



Journal of
**TANMIYAT AL-
RAFIDAIN**

(*TANRA*)

A scientific, quarterly,
international, open access, and
peer-reviewed journal

Vol. 44, No. 146
June. 2025

© University of Mosul |
College of Administration
and Economics, Mosul,
Iraq.



TANRA retain the copyright of
published articles, which is
released under a “Creative
Commons Attribution License for
CC-BY-4.0” enabling the
unrestricted use, distribution, and
reproduction of an article in any
medium, provided that the original
work is properly cited.

Citation: Omer, Zakia S.
(2025). Opportunities and
Obstacles to Marketing
Through AI: Theoretical study.
TANMIYAT AL-RAFIDAIN, 44
(146), 185 -198.
<https://doi.org/10.33899/tanra.2025.155555.1436>

P-ISSN: 1609-591X
e-ISSN: 2664-276X
tanmiyat.uomosul.edu.iq

Research Paper
**Opportunities and Obstacles to Marketing
Through AI: Theoretical study**

Zakia Sa’adon Omer

Department of Business Administration, Technical College of
Administration, Duhok Polytechnic University , Duhok, Kurdistan
Region, Iraq.

Corresponding author: Zakia Sa’adon Omer
Zakia.omer@dpu.edu.krd

DOI: <https://doi.org/10.33899/tanra.2025.155555.1436>

Article History: *Received:* 20/11/2024; *Revised:* 7/1/2025;
Accepted: 23/1/2025; *Published:* 1/6/2025.

Abstract

Integrating artificial intelligence (AI) into marketing practices has significantly transformed the industry landscape, offering substantial opportunities and notable challenges. Integrating artificial intelligence (AI) has profoundly transformed marketing, presenting significant opportunities and critical challenges. This study investigates balancing these opportunities and challenges to achieve optimal marketing performance while maintaining customer trust. By adopting a qualitative approach that combines a literature review, case study analysis, and expert interviews, the research explores AI's potential to enhance marketing operations. It addresses the obstacles associated with its adoption. This paper critically examines AI's opportunities, including its capacity to streamline operations, manage vast datasets, and deliver tailored marketing strategies. Simultaneously, it addresses the obstacles associated with AI implementation, such as the complexity of integrating AI systems, data privacy concerns, and the challenges of adapting to rapid technological changes. By analysing these dimensions, the paper aims to comprehensively understand how AI can be harnessed effectively in marketing while navigating the inherent difficulties. The findings highlight that AI facilitates task automation, delivers precise analytics, and enables personalised marketing strategies. However, its implementation is hindered by privacy concerns, technical complexities, and ethical considerations. The study underscores the importance of strategic planning, fostering an organizational culture of innovation, and addressing ethical and technical challenges. It recommends the development of flexible governance frameworks and collaborative approaches between humans and AI to achieve excellence in marketing.

Keywords:

AI, Marketing, Opportunities, Obstacles

ورقة بحثية

الفوص والعقبات أمام التسويق من خلال الذكاء الاصطناعي: لراسة نظرية

زكية سعدون عمر ID

قسم إدرة الاعمال، الكلية التقنية الإدلية، جامعة دهوك التقنية، دهوك، إقليم كردستان، العراق

المؤلف العواسل: زكية سعدون عمر (Zakia.omer@dpu.edu.krd)

DOI: <https://doi.org/10.33899/tanra.2025.155555.1436>

تريخ المقالة: الاستلام: 2024/11/20؛ التعديل والتتقيح: 2025/1/7؛ القبول: 2025/1/23؛
النشر: 2025/6/1.

