Chapter 3
The Rising Trend of Artificial Intelligence in Social Media: Applications, Challenges, and Opportunities

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ABSTRACT

Artificial intelligence (AI) is a branch of cognitive science concerned with intelligent machines capable of doing tasks formerly accomplished by humans. It focuses on using computers to perform activities that require knowledge, perception, reasoning, comprehension, and cognitive talents. AI algorithms can be trained to exploit individual actions, preferences, opinions, and interests. They can educate machines to behave in human-like ways. Furthermore, AI can learn these habits much faster than humans. Artificial intelligence is used in various industries to automate and increase the efficacy of specific processes and excessively in social media. Organizations use social media to reach many people by assessing their general perception and learning about their feelings and reactions to brands and products through AI However, there is a knowledge gap in the literature when holistically exploring AI's role in social media, its application, challenges, and opportunities.

INTRODUCTION

Machine learning (ML) is evolving with the enormous promise of making marketing more efficient while also being more human. Every functional marketing area and stage of the consumer journey is powered by cognitive systems, whether they are included in marketing software. AI-driven marketing uses models to automate, optimize, and augment data transition into actions and interactions to anticipate needs, forecast behaviors, and hyper-personalizing messaging. Modern marketers use user data to create hyper-individualized and hyper-contextualized brand messages, with each message building on

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past customer encounters. These interactions are considered a tool to choreograph future meetings in a satisfying virtuous loop rather than as the end of a consumer journey. Successful ML-powered companies use semi-automated and real-time procedures to transform data into seamless customer interactions. These predictive and augmented experiences help companies develop deeper one-to-one relationships with customers, improve the Omni channel customer experience, and differentiate their products. Managers must examine marketing demands in terms of automation, optimization, and augmentation of the sought-after benefits of prediction, anticipation, and personalization when developing an AI strategy—balancing machine-inspired aims with projected benefits requires managers to do a strategic assessment of their company to restructure roles and responsibilities while clearly outlining the work division between people and computers.

SMEs have emerged in response to the rising pressure on enterprises to respond to changing needs of product and service customers (as well as competitiveness and stakeholder preferences). The answer comes in the wake of mounting pressure from the social, political, and economic arenas, which have seen a significant increase in the frequency and duration of product and service customers' online interactions and transactions thanks to technology's complementing role (Basri, 2020). Artificial intelligence (AI) has made significant advancements since its conception, particularly in the previous five decades (Duffett 2017).

Company owners are using artificial Intelligence to improve their marketing technology. It transforms how people think about marketing in various industries and practices. Considering the data presented in Forbes (Louis 2021), AI possesses immense marketing benefits:

70% of high-performing marketing teams claim to have a defined AI strategy, compared to 35% of their underperforming peer marketing teams. CMOS leads high-performing marketing teams to emphasize continuous learning and adopt a growth mentality, as 56% expect to embrace AI and machine learning in the coming year. Investing the time and dedicated effort required to learn new AI and machine learning skills pays well for enhanced social marketing performance and greater marketing analytics precision.

According to 36% of marketers, AI is expected to impact marketing performance this year significantly. A recent study mentioned that 32%of marketers and agency professionals used AI to develop commercials, including digital banners, social media postings, and digital out-of-home ads.

Today, high-performing marketing teams employ an average of seven specific AI and machine learning applications, with just over half planning to expand their use this year. High-performing marketing teams and CMOs invest in AI and machine learning to increase consumer segmentation. They're also concentrating on customizing channel experiences for each user.

AI Defined

Many scholars have been captivated by the potential of building intelligent computers for as long as computers have existed. As previous literature has revealed, the first hints in the direction of artificial intelligence stretch back even further. But, since the term intelligence is challenging to define, what does Artificial Intelligence mean?

The actual definition and meaning of the word intelligence, and even more so of Artificial Intelligence, caught the interest of many scholars and created debate resulting in a great deal of misunderstanding. For example, one dictionary has four definitions of Artificial Intelligence: In the realm of computer science, this is a field of research. Artificial Intelligence is concerned with creating computers capable