

A Study on Artificial Intelligence in Marketing

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Abstract— This study focused on using different Artificial intelligence applications in marketing. The researchers used secondary data collected from various journals, articles, websites, etc. The study discussed various AI applications using in marketing, different AI techniques using the marketing, various challenges faced in AI marketing and what are the futures for AI marketing. Using artificial intelligence (AI) for data analysis, personalization, and automation, an AI marketing strategy focuses on understanding customers, automating tasks (like content/email), optimizing advertisements, and improving customer support through tools for predictive analytics, content creation, and chatbots. In the end, this increases ROI and improves the customer experience, freeing up humans to concentrate on strategy and creativity. The study concluded that businesses must also make sure that the application of AI conforms to legal and ethical requirements. Starting small and growing up gradually, investing in training and development, working with professionals and business leaders, and making sure AI is used ethically and responsibly are some best practices for integrating AI in marketing.

Index Terms— Artificial Intelligence, Importance, Applications, Techniques, Challenges and Futures

I. INTRODUCTION

In marketing, "artificial intelligence" (AI) refers to the use of AI techniques and technologies, such as data models, algorithms, and machine learning, to produce consumer insights that assist marketers in optimizing their expenditures, tailoring content, and customizing

the customer journey. Chatbots, picture recognition, recommendation engines, virtual assistants (like Google Assistant, Amazon Alexa, Microsoft's Cortana, and Apple's Siri), targeted advertising based on your search history, and dynamic pricing on e-commerce platforms are a few examples of AI in marketing solutions.

Artificial intelligence technology is used in AI marketing to make automated judgements based on data gathering, analysis, and additional audience or economic trend insights that could affect marketing initiatives. AI is frequently employed in digital marketing campaigns when speed is crucial. In digital marketing campaigns where speed is essential, generative AI is often employed. Without the assistance of marketing team personnel, AI marketing solutions analyse data and customer profiles to learn how to engage with customers most effectively. This ensures optimum efficiency by delivering timely, personalized communications to customers. Generative AI is employed by many modern digital marketers to support marketing teams or carry out tactical jobs that call for less human finesse.

II. REVIEW

Davenport and Bressgot (2019), the review developed a multifaceted framework to focus on the effects of artificial intelligence in showcasing. It included things like task types, knowledge levels, artificial intelligence implanted in robots, and more. The model also focuses on how simulated intelligence affects marketing

practices, customer behavior, and other aspects. Experts also looked into information bias, security concerns, and ethics in simulated intelligence operations and procedures.

Dumitriu and Mirona (2020) have created a sequential model with four stages. It aids in determining the site's deceitfulness using various keywords. These methods included creating relevant subjects and topics to increase the site's accessibility, using online methods to look through the key words, searching for terms online, checking those catchphrases, and so on.

Ribeiro and Reis (2020) experts emphasize that many of our daily tasks are now being replaced by artificial intelligence, and it's likely that many of us are unaware of this. Experts found that using artificial intelligence in robots with humans will yield better outcomes. One of the major obstacles mentioned by the analyst is that consumers are still unsure about innovation and are not yet ready for this mechanical shift. Scientists later suggested that managers and organizations could train themselves and their representatives to use artificial intelligence in advertising.

Boninsegni et. al., (2021) the examination investigation concentrated on the benefits and drawbacks of modern fourth-century mechanical advancements on the prosperity of consumers. Analysts discovered that new developments such as artificial intelligence, mechanical technology, block chains, and so on provide high-level approaches to their daily decisions in the areas of teaching, medical care, finance, and other areas. The inventor recognized that these developments are problematic advances that are altering the actual factors of consumers and specialized businesses.

III. WHY ARTIFICIAL INTELLIGENCE IN MARKETING IS IMPORTANT

Artificial intelligence (AI) is essential to marketing because it can automate tasks, enable hyper-personalization at scale, and provide deep customer insights from massive amounts of data. By understanding behaviour, forecasting trends, and delivering pertinent content in real time, AI makes campaigns more data-driven and effective while also improving targeting, efficiency, and customer experiences.

1. Enhanced Personalization: AI analyzes customer data (behavior, demographics, intent) to tailor

content, recommendations, and ads for individual users, boosting engagement and loyalty.

2. Deeper Customer Insights: Machine learning quickly processes massive datasets to reveal patterns, sentiment, and predictive behaviors, informing better strategic decisions.
3. Automation & Efficiency: Automates repetitive tasks like scheduling, data entry, and initial customer interactions (chatbots), freeing marketers for strategy.
4. Improved Targeting & Segmentation: Creates precise customer micro-segments based on complex profiles, ensuring campaigns reach the most receptive audiences.
5. Predictive Analytics: Forecasts customer spending, identifies high-potential leads, and predicts market shifts, allowing proactive strategies.
6. Real-time Optimization: Enables dynamic campaign adjustments (e.g., ad bidding, content delivery) based on live data, maximizing performance.
7. Content Creation & Curation: Assists in generating relevant content, optimizing headlines, and curating existing assets for maximum impact.

