer science research field that develops and studies methods and software which enable machines to perceive their environment properly. The main idea is then to use that learning to