ARTIFICIAL INTELLIGENCE AND MARKETING: A LITERATURE REVIEW

Dr.EktaVerma*   Bushra Siddiqui**

*Assistant Professor, Department of Commerce& Business administration, University of Allahabad, Prayagraj
**Research Scholar, Department of Commerce & Business administration, University of Allahabad, Prayagraj

Abstract
The emergence of Artificial Intelligence (AI) has changed the dynamics of the business world. One of the significant applications of artificial intelligence is in the marketing field that helps in improved performance. As the adoption of artificial intelligence in marketing is in nascent stages, there is a dearth of systematic literature. While scholars agree that artificial intelligence technology significantly changes human activities and human resources, currently we do not have an adequate understanding of how humans and artificial intelligence technology interact in value co-creation. This article is an attempt to explore the use of artificial intelligence in marketing as an emergent stream of research. Comprehensive review was carried from extant literature to gain a better understanding of artificial intelligence and use of artificial intelligence in marketing. The research contributes to the existing literature and highlighted the relevance of artificial intelligence in marketing and the major benefits associated with it. The study would also propose the future research directions to study the continuous transformation fostered by accelerated adoption of artificial intelligence across marketing area.

1.1 Introduction

Artificial intelligence (AI) is a set of technologies that enable robots to detect, interpret, act, learn, and display elements of human intellect (Bowen &Morosan, 2018). (Huang & Rust, 2018). Artificial intelligence (AI) is the intelligence displayed by machines, as opposed to human intelligence. Artificial intelligence is represented by a system of intelligent agent machines that senses the environment in order to achieve its aim. Artificial intelligence, according to Russell and Norvig (2016), refers to machines (computers) that mimic the cognitive and emotional processes of the human mind. It focuses on behaving intelligently, which refers to using the processes listed above to achieve goal-directed behaviour, such as perceiving, learning, memorization, reasoning, and problem-solving. This paradigm, which builds on Russell and Norvig (2016)'s pioneering work, analyses the performance of artificial intelligence in terms of an ideal performance termed rationality, rather than faithfulness to human behaviour (Russell and Norvig, 2016). If an artificial intelligence system performs the "correct thing" given what it knows, it is said to be rational. According to a rational conception of artificial intelligence, it behaves in order to attain the optimal outcome or, in the case of ambiguity, the best predicted outcome. By distinguishing between human and rational conduct, we're not implying that people are inherently illogical; rather, we're pointing out that human behaviour might occasionally include actions that don't always result in the optimum conclusion (Kahnemann and Tversky, 1979). Human conduct is boundedly rational, according to Herbert Simon (1996), meaning that it is constrained by the knowledge we have, our cognitive capacities, and the limiting amount of time we have to make judgments. "Computational agents" is the second fundamental component in our definition of artificial intelligence. In information systems, an agent senses its surroundings and acts upon it, according to Russell and Norvig (2016). Human agents see the world through their eyes, ears, and other sense organs, and act with their hands, legs, and voice tracts. Computer agents sense inputs through sensors such as cameras or keyboards and respond to them by writing files, moving objects, or

displaying output on a screen. We propose that artificial intelligence agents tackle issues in practise rather than only in theory by integrating the concept of computational agents.

1.2 Statement of the Problem

Artificial intelligence (AI) is used in a variety of business processes across numerous functional domains and business operations. One of them is marketing, which is regarded as the business's heart. Artificial intelligence (AI) is transforming the marketing environment and will entirely change it in the near future. Although marketing is now the most important commercial use of artificial intelligence, early adopters are striving to get value from it (Bughin et al (2017), Because artificial intelligence in marketing is still in its infancy, there is a paucity of systematic literature reviews Wierenga (2010) demonstrating the in-depth research pattern in the AI-driven consumer market, which leads to research questions like

1.3 Research Questions

RQ1: What are the applications of artificial intelligence in Marketing?
RQ2: How Marketers can optimally utilize the artificial intelligence technologies in marketing?
RQ3: What are the trending topics and future research directions for the adoption of artificial intelligence in Marketing?

1.4 Research Objectives

O1: To comprehend the applications of artificial intelligence in marketing.
O2: To recommend solutions or strategies for the effective use of artificial intelligence technologies in marketing.

1.5 Methodology

The current study explores the status of artificial intelligence in Marketing. Therefore, the publications reviewed in this study focus on articles that (1) mainly discussed artificial intelligence technology (2) were in the context of Marketing.