المستخلص

إن دمج الذكاء الاصطناعي (AI) في ممرسات التسويق قد غير بشكل كبير من ملامح هذا القطاع، إذ وفر فرصًا كبيرة إلى جانب تحديات بارزة. لقد أحدث دمج الذكاء الاصطناعي تحولًا عميقًا في مجال التسويق، مقدمًا إمكانيات ملحوظة وتحديات حرجة. تبحث هذه اللراسة في كيفية تحقيق توازن بين هذه الفوص والتحديات من أجل الوصول إلى أداء تسويقي مثالي مع الحفاظ على ثقة العملاء. من خلال اتباع منهج نوعي يجمع بين مراجعة الأدبيات، وتحليل لراسات الحالة، والمقابلات مع خواء، تستكشف اللراسة إمكانيات الذكاء الاصطناعي في تحسين العمليات التسويقية، كما تتناول العقبات المرتبطة بتبني هذه التكنولوجيا. وتقوم الورقة بتحليل نقدي لفوص الذكاء الاصطناعي، بما في ذلك قوته على تبسيط العمليات، وإدرة كميات ضخمة من البيانات، وتقديم استراتيجيات تسويق مخصصة. في الوقت نفسه، تتناول الورقة التحديات المتعلقة بتطبيق الذكاء الاصطناعي، مثل تعقيد تكامل الأنظمة، ومخاوف الخصوصية، وصعوبة مواكبة التغيرات التكنولوجية السريعة. من خلال تحليل هذه الأبعاد، تهدف اللراسة إلى تقديم فهم شامل لكيفية الاستفادة الفعالة من الذكاء الاصطناعي في التسويق، مع مواجهة التحديات المصاحبة له. وتشير النتائج إلى أن الذكاء الاصطناعي يسهم في أتمتة المهام، وتوفير تحليلات دقيقة، وتمكين استراتيجيات تسويق مخصصة. ومع ذلك، فإن تطبيقه يواجه عواقيل مثل مخاوف الخصوصية، والتعقيدات التقنية، والاعتبارات الأخلاقية. وتؤكد اللراسة على أهمية التخطيط الاستراتيجي، وتعزيز ثقافة الابتكار داخل المؤسسات، ومعالجة التحديات الأخلاقية والتقنية. وتوصي بتطوير أطر حوكمة مونة، واعتماد نهج تعاوني بين الإنسان والذكاء الاصطناعي لتحقيق التميز في التسويق.

الكلمات المفتاحية:

الذكاء الاصطناعي، التسويق، الفوص، العقبات

مجلة

تنمية الرافدين

(TANRA): مجلة علمية، فصلية،

لولية، مفتوحة الوصول، محكمة.

المجلد (44)، العدد (146)،

حزيران 2025

© جامعة الموصل |

كلية الإدرة والاقتصاد، الموصل،
العراق.



تحتفظ (TANRA) بحقوق الطبع والنشر للمقالات المنشورة، والتي يتم إصدارها بموجب رخيص (Creative Commons Attribution) (CC-BY-4.0) الذي يتيح الاستخدام، والتوزيع، والاستنساخ غير المقيد وتوزيع للمقالة في أي وسيط نقل، بشروط اقتباس العمل الأصلي بشكل صحيح.

الاقتباس: عمر، زكية سعدون (2025).
الفوص والعقبات أمام التسويق من خلال
الذكاء الاصطناعي: دراسة نظرية. تنمية
الرافدين، 44 (146)، 185-198.
<https://doi.org/10.33899/tanra.2025.155555.1436>

P-ISSN: 1609-591X

e-ISSN: 2664-276X

tanmiyat.uomosul.edu.iq



1. Introduction

Artificial Intelligence is transforming marketing by enabling data-driven decision-making and personalised customer experiences. Through AI, businesses can analyse consumer behaviour more effectively, predict trends, and automate campaigns. The revolution enhances efficiency, optimises targeting, and boosts overall marketing performance (Jarek & Mazurek, 2019; Yashkina et al., 2020). By using AI, the performance of marketing activities can be improved, address issues related to the application of concepts, and augment the value the marketing Operations are bidirectional. The origins of the use of artificial intelligence in marketing are traced back to around the early 1980s, based on expert systems and rule-based algorithms. However, it was not broadening its use within marketing prior to 2000 (Yashkina et al., 2020). Considerable data, cloud computing, and more advanced algorithms in machine learning form the foundation for AI marketing (Jarek & Mazurek, 2019). The use of AI in e-commerce began with customer grouping and traffic prediction; recent active AI applications include chatbots, recommendation systems, and writing and generation systems. In contrast to conventional marketing practices, artificial intelligence employs machine learning algorithms and natural language processing (NLP) in conducting complex market operations. AI-marketing management extends beyond single campaigns to influence strategic decision-making and solve problems characteristic of dynamic, data-intensive settings (Haleem et al., 2022). Beginning with its initial application in the 1980s through the utilization of expert systems, the application of AI in marketing management evolved with advancements in big data, cloud computing, and machine learning. It assists marketers today in managing multi-channel approaches, monitoring competitor activity, and predicting trends in buyer behavior. This study accentuates the promise of AI in marketing management through its ability to solve issues related to integration challenges and data privacy issues. It also emphasizes the revolutionary role of AI in marketing management through problem-solving and innovation. Marketers, therefore, need to possess AI as an instrument because the contemporary world is rather dynamic in a digital setting. They enable the marketer to overcome the concept of a multi-channel approach to marketing, process and sort big data, and make extensive personal measurements. Artificial intelligence helps organisations keep track of their competitors' activities by reducing the time taken for routine activities, analysing large amounts of data, and recognising emerging trends that sometimes occur in consumer behaviour (Yashkina et al., 2020). In this paper, these aspects will be described, and the challenges associated with AI implementation in marketing will be discussed.

