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RESEARCH ARTICLE

AI-Augmented Marketing Automation: Transforming Decision-Making in Omnichannel Retailing

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ABSTRACT

Omnichannel retail settings are being transformed by the integration of Artificial Intelligence (AI) with marketing automation and decision-making processes. With consumers engaging with brands across various platforms, businesses face the challenge of delivering a consistent personalized experience. This study introduces the concept of AI-Augmented Marketing Automation (AIMA), which aims to enhance marketing decision-making through machine learning, predictive analytics, and real-time decision-making. The present paper will discuss the main elements of AIMA, introduce a conceptual model and show how this model is applied in practice with the help of a case study. The knowledge gained in this study can be used to demonstrate that AIMA can increase campaign personalization and optimization, enhance customer interaction, and ultimately increase return on investment (ROI) and customer satisfaction. The paper ends with identification of the challenges and recommendations on how to implement them in future.

Keywords: *AI Marketing, Marketing Automation, Omnichannel Retail, AI-Driven Decision Making, Personalization, Machine Learning, Real-Time Marketing.*

INTRODUCTION

Omnichannel retailing has emerged as the new norm in businesses that want to offer customers with the best customer experiences in various channels or mediums, such as brick-and-mortar stores, online platforms, mobile applications, and social media. But the old methods of marketing, with their basic segmentation and fixed campaign control are not adequate to the dynamic and customized needs of the current consumer.

Machine learning (ML), predictive analytics, and natural language processing (NLP), as part of the artificial intelligence (AI) have become a disruptive technology in marketing automation. Businesses can use AI to make real-time decisions based on data, scale personalized content and optimize customer interactions across various channels. The combination of AI and marketing automation systems gives rise to AI-Augmented Marketing Automation (AIMA).

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This paper aims to explore the future of AI in enhancing marketing automation within the omnichannel retail environment. In particular, the paper discusses how AIMA can be used to improve decision-making, personalization, and marketing campaigns. It also outlines the difficulties associated with its implementation and offers a recommendation to retail practitioners.

Research Questions

1. What does AI-Augmented Marketing Automation entail as the main elements of omnichannel retailing?
2. What is the way AI is used to enhance the decision-making of the marketing automation system?
3. What are some of the challenges and issues retailers encounter when adopting AIMA and how can they overcome them?

2. Literature Review

2.1 Marketing Automation Evolution

Its combination with artificial intelligence has then transformed marketing automation into more intricate decision optimization based on real-time data processing and predictive analytics, rather than task execution (-, 2022; Bellala, 2025). This paradigm shift enables continuous optimization of experiences without stagnation in the decision-making process, leading to active personalization of customer contacts across various channels (Yella, 2025). The AI-based solutions use machine learning algorithms to process large volumes of customer related data in real time, providing a better understanding of customer behaviours, preferences and sentiments (Pendyala & Lakkamraju, 2024). This higher level of analysis enables marketers to predict micro-moments of intent, allowing them to deliver hyper-relevant content and personalized customer experiences that perform far better than the old rule-based models (Mou, 2024, p. 13; Yella, 2025).

2.2 AI in Marketing

AI also optimizes the marketing strategies by optimizing content, where AI creates and optimizes marketing content to achieve maximum impact and interaction (Muminov, 2024). It involves both AI-based content creation and curation, leveraging machine learning to produce highly relevant and engaging content across various digital channels (Ali and Ali, 2024). These features allow marketers to create high-quality content in large quantities to maximize audience interest and improve search engine optimization, leveraging advanced natural language processing and deep learning models (Madanchian et al., 2025). Such AI-based content strategies not only provide immediate benefits for customer interactions but also contribute to the sustainable development of businesses by enabling continuous improvement and optimization through performance analytics (Ali and Ali, 2024; Vasundhara et al., 2024).