1.6 Artificial Intelligence in Marketing

Artificial intelligence and other technological disruptors have provided digital alternatives for acquiring and retaining customers (Anshari, Almunawar, Lim, & Al-Mudimigh, 2018; Bolton et al., 2018). Because of its practical importance in current and future industry, Artificial Intelligence (AI) in Marketing has gained traction. By enabling customers' product and service offerings, emerging technologies create a competitive edge (Rouhani et al., 2016; Spring et al., 2017). (Balaji& Roy, 2017; Khanagha et al., 2017; Liao, 2015). Cutthroat competition and technology upheavals have transformed the way businesses function in today's business environment (Gans, 2016). A customer-centric strategy that focuses on consumer demands at a global level is critical for organisational success (Vetterli, Uebernickel, Brenner, Petrie, & Stermann, 2016). Artificial intelligence (AI) is a widely utilised developing technology that enables businesses to track real-time data in order to understand and respond to client needs quickly (Wirth, 2018). Artificial intelligence provides crucial consumer insight into consumer behaviour, which is critical for attracting and retaining customers. Artificial intelligence inspires the next step in the customer's journey and redefines the entire experience (Tjepkema, 2019). Artificial intelligence techniques are helpful in determining client expectations and charting a course for the future (Shabbir, 2015). Sha&Rajeswari (2019) discussed artificial intelligence advancements and exhibited an artificial intelligence-assisted computer that can follow humans' five senses (sight,

hearing, taste, smell, and touch). In the e-commerce company, the results demonstrated a greater consumer-brand relationship and product-brand association. A marketing analytics tool based on artificial intelligence can assess the compatibility of product design to consumer demands and, as a result, customer happiness (Dekimpe, 2020). Artificial intelligence allows for message tailoring and customisation based on the customer's profile and preferences (Huang & Rust, 2020). Netnography on social media content provides marketers with new ways to tailor their marketing campaigns to the preferences of their customers (Tripathi&Verma, 2018; Verma, 2014; Verma&Yadav, 2020).

1.7 Artificial Intelligence in Strategy and Planning
The authors conducted a literature study to learn more about the current state of artificial intelligence research for improving consumer experiences. The implementation problems of autonomous customer experience management were outlined by Gacanin and Wagner (2019). (CEM). The study also explained how artificial intelligence and machine learning were used to create the intelligence network and important business value driver. Natural Language Processing (NLP) and AI-driven chatbots increased customer experience (Nguyen and Sidorova, 2018). AI and machine learning algorithms facilitated efficient data processing, allowing us to make the best judgement possible (Maxwell et al., 2011). To assess client behaviours, purchases, likes, dislikes, and other factors, AI must be used (Chatterjee et al., 2019). Artificial Intelligence User Interface (AIUI) helped Customer Relationship Management (CRM) tasks (Seranmadevi& Kumar, 2019). Traditional retail stores have been transformed into smart retail stores thanks to artificial intelligence (AI) and the Internet of Things (IoT). Smart retail outlets improved consumer experience and shopping convenience, as well as supply chain efficiency (Sujata et al., 2019). V also advises internet companies in addition to brick-and-mortar retailers. Sha&Rajeswari (2019) discussed AI progress and exhibited an AI-assisted computer that can follow humans' five senses (sight, hearing, taste, smell, and touch). In the e-commerce company, the results demonstrated a greater consumer-brand relationship and product-brand association.

1.8 Artificial Intelligence (AI) in Product Management
Artificial intelligence can assist marketers in developing marketing strategies and planning activities by assisting with segmentation, targeting, and positioning (STP). Aside from STP, AI may assist marketers in determining a company's strategic direction (Huang & Rust, 2017). Text mining and machine learning algorithms can be used to identify valuable consumer categories in industries such as banking and finance, art marketing, retail, and tourism (Dekimpe, 2020; Netzer et al., 2019; Pitt et al., 2020; Valls et al., 2018). Customers may be narrowed down using a mix of data optimization approaches, machine learning, and causal forests (Chen et al., 2020; Simester et al., 2020).