2. Current Status of AI in Marketing:

2.1 AI techniques in marketing

The current state of AI in marketing can be described as a result of dozens of technologies that have contributed to the marketing industry becoming a vast industry. The application of AI in marketing includes machine learning, natural



language processing (NLP), computer vision, and deep learning (Yashkina et al., 2020). They enable the marketer to filter through corporate and consumer data in various domains, ranging from the customer level of analysis to social media and general market factors (Chaisatitkul *et al*, 2024). Expert systems are burned into neural networks supported by reinforcement learning, among other AI methods, and edge computing and cloud-based platforms embody data processing systems for real-time decision-making and increased server capacity (Jarek & Mazurek, 2019). These AI technologies impressively complement each other to enable marketers to derive better insights, streamline repetitive marketing activities, and provide better marketing messaging and outcomes.

2.2 Creating an AI Culture

AI adoption and deployment are not merely a technology question but are significant organizational change processes. This first entails raising awareness among the leadership and the team members about the possibilities of AI in marketing (Mariani et al., 2022). Hence, leaders must learn about this strategic shift towards the new economic value of AI and its consequences. This understanding is essential to mustering adequate support and capital for AI projects. The concerns for the marketing team members should include education about what AI is, giving context on how it benefits the marketing field, and clarifying that it will not replace people's jobs. This means that, through creating a mindset culture in the organizations, there will be an increased overview of resistance to the change and increased willingness to accept the change. Ideally, this educational process should be continuous since AI technologies and their applications are growing and changing rapidly (Davenport et al., 2020).

Another essential aspect that must be embraced when developing an organizational culture that is friendly to AI is fostering a culture that promotes experimentation and learning. Businesses should ensure that various departments have areas where they can practice AI solutions and methods to gain experience (Liu-Thompson et al., 2022). That may mean establishing innovation centers, hackathons, or pilot projects to allow work teams to experiment with creativity and AI without emphasizing the success of first-applied innovation. There is also a need for collaboration across departments. Implementing AI involves several organizational departments, such as marketing, IT, data science, and customer service. Coordinating different departments can help generate better ideas for AI implementation in the company and guarantee the alignment of AI projects with the general organizational objectives. The continued culture of learning, testing, and teamwork enables organizations to increase speed on AI and create more significant benefits for marketing initiatives (Mariani et al., 2022). Another practice that could strengthen this culture is systematically disseminating success stories, best practices, and lessons learned—a richness that can fuel further creativity



2.3 Selecting the Proper AI Tools and Vendors

Choosing the right tools and partners when implementing AI is very important. In assessing vendor competencies, organizations should not be dazzled by shiny trends but rather look at the ease of the software's integration into the current systems, its flexibility, and their previous experience in such projects. The vendor's solution should be evaluated to see if it can fit the organization and some of its application areas. Further, other adopter attributes, including the degree of support and training from the vendor, are critical, mainly because they affect its implementation (Davenport et al., 2020; Mariani et al., 2022). Some aspects are better checked by talking with reference customers and, maybe, with preliminary cooperation trials, but in any case, by doing thorough research.

Another factor that needs to be addressed is the choice between open-source and enterprise solutions. Solutions that are open source are more versatile and can be modified in almost every way possible, but their implementation and support often demand more internal resources (Ma & Sun, 2020). While open-source solutions can sometimes offer more substantial assistance and are generally as easy to implement as patented ones, the latter may be less versatile. These considerations must then be compared to the context and goals of an organization, the number of needed resources, and the available resources. Finally, regardless of the solutions that have been chosen, scalability and flexibility are critical (Vlačić et al., 2021). This means that as the AI needs of an organization increase and the amount of data to be processed increases, the selected tools should be scalable. Flexibility with new marketing strategies and technologies is equally crucial (Overgoor et al., 2019). The right baseline for organizations' AI-oriented marketing is set through analysis and choosing the right AI tools and vendors. It is also critical to evaluate the sustainability of sources and potential partners because the rates of change in the AI sphere are relatively high.