IV. APPLICATIONS OF AI IN MARKETING

IA in marketing primarily automates tasks, personalises customer experiences, and provides predictive information, which increases efficiency, segmentation, ROI, and customer satisfaction with critical applications in content creation, customer service (chatbots), personalisation and recommendations, data analysis and predictive models, programmed advertising, SEO and social media, and marketing automation.

1. Personalization & Recommendation Engines: Analyzes user behavior to offer tailored content, product suggestions (like Netflix/Amazon), and seamless journeys, boosting engagement.
2. Content Marketing: Generates blog posts, social media updates, email subject lines, and ad copy, while also optimizing for voice search and SEO.
3. Chatbots & Virtual Assistants: Provides 24/7 customer support, handles simple queries, and guides users through the sales funnel using Natural Language Processing (NLP).

4. **Data Analytics & Predictive Modeling:** Processes vast data to forecast trends, identify high-value leads, predict demand, and segment audiences for better targeting.
5. **Marketing Automation:** Automates repetitive tasks like email scheduling, campaign optimization, and contact management, freeing up marketers.
6. **Programmatic Advertising:** Automates ad buying and placement in real-time to reach specific audiences with precision.
7. **SEO & social media:** Identifies keywords, optimizes web pages, schedules posts, and analyzes sentiment from social mentions.
8. **Dynamic Pricing:** Adjusts product prices in real-time based on demand, competition, and other factors.

V. BENEFITS OF USING AI IN MARKETING

Increased Efficiency: AI automates repetitive tasks like data entry, A/B testing, and customer segmentation, allowing teams to focus on strategy and innovation. Automation also reduces the time required to launch campaigns, speeding up time-to-market.

Better Customer Insights: AI tools can analyze vast amounts of customer data, identifying trends and behaviors that would be impossible for humans to detect alone. This allows for deeper audience understanding and more informed strategy development.

Enhanced Personalization: From email campaigns to product recommendations, AI ensures each user receives tailored experiences, improving engagement and loyalty. Personalized onboarding, loyalty programs, and upsell flows are now all driven by AI.

Improved ROI: By targeting audiences more effectively and optimizing campaigns in real time, AI helps businesses maximize their marketing budgets. AI also reduces the cost per acquisition (CPA) and improves customer lifetime value (CLV).

VI. CHALLENGES OF AI IN MARKETING

Data Privacy and Ethical Use: Given how much AI depends on data, marketers need to put consent and transparency first. It is essential to abide with the CCPA, GDPR, and other privacy legislation. It is also necessary to address ethical issues related to algorithm

bias and monitoring. To guarantee inclusivity and equity, marketers must also assess the diversity and source of training data.

High Initial Investment: It takes money, time, and training to implement AI systems. Without a substantial investment, small and medium-sized enterprises could have trouble obtaining cutting-edge AI solutions. Nonetheless, the entrance barrier is progressively being lowered by the growth of SaaS-based AI platforms.

Over-Reliance on Automation: While AI is powerful, relying solely on it can backfire. Human oversight is necessary to ensure brand consistency and emotional connection. Strategic direction, empathy, and cultural sensitivity still require human intelligence.

Data Quality Issues: Poor or incomplete data can lead to inaccurate predictions and poor performance. Data cleaning and proper management are essential. Organizations must establish robust data governance policies to ensure reliability.

How to Get Started with AI Marketing

1. Identify Areas for AI Integration
2. Choose the Right Tools
3. Train Your Team
4. Monitor Performance
5. Maintain the Human Element

VII. FUTURE OF AI IN MARKETING

In only a single year, AI in marketing has evolved from automatic support to autonomous action. Marketers learned how to scale analytics, content creation, and personalization with ChatGPT and Jasper in 2025. But in 2026, a big change will take place with the advent of agent AI, when computers operate according to goals rather than directives.

Instead of providing intelligent agents direct instructions to write, segment, or optimize multi-step programs, marketers are increasingly letting them plan and execute them independently. The results include improved personalization, faster execution, and 24-hour optimization driven by interconnected data ecosystems. The trajectory of AI in marketing will depend on significant advancements in automation, personalization, and decision-making.

1. AI Automation Becomes the Standard

AI is now essential for automating repetitive work so that teams can focus on higher-level planning.

Marketers claim significant improvements: 84% say it speeds up the delivery of high-quality content, 83% report increased efficiency, and nearly half save 1–5 hours per week.

2. Personalization Evolves to Hyper-Relevance: AI is progressing from personalization to predictive anticipation, with platforms such as Jasper.ai currently modifying content in real-time based on user interactions and campaign objectives. The advantages are evident: 91% of consumers favor personalized brands, and AI engines have increased order value by 21% and buy frequency by 35%.

3. AI-Powered Decision-Making Goes Mainstream: Teams may create automatic reports and visualize data with the use of tools like ClickUp AI. AI analytics now speed up decision-making by 78% and increase predictive accuracy by 47%, improving campaign planning and budgets. Making judgments based on data is now the norm rather than a competitive advantage.

4. Ethics and AI Governance Rise in Priority: Scale is made possible by AI, but without ethics, brand trust is put at risk. Compliance and transparency are now necessary, not optional, since 127 nations have passed laws pertaining to AI, and 40% of marketers cite data privacy as their largest challenge.