1.9 Artificial Intelligence (AI) in Pricing Management
Pricing is a calculation-intensive process that includes factoring in a variety of factors in order to arrive at a final price. The difficulty of the pricing task is increased by real-time price fluctuation depending on variable demand. In a real-time environment, a multiarmed bandit algorithm based on artificial intelligence can dynamically modify pricing (Misra et al., 2019). In a context where pricing changes often, such as an ecommerce platform, Bayesian inference in a machine learning system can swiftly alter price points to match the price of a rival (Bauer &Jannach, 2018). Best response pricing algorithms, according to Dekimpe (2020), include consumer preferences, competitive strategies, and the supply network to optimise dynamic pricing.

1.10 Artificial Intelligence (AI) in Place Management

For increased client satisfaction, product access and availability are critical components of the marketing mix. Product distribution is generally mechanical and repetitive in nature, relying on networked relationships, logistics, inventory management, warehousing, and transportation issues. Cobots for packing, drones for delivery, and IoT for order tracking and order replenishment make artificial intelligence the ideal answer for place management (Huang & Rust, 2020). Both suppliers and customers benefit from the standardisation and automation of the distribution process. Aside from its value in distribution management, AI also provides chances for client involvement in the service environment. In surface acting, service robots built with emotional AI algorithms are useful (Wirtz et al., 2018). Consumers are greeted and engaged with embodied robots, yet human components must complement the service environment in order for customers to be delighted. Artificial intelligence-assisted service process automation provides additional opportunities for performance and **productivity** gains (Huang & Rust, 2018).

1.11 Artificial Intelligence (AI) in Promotion Management

Media planning, media scheduling, advertising campaign management, and search engine optimization are all examples of promotion management. Promotional strategies are shifting from physical to digital. Due to global digital revolution, digital marketing and social media initiatives have gained traction. Customers determine the content, location, and timing in today's technology environment. Artificial intelligence allows for message tailoring and customisation based on the customer's profile and preferences (Huang & Rust, 2020). Content analytics may help you improve the value and efficacy of your messages. With emotional artificial intelligence systems, customers' likes and dislikes may be recorded in real time. Netnography on social media material provides marketers with new ways to tailor their marketing campaigns to the preferences of their customers (Tripathi&Verma, 2018; Verma, 2014; Verma&Yadav, 2020).

1.12 Conclusion

The studies above emphasise the relevance of artificial intelligence in company marketing. Artificial intelligence has revolutionised marketing and is assisting in the modernization of outmoded marketing strategies. It is no longer debatable that in the Fourth Industrial Revolution, where intelligence will reign supreme, organisations who create excellent customer experiences will prevail. Artificial intelligence (AI) is the most recent technology disruptor, with enormous implications for manufacturing, pharmaceuticals, healthcare, agriculture, logistics, and digital marketing. Many practitioners and academics across the world are attempting to determine which artificial intelligence technologies are best suited for their companies. As a result, firms must continually prepare for the future and train their personnel in order to keep up with the advent of innovation.

References

1. Agrawal, A., Gans, J. S., & Goldfarb, A. (2018). Prediction machines: The simple economics of artificial intelligence. Harvard Business School Press.
2. Anshari, M., et al. (2018). Customer Relationship Management and big-data enabled: Personalization & Customization of services. Applied Computing and Informatics, 15(2), 94-101.
3. Balaji, R.N., & Roy, S.K. (2017). Value co-creation with the internet of things technology in the retail industry. Journal of Marketing Management. 33(1-2), 7-31.

4. Bauer, J. &Jannach, D. (2018). Optimal pricing in e-commerce Based on Sparse and Noisy Data, Decision Supports System, 106, 53-56.

5. Bolton et al. (2018). Customer experience challenges: Bringing together digital, physical and social realms. Journal of Service Management. 29(5), 776-808.

6. Bughin, J., et al. (2017) Artificial Intelligence The Next Digital Frontier? McKinsey Global Institute.

7. Bowen, J., &Morosan, C. (2018). Beware hospitality industry: The robots are coming. Worldwide Hospitality and Tourism Themes, 10(6), 726–733.

8. Chatterjee, S., et al. (2019). Are CRM systems ready for AI integration? A Conceptual framework of organization readiness for effective AI-CRM integration. The Bottom Line, 32, 144-157.

9. Chen, Y., et al. (2020). Improving cancer outreach effectiveness through targeting and economic assessments: Insights from a randomized field experiment. Journal of Marketing, 84(3), 1-27.