2.4 Key AI application areas in marketing

AI applications that are currently being implemented in the field of marketing are numerous and are still increasing. Customer segmentation, a cumbersome task done manually, has evolved with the help of AI, where algorithms can design methods of splitting customers according to various parameters (Haleem et al., 2022). These AI-driven segmentation models also differ from conventional demographic variables. In addition to behavioral data, buying habits, and psychographic data, they provide a detailed view of a customer. To a degree, real-time marketing has advanced through sophisticated personalization techniques that use AI to provide customized content, products, and offers to consumers (Haleem et al., 2022). This is the extent of personalization across the various touchpoints throughout the customer's journey, ensuring that the communication is timely and more engaging.

AI in marketing enables marketers to rely on forecasts based on predictive analytics to consider what customers might want and when, where, how, and to whom it is best to advertise. AI can logically estimate historical data and find the



concrete link between different factors and customers' lifetime value, churn risk, and conversion rate to define marketing actions. Nowadays, intelligent and self-developed products such as chatbots and virtual assistants use NLP to perform real-time conversations and serve customers as a helping tool in sales (Stone et al., 2020). They are available anytime to help enhance customer satisfaction and decrease the load on support staff. AI is also advancing in content generation since the algorithms can write, design, and even create video content. Human creativity is still crucial; nevertheless, these tools increase efficiency and let marketers generate and trial countless copies.

3. Opportunities and Challenges of Use AI in Marketing

3.1 Opportunities in AI-Driven Marketing

Marketing AI is rapidly changing the market environment and opening new horizons for businesses with the potential to improve their approaches. Below are five broad segments through which AI creates many marketing possibilities. The specific scope of AI in marketing is constantly evolving, with new applications and technologies being developed.

3.2 Challenges in the Integration of AI into Marketing

Although AI represents many marketing opportunities, it is accompanied by a certain number of difficulties in its implementation. Knowledge of these barriers is critical to overcoming them and capitalizing on the potential of AI in marketing.

3.2.1 Data Quality and Quantity Issues

The use of artificial intelligence in marketing is highly dependent on the quality and quantity of data in the market. It is common for various organizations to face issues with either a lack of or incorrect data, resulting in the wrong information and decision-making (Verma et al., 2021). The last problem is commonly triggered by the large amount of information received in various channels, which makes it challenging to maintain the relevance and accuracy of the data. Moreover, the current situation entails various departments or systems formulating distinct negative perspectives toward AI marketing (Du & Xie, 2021; Chintalapati & Pandey, 2022). Nevertheless, as data collection volume and its rate grow in the contemporary world, the issue of data quality maintenance becomes more critical.

Problems of data silos and data integration represent the next challenge, steering people away from analytical insights. Several organizations have data in numerous systems and departments, making it hard to create a clear image of clients' engagements and activities (Overgoor et al., 2019). When these multiple data sources are linked together, they become very bulky, so integration can be time-consuming and demands much technical support and expertise. Also, privacy concerns and regulations, such as GDPR and CCPA, that limit data handling are added challenges. The strict regulations discussed above about data collection, storage, and use may minimize the application of artificial intelligence approaches in marketing and



promote the need for sound data management procedures (Du & Xie, 2021). Organizations must work in such an environment while using data to develop sound AI marketing strategies.

3.2.2 Technical Challenges

The uses of AI in marketing can also be described based on their specificity and ability to have multiple technical layers. AI as a component is intricate, and professionals are required to design, apply, and maintain the systems (Verma et al., 2021; Labib, E. 2024). Another reason for less-than-ideal AI systems' implementation or less usage of their potential is that many marketing teams lack the background knowledge that would allow them to navigate these systems to their advantage. In addition, the advancement of AI technology is rapidly changing, making it difficult for organizations to keep up with all the developments (Ma & Sun, 2020). This has come due to the fast-changing technological environment that demands constant learning, which is costly for marketing departments.

Incorporating AI solutions with existing marketing technology solutions presents another set of technical challenges. A modern marketer can have a lot of current marketing technologies that are often bought for money; it makes integrating new AI tools expensive, as it must not disrupt the previous technologies already in place (Haleem et al., 2022). Potential problems are compatibility problems, data formatting differences, and a lack of compatibility due to incompatible features or APIs. Another factor is the problem of scalability and performance that arises when organizations begin to use AI to work with larger datasets and more complicated marketing processes. Keeping AI approaches scalable and capable of efficiently handling more data at their peak workload is one of the most critical planning areas and usually implies significant investments (Overgoor et al., 2019). The difficulty of achieving both system performance and more cost-efficient solutions belongs to the considerations that further complicate the technical aspects of AI in marketing.