5. AI Integrations Will Significantly Impact Employees: Marketers' jobs are changing due to AI, including co-creating with algorithms, testing more quickly, and iterating more thoroughly. However, employment losses are a concern for 59.8% of marketers (up from 35.6% in 2023).

6. Multimodal Content Marketing Is Becoming the Norm: Video, voice, image, and text are all coming together. Brands are simultaneously telling stories in a variety of media, including product photos, podcast scripts, and short-form films.

7. AI in the Supermarket: Using tools like Vertex AI, Gemini API, and Imagen 4, Fair Price in Singapore has teamed up with Google Cloud to integrate agentic AI throughout its chain of stores. AI assistants are integrated into trolleys, shelves, and pharmacy zones in Fair Price Finest's first prototype project in Punggol;

additional places will follow. It illustrates how, by 2026, AI will have moved from dashboards into retail settings, fusing digital intelligence with in-store purchases.

VIII. TRENDS AND TECHNOLOGIES

1. Predictive customer insights: Predictive analytics is reaching new heights thanks to deep learning. With solutions like Sales force and Adobe, brands can now precisely predict user behavior, orchestrating better journeys and optimizing conversion routes.

2. Generative AI for branded content: Generative AI is expected to revolutionize marketing content production by 2026. It will provide content more quickly, more affordably, and with more brand consistency. Writing in your brand's style, adapting content for various channels, and easily scaling content creation are already made possible by tools like Synthesis and GPT-4.

3. AI-enhanced programmatic advertising: Programmatic advertising is one field undergoing fast development, and AI-driven ad exchange for publishers is crucial. These exchanges maximize ad placements and revenue creation using advanced algorithms and real-time bidding. Using AI-powered ad exchanges gives publishers better fill rates, higher CPMs, and more user-relevant advertising without the need for human interaction. AI is being used by businesses like The Trade Desk to provide more intelligent, dynamic ad placements through creative optimization and real-time data analysis.

4. Sentiment analysis with emotional depth: With new AI models and technologies like Clarabridge and Brandwatch that are better at comprehending and interpreting human emotions, sentiment analysis technology is developing quickly. By 2026, marketers will use these developments to better understand consumer attitudes through a variety of platforms, such as social media, reviews, and customer support exchanges.

5. AI-powered hyper-personalization: Emerging AI technology will propel hyper-personalization, which will advance personalized marketing. Thanks to solutions like Persado and Dynamic Yield that

combine transactional and behavioral data, you can anticipate real-time, multi-channel customization.

6. Augmented reality (AR) powered by AI: Another new development that will have a big impact on marketing is the combination of AI and augmented reality (AR). Customers will have interactive and immersive ways to interact with brands and products thanks to AI-enhanced augmented reality experiences.

7. Agentic AI: the rise of autonomous collaboration: AI bots are developing into self-sufficient partners that oversee campaigns from start to finish. While Adobe allows real-time customization depending on user behavior, Omneky and other tools already launch and optimize Omni channel ads. Agent-to-agent cooperation is supported by emerging systems like Google's A2A and Anthropic's MCP, but autonomy also brings up new issues with control and trust.

8. AI visibility optimization for search (Generative Engine Optimization or GEO): A new field called Generative Engine Optimization (GEO) is developing as a result of generative AI platforms like ChatGPT and Claude impacting how consumers access content. In addition to traditional search, marketers now need to optimize for AI engines that summarize and suggest content. This entails reassessing SEO tactics from the perspective of AI discoverability, which businesses like Peec AI are assisting in making feasible.

9. AI-powered voice search and synthetic voices: Whether it's through Alexa, Siri, or branded voicebots, more customers are communicating with brands via speech. AI tools now make it possible to generate dynamic, human-like speech. Creating brand-aligned voices for advertisements, content, or customer service is made simple with tools like ElevenLabs or WellSaid Labs. Optimizing for speech answers and voice search will be essential in 2026, particularly as generative AI becomes increasingly integrated with voice assistants.

10. AI-powered video editing and content repurposing: AI is already being used by marketers to quickly and easily convert lengthy movies into short, platform-ready segments. AI is used by programs like Pictory and KLAP to identify highlights, add subtitles, and customize images for Instagram Reels, TikTok, and YouTube Shorts. This facilitates a more flexible

content approach without increasing the number of employees.

IX. CONCLUSION

This works to increase marketing activities' effectiveness, output, and performance. There are several advantages to using artificial intelligence in marketing, such as greater revenue and profits, better customer experience, and increased efficiency and production. It assists companies with data-driven decision-making, marketing message personalization, and task automation. A lack of qualified workers, significant implementation costs, and privacy and data security issues are some of the difficulties associated with using AI in marketing. Businesses must also make sure that the application of AI conforms to legal and ethical requirements. Starting small and growing up gradually, investing in training and development, working with professionals and business leaders, and making sure AI is used ethically and responsibly are some best practices for integrating AI in marketing. It is also essential to track and assess artificial intelligence's performance and modify tactics as necessary.

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