10. Davenport, T. H. (2018). The AI advantage: How to put the artificial intelligence revolution to work. MIT Press.

11. Dekimpe, M. (2020). Retailing and retailing research in the age of big data analytics. International Journal of Research in Marketing. 37(1), 3-14.

12. Gacanin, H., & Wagner, M. (2019). Artificial Intelligence paradigm for customer experience management in next-generation networks: Challenges and Perspectives. IEEE Network, 33(2), 188-194.

13. Gans, J. S. (2016). Keepcalm and manage disruption. MIT Sloan Management Review. 57(3), 83.

14. Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. Journal of Service Research, 21 (2), 155–172.

15. Kahneman, D. &Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk, Econometrica, 47(2), 263-291.

16. Khanagha, S., et al. (2017). Customer co-creation and exploration of emerging technologies: The mediating role of managerial attention and initiatives. Long range planning, 50(2), 221-242.

17. Maxwell, A. L., et al. (2011). Business angel early-stage decision making. Journal of Business Venturing, 26(2), 212-225.

18. Misra, K. Schwartz, E.M., & Abernethy, J. (2019). Dynamic Online Pricing with Incomplete Information Using Multiarmed Bandit Experiments, Marketimg Science 38(2), 226-252.

19. Netzer, O., et al. (2019(. When words sweat: Identifying Signals for loan default in the text of loan applications. Journal of Marketing Research, 56(6), 960-980.

20. Nguyen, Q. N., &Sidorova, A. (2018). Understanding user interactions with a chatbot: a self-determination theory approach. AMCIS.

21. Pitt, C. S., et al. (2020. New approaches to psychographic consumer segmentation: Exploring fine art collectors using Artificial Intelligence, automated text analysis and correspondence analysis. Europian Journal of Marketing.

22. Rouhani, S., et al. (2016). The impact model of business intelligence on decision support and organizational benefits. Journal of Enterprise Information Management, 29(1), 19-50.

23. Russel, S. J., &Norvig, P. (2016). Artificial Intelligence: A modern approach (3rded.). Upper Saddle River, NJ: Pearson Education Limited.

24. Seranmadevi, R., & Kumar, A. (2019). Experiencing the AIemergence in Indian Retail-Early adopters' approach. Management Science Letters, 9(1), 33-42.

25. ShaNazim, S. &Rajeswari, M. (2019). Creating a Brand value and Consumer Satisfaction in E-Commerce Business Using Artificial Intelligence with the help of Vosag Technology. International Journal of Innovative Technology and Exploring Engineering, 8(8), 1510- 1515.
26. Shabbir, J. &Anwer, T. (2018). Artificial Intelligence and its role in near future.
27. Simester, D. et al. (2020). Targeting prospective Customer's Robustness of machine-learning methods to typical data challenges. Management Science, 66(6), 2495-2522.
28. Sujata, M., et at. (2019). The Role of social media on Recycling Behavior. Sustainable Production and Consumption, 20, 365-374.
29. Tjepkema, L. (2019). What is Artificial Intelligence Marketing & Why Is It So Powerful, 53-55.
30. Tripathi, S., &Verma, S. (2018). Social Media an emerging platform for relationship building: A study on engagement with nongovernment organizations in India. International Journal of Nonprofit and Voluntary Sector Marketing. 23(1), e1589.
31. Valls, A., et al. (2018). Using ontology-based clustering to understand the push and pull factors for British tourists visiting a Mediterranean coastal destination. Information and Management, 55, 145-159.
32. Verma, S., (2014). Online Customer Engagement through blogs in India. Journal of Internet Commerce, 13(3-4). 282-301.
33. Verma, S., &Yadav, N. (2020). Past, present anf future of electronic word of mouth (EWOM). Journal of Interactive Marketing. 53, 111-128.
34. Vetterli, C., et al. (2016). How Deutsche bank's IT division used design thinking to achieve customer proximity. MIS Quarterly Executive, 15(1), 37-53.
35. Wierenga, B. (2010) Marketing & Artificial Intelligence: Great Opportunities, Reluctant Partners. Marketing Intelligent Systems Using Soft Computing: Managerial and Research Applications, 258, 1-8.
36. Wirth, N. (2018). Hello Marketing, what can artificial intelligence help you with. International Journal of Market Research, 60(5), 435-438.
37. Wirtz, J., et al. (2018). Brave new world: Sevice robots in the frontline. Journal of Service Management, 29(5), 907-931.