3.2.3 Skills Deficit and Talent Acquisition

Most organizations face a significant challenge due to the lack of AI and data scientists, especially when implementing AI into their marketing strategies. There is an absolute need for highly qualified specialists with knowledge in machine learning, data analytics, and AI development; therefore, the competition is relatively high (Liu-Thompson et al., 2022). This can lead some organizations to stall their AI projects or outsource their AI solutions outside the firm, which might not suit the needs of their particular enterprise. However, it is crucial to note that the requirements offered by consuming AI talent are competitive and, therefore, come at higher prices. This may further stress the firms' budgets, especially for mid-, small-, or non-tech industries (Ma & Sun, 2020). The challenge is also compounded by the dynamic nature of AI technologies and their constant advancement, which presents a learning process that must be updated continuously. Skills Gap and Organizational Resistance Marketing teams must adopt new skill sets and a different mentality to use AI-driven marketing. Employees who are afraid of their jobs or unfamiliar with



AI may resist an organization. Shift in position. To get beyond these obstacles, efficient interaction, instruction, and change control. (Hemalatha,2023)Another challenge is training the existing marketing personnel to be knowledgeable about AI in marketing. This means marketing competencies should be supplemented with data orientation, basic AI literacy, and the skills to read AI-derived meanings and respond appropriately (Haleem et al., 2022). This entails a substantial capital expenditure in training and development, besides creating awareness within the marketing function. Another issue is the combination of people's creativity and the performance of AI. Though AI can improve almost every aspect of marketing, it is possible to experience over-automation without the human touch. Balancing between intelligent automation by AI and the creative agency of humans is feasible and can preserve brand awareness and people's trust (Overgoor et al., 2019). To fully unlock the potential of AI in marketing, organizations must have a culture that supports both technology and creativity training.

3.2.4 Ethical Concerns

The application of the AI system in marketing creates the following ethical issues that are difficult for organizations to handle: Effects such as safety and algorithmic bias are cause for concern as AI systems may bias against specific genders, races, etc., as a result of the bias inherent in training data or the design of the particular algorithm used (Yashkina et al., 2020). It can even result in specific customers being discriminated against or missing out on communications, products, and services, negatively affecting the brand and consumer confidence. Addressing fairness in the context of AI-based marketing decisions is about the constant recalibration of AI and DL models and diversity in the teams that work on AI products (Ma & Sun, 2020). Hence, discussing algorithmic bias is complex since most are concealed and hard to decipher, requiring thorough testing and validation measures (Kumar, & Suthar,2024). Another ethical issue is accountability, or understanding why an AI has made a specific decision. Some profound learning models do not contain a precise method of comprehending how a particular recommendation or decision was made (Liu-Thompson et al., 2022). However, this lack of transparency may become an issue when explaining the chosen marketing strategies or addressing some regulations. Marketing organizations must focus on creating explainable AI models and implementing proper checks and validations for the marketing decisions made by AI. Another challenge related to AI-driven marketing is job displacement. AI continues to take over most tasks in the marketing process, resulting in a consequent loss of employment for marketers. Mitigating these fears involves understanding how AI complements rather than replaces human marketers and steps taken toward employee training for new AI-supported jobs (Overgoor et al., 2019). The societal effects of AI-driven marketing raise concerns about the invasion of individual privacy by AI systems and the loss of control by consumers. (Hemalatha,2023) Ethical Considerations: AI systems can unintentionally perpetuate or exacerbate existing biases in data, leading to unfair marketing practices or discriminatory targeting. Marketers must know these ethical



concerns and develop strategies to mitigate potential bias in AI-driven marketing campaigns.

3.2.5 Others Challenges

Implementation Costs, the initial implementation cost of AI-driven marketing tools can remain high, especially for small and medium-sized businesses. These include software licensing, hardware infrastructure, and recruitment or training of personnel with the required skills (Hemalatha,2023)., Data Security and Privacy concern: The necessity to deal with huge volumes of customer data when using AI in marketing is a data security and privacy issue. Advertisers can maintain consumers' trust by safeguarding individuals' information and guaranteeing compliance with data protection laws.

4. Research Problem

The exponential growth of artificial intelligence (AI) in advertising has significantly revolutionised the industry, creating a far-reaching web of opportunities as well as pitfalls. Whereas artificial intelligence facilitates accurate customer targeting, predictive analytics, and real-time decision-making, decision-making; however, it also introduces obstacles, including ethical dilemmas and technical challenges, integration and data privacy issues. This study examines the following research Problem: In what ways can organisations best manage the advantages and limitations of leveraging AI in marketing to optimise performance and maintain consumer trust?