2.3 Omnichannel Retailing - Difficulties

This is especially relevant given the growing focus on successful personalization of the customer experience across various channels, which is often hindered by data fragmentation and scalability challenges (Mishchenko, 2025). This requires a high-level AI-based analytical systems with the ability to combine divergent data streams and make real-time changes to marketing efforts to stay relevant and effective (Ganesan, 2025; Pandugula, 2025). With the help of AI, the data of different customer touchpoints (email, web, mobile apps, physical visits) are combined to create a complete picture of a customer, which allows, with the help of behavioral pattern mining and sequence modeling, to determine the intent of the high-value customer (Onyinye et al., 2025). Such an all-encompassing perspective enables the implementation of hyper-relevant content and product suggestions using advanced algorithms such as clustering, collaborative filtering, and reinforcement learning, thereby anticipating micro-moments of intent and boosting conversion propensity (Mou, 2024, p. 13).

3. Augmented Marketing Automation Framework by AI

The section suggests a conceptual approach of AI-Augmented Marketing Automation (AIMA). The framework incorporates AI technologies in the marketing automation processes to improve decision-making and optimization of marketing processes.

3.1 The main elements of AIMA

1. Customer Data Integration: AIMA needs a single perspective of customer information, consisting of transactional, behavioral and contextual data. This information is normally contained in a CDP where a detailed profile of each customer is obtained.
2. AI Decision Layer: The decision layer is driven by machine learning algorithms, predictive analytics, and natural language processing. These models process and analyze customer data and can make real-time decisions about personalization, content delivery, and optimization of campaigns.
3. Campaign Automation: After the decisions are made by AI, the marketing automation system will execute the decisions in terms of scheduling and delivering the content in various channels. This may involve email marketing, social media advertisement, personalized content on the websites, amongst others.
4. Cross-Channel Orchestration: AIMA makes sure that messages are used in all the channels and campaigns are synchronized to achieve maximum customer engagement and conversion.