The study aims to better conceptualise effective strategies for adopting AI technologies while minimising challenges and ensuring ethical adherence.

4.1 Methodology

4.2 This study uses a qualitative methodology to explore the possibilities and marketing challenges of AI. The steps in the methodology are:

1. **Literature Review:** Academic and thorough review of existing academic A review of industry literature was carried out, specifically AI marketing applications, adoption challenges, and future trends. Major themes from peer-reviewed academic papers and market studies and reports gave important insight.
2. **Case Study Analysis:** Three case studies of organizations that have succeeded integrated AI into their marketing operations were analyzed. Data were gathered from publicly available documents, interviews, and documented success stories to demonstrate practical applications and limitations.
3. **Expert Interviews:** Five AI professionals and marketing experts were interviewed in a structured manner to obtain firsthand information on the practical applications of embracing AI in marketing initiatives. Participants



were chosen on the strength of AI-driven marketing capabilities and incorporated representatives of small, medium, and large enterprises.

4.2 Research Results

The analysis provided the following insightful findings:

1. Opportunities:

- AI improves marketing efficiency as it automates repetitive tasks and supplements decision-making with predictive analytics.
- Personalization features allow for customized customer experiences, which raise engagement and loyalty.
- Artificial intelligence-driven instruments, including chatbots, tailored agents, personalized workflows, and recommendation systems, facilitate cost reduction while simultaneously enhancing the quality of customer service.

2. Challenges:

- Ethical issues continue to be major obstacles, such as AI algorithmic bias and privacy concerns.
- Integrating AI within already established infrastructure and operations scaling was one of the many challenges organizations faced in terms of technical challenges.
- The disparity in proficiency regarding artificial intelligence use among marketing teams obstructs successful execution.

3. Strategies for Success:

- Developing an organizational culture of AI implementation, e.g., continuous learning and cross-departmental collaboration.
- Choosing adaptable and scalable artificial intelligence software to meet individual organizational requirements.
- Establishing governance structures to address ethical issues and provide transparency in AI uses.

These findings underscore AI's dual impact in marketing and highlight the importance of strategic planning and ethical considerations for successful adoption.

4. Discussion

AI has great potential to improve marketing functions, but requires effective adoption and specialized professionals. This starts with a clear definition of what the AI and human marketers of the company are anticipated to do (Stone et al., 2020). AI does best in data analysis; identifying patterns and repetitive work are necessary. Human marketers, however, come with creativity, emotional values, and a strategic mind. Clearly defined roles create more synergy between AI and human skills, thus improving the efficiency of the marketing process. Such balance should be monitored regularly as the capabilities of AI and its uses emerge (Ma & Sun, 2020).



The next step is developing AI-human collaboration models. One is about establishing a proper workflow that would imply the cooperation of the AI and the human marketer. For instance, AI would put forward intuitive information and suggestions, while the actual creative duties and strategy formation are implemented by human marketers (Overgoor et al., 2019). Further, it is equally important to evaluate AI regularly to stay relevant to marketing goals and the guidelines of regulatory boards. There should be constant feedback from human marketers who would be used to fine-tune the models and keep AI valuable marketing for the future (Stone et al., 2020). In this way, the symbiosis between AI and business experience can enhance the marketing process and result in innovation. Thus, additional training programs are vital for human marketers to optimize AI potential for efficient human and AI systems that benefit organizations.

5. Future Trends in AI-Driven Marketing

Looking into the future of AI and marketing, several trends can be predicted to significantly impact it. These advancements have the potential to pull the strings and create more opportunities for significant innovations in the business and its relationship with its customers.

5.1. Development of Natural Language Processing

One of the most important trends that will disrupt marketers' ways of interacting with customers and approaching data is called natural language processing (NLP). The improved NLP models work to see more elaborate and intelligent interactions between the brands and the consumers. The chatbots and virtual assistants will be further integrated to perform human-like tasks, addressing rather complicated questions and giving particular advice (Rust, 2020). In addition, higher-level NLPs are applied to text, like social media posts, customer reviews, support tickets, and even more insights into customer sentiment analysis.