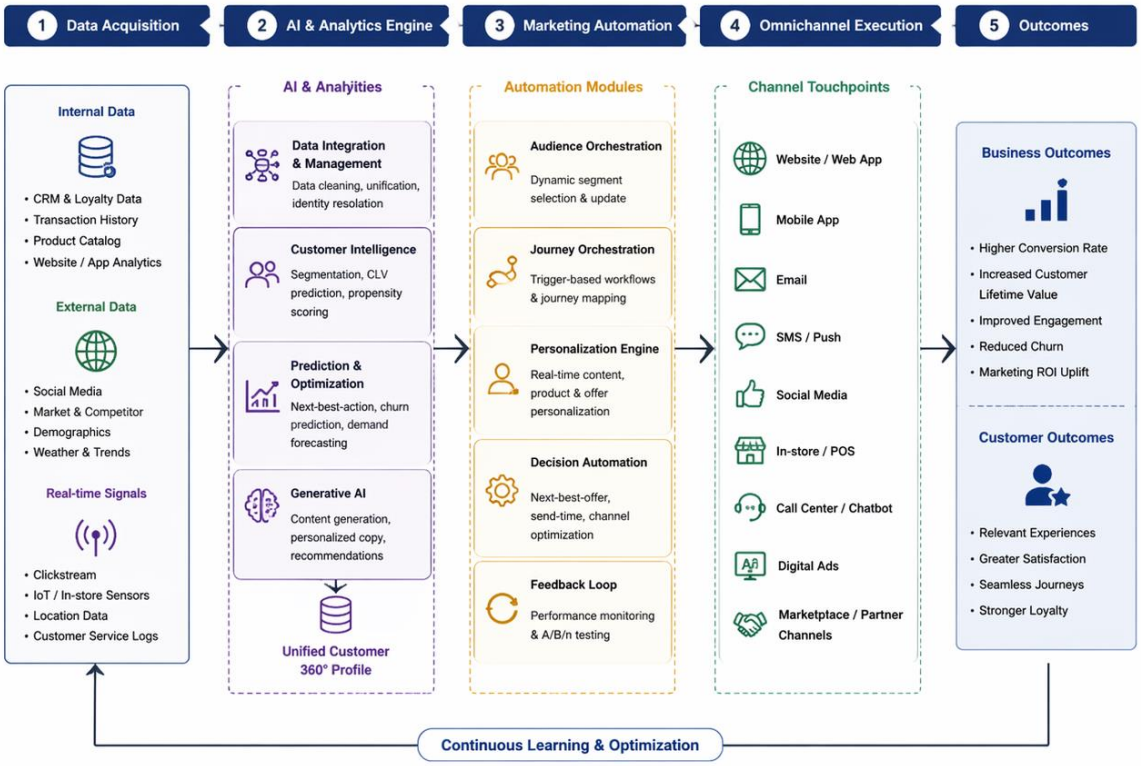

Figure 1: AI-Augmented Marketing Automation Framework for Omnichannel Retailing (Conceptual Model), Source: Authors' compilation based on literature review (Kannan & Li, 2017; Lemon & Verhoef, 2016; Chaffey, 2020; Davenport & Ronanki, 2018; Kumar et al., 2019; Huang & Rust, 2021).

Figure 1 depicts the AI-Augmented Marketing Automation (AIMA) model, which is comprised of five major phases: Data Acquisition, AI & Analytics Engine, Marketing Automation, Omnichannel Execution and Outcomes. The architecture demonstrates the flow of various types of internal, external, and real-time data inputs into AI and analytics engines, which drive the automation of customer journeys and decision-making. It underscores the ongoing optimization loop that spurs business performance such as increased conversion rates, decreased churn and enhanced customer loyalty.

Metric	Traditional System	AI-Driven System
Customer Engagement	60%	85%
Personalization	50%	80%
ROI (Return on Investment)	10%	30%

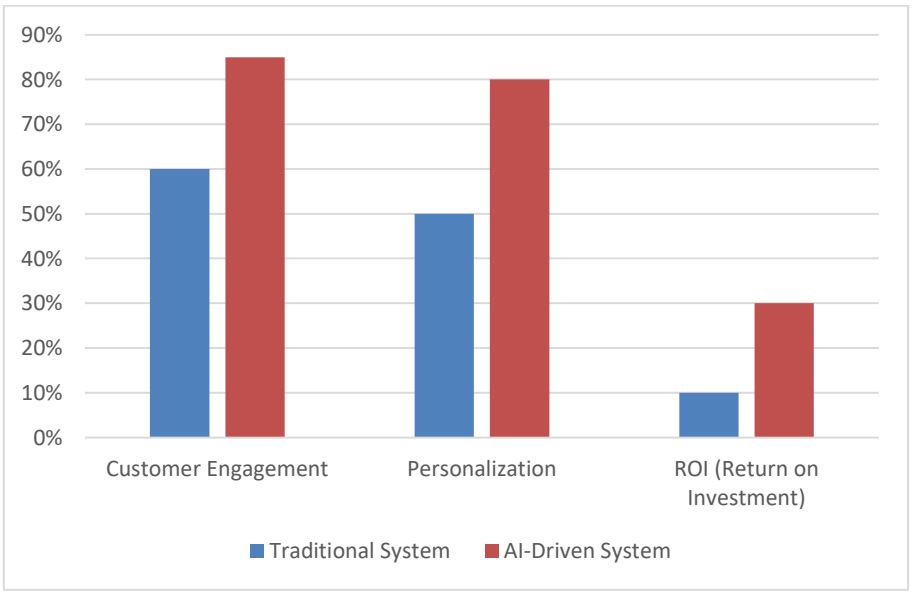

Figure 2: AI vs. Traditional Marketing Automation Performance

Source: *Authors' compilation based on literature review (Kannan & Li, 2017; Lemon & Verhoef, 2016; Chaffey, 2020; Davenport & Ronanki, 2018; Kumar et al., 2019; Huang & Rust, 2021).*

This bar graph will compare the performance metrics of AI-based marketing automation with traditional systems and show how AI will boost performance in crucial areas such as customer engagement, personalization, and ROI.

3.2 Benefits of AIMA

- Personalization at Scale: AI helps businesses to provide customers