5.2. Emotion AI and Sentiment Analysis

Emotional AI (affective computing) focuses on identifying, understanding, and acting on emotions. Marketing is one area where this technology will help brands assess consumers' feelings toward the content, products, and services posted by the brands (Ma & Sun, 2020). Analyzing facial expressions, voice intonation, and sentiment within the text will allow marketers to address their customers on an emotional level. This capability will be helpful in the development of new products, managing customers' issues, and targeted marketing.

5.3 Edge AI for Real-Time Marketing

Performing artificial intelligence at the edge rather than in core data centers, as done in edge AI, will enhance the speed and efficiency of marketing actions. However, this technology will make personalization and decision-making in real-time more accessible, especially in areas such as in-store experiences or live events where timing is critical. Edge AI will also improve privacy, a growing consumer issue, because it will reduce the risk of data breaches by processing data locally (Huang & Rust, 2021; Rust, 2020).



5.4 Quantum computing in marketing

Though quantum computing is still relatively nascent, it opens up many possibilities in marketing. Over time, this technology can potentially overhaul fields like global market modeling, optimum MMC models, and state-of-the-art customer classification (Huang & Rust, 2021). Highly efficient computing using quantum processing could generate light speeds of data processing and solutions to complicated problems that could turn into a gold mine of information that would give marketers a heftier edge over rivals.

5.5. Ethical Artificial Intelligence and Responsible Marketing

As AI dominates most of the marketing niches, there will be a surge in the ethical issues and best practices of AI marketing. This trend will include cultivating AI solutions that are open, fully explainable, and free from bias. Marketers will be responsible for responding to privacy issues, biases, and the overall impact of AI strategies (Huang & Rust, 2021; Rust, 2020). Therefore, this shift towards ethics in AI will result in the formulation of new guidelines and rules for the industry, along with more consumers being informed about using their data in AI marketing applications.

6. Conclusion

AI is undeniably one of the most significant opportunities and threats marketers will face shortly. With AI, potential impacts can range from better customer analytics and true mass customization to more marketing effectiveness and data-driven creativity. However, practical implementation questions include data quality, technical problems, and ethical questions, which should be addressed. AI's resilience in the marketing sector cannot be overemphasized; it can revolutionize how firms manage their relations with consumers and marketing efforts with them. In the future, trends such as advanced NLP, emotion AI, edge AI, and quantum computing in AI will strengthen the impact. AI presents the best news for marketers, but marketers must be responsible for AI and consider that AI should be based on ethical values and human experience. AI represents a paradigm shift in marketing management, offering unprecedented opportunities for efficiency, personalization, and innovation. However, addressing challenges such as data integration, technical barriers, and ethical concerns is crucial for maximizing AI's potential. This paper underscores the importance of a balanced approach, integrating perspectives and practical applications to navigate AI's complexities and unlock its transformative power in marketing management. In doing so, they can achieve new heights of marketing communication excellence while also earning trust and providing value in the age of AI.

- Acknowledgements

No institutions provided any support.

- Funding

There is no financial support from any party

- Author Disclosures



“I declare that I have no conflicts of interest or disclosures relevant to this research”

References

- Bharadiya, J. P. (2023). Machine learning and AI in business intelligence: Trends and opportunities. *International Journal of Computer (IJC)*, 48(1), 123-134. <https://ijcjournal.org/index.php/InternationalJournalOfComputer/article/view/2087>.
- Campbell, C., Sands, S., Ferraro, C., Tsao, H. Y. J., & Mavrommatis, A. (2020). From data to action: How marketers can leverage AI. *Business Horizons*, 63(2), 227–243. <https://doi.org/10.1016/j.bushor.2019.12.002>.
- Chintalapati, S., & Pandey, S. K. (2022). Artificial intelligence in marketing: A systematic literature review. *International Journal of Market Research*, 64(1), 38-68. <https://doi.org/10.1177/14707853211018428>.
- Chaisatitkul, A., Luangngamkhum, K., Noulpum, K., & Kerdvibulvech, C. (2024). The power of AI in marketing: enhancing efficiency and improving customer perception through AI-generated storyboards. *International Journal of Information Technology*, 16(1), 137-144. <https://doi.org/10.1007/s41870-023-01661-5>
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48, 24–42. <https://doi.org/10.1007/s11747-019-00696-0>.
- De Bruyn, A., Viswanathan, V., Beh, Y. S., Brock, J. K. U., & Von Wangenheim, F. (2020). Artificial intelligence and marketing: pitfalls and opportunities. *Journal of Interactive Marketing*, 51(1), 91–105. <https://doi.org/10.1016/j.intmar.2020.04.007>
- Du, S., & Xie, C. (2021). Paradoxes of artificial intelligence in consumer markets: ethical challenges and opportunities. *Journal of Business Research*, 129, 961–974. <https://doi.org/10.1016/j.jbusres.2020.08.024>
- Haleem, A., Javaid, M., Qadri, M. A., Singh, R. P., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*, pp. 3, 119–132. <https://doi.org/10.1016/j.ijin.2022.08.005>
- Hermann, E. (2022). Leveraging artificial intelligence in marketing for social good— an ethical perspective. *Journal of Business Ethics*, 179(1), 43–61. <https://doi.org/10.1007/s10551-021-04843-y>
- Hemalatha, (2023), AI-Driven Marketing: Leveraging Artificial Intelligence for Enhanced Customer Engagement, Published By: Jupiter Publications Consortium, Chennai 600 092. Tamil Nadu, India. <https://doi.org/10.47715/JPC.B.978-93-91303-61-7>
- Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, pp. 49, 30–50. <https://doi.org/10.1007/s11747-020-00749-9>



- Jarek, K., & Mazurek, G. (2019). Marketing and artificial intelligence. *Central European Business Review*, 8(2). <http://dx.doi.org/10.18267/j.cebr.213>
- Kopalle, P. K., Gangwar, M., Kaplan, A., Ramachandran, D., Reinartz, W., & Rindfleisch, A. (2022). Examining artificial intelligence (AI) technologies in marketing via a global lens: current trends and future research opportunities. *International Journal of Research in Marketing*, 39(2), 522-540. <https://doi.org/10.1016/j.ijresmar.2021.11.002>
- Kumar, D., & Suthar, N. (2024). Ethical and legal challenges of AI in marketing: an exploration of solutions. *Journal of Information, Communication and Ethics in Society*, 22(1), 124-144. <https://doi.org/10.1108/JICES-05-2023-0068>
- Liu-Thompson, Y., Okazaki, S., & Li, H. (2022). Artificial empathy in marketing interactions: Bridging the human-AI gap in the affective and social customer experience. *Journal of the Academy of Marketing Science*, 50(6), 1198–1218. <http://dx.doi.org/10.1007/s11747-022-00892-5>
- Labib, E. (2024). Artificial intelligence in marketing: exploring current and future trends. *Cogent Business & Management*, 11(1), 2348728. <https://doi.org/10.1080/23311975.2024.2348728>
- Ma, L., & Sun, B. (2020). Machine learning and AI in marketing: connecting computing power to human insights. *International Journal of Research in Marketing*, 37(3), 481–504. <https://doi.org/10.1016/j.ijresmar.2020.04.005>
- Mariani, M. M., Perez-Vega, R., & Wirtz, J. (2022). AI in marketing, consumer research, and psychology: A systematic literature review and research agenda. *Psychology & Marketing*, 39(4), 755-776. <https://doi.org/10.1002/mar.21619>
- Overgoor, G., Chica, M., Rand, W., & Weishampel, A. (2019). Letting the computers take over: Using AI to solve marketing problems. *California Management Review*, 61(4), 156–185. <http://dx.doi.org/10.1177/0008125619859318>
- Rust, R. T. (2020). The future of marketing. *International Journal of Research in Marketing*, 37(1), 15–26. <https://doi.org/10.1016/j.ijresmar.2019.08.002>
- Stone, M., Aravopoulou, E., Ekinci, Y., Evans, G., Hobbs, M., Labib, A.,... & Machtynger, L. (2020). Artificial intelligence (AI) in strategic marketing decision-making: a research agenda. *The Bottom Line*, 33(2), 183–200. <http://dx.doi.org/10.1108/BL-03-2020-0022>
- Verma, S., Sharma, R., Deb, S., & Maitra, D. (2021). Artificial intelligence in marketing: systematic review and future research direction. *International Journal of Information Management Data Insights*, 1(1), 100002. <https://doi.org/10.1016/j.ijime.2020.100002>
- Vlačić, B., Corbo, L., Silva, S. C., & Dabić, M. (2021). The evolving role of artificial intelligence in marketing: A review and research agenda. *Journal of Business Research*, 128, 187–203. <https://doi.org/10.1016/j.jbusres.2021.01.055>
- Yashkina, O., Chaikovska, M., & Filatova, V. (2020). Artificial Intelligence in Mobile Marketing: Conditions, Obstacles, and Prospects of Using. *Маркетинг і цифрові технології*, 4(2), 53-60. <http://dx.doi.org/10.15276/mdt.4.2.2020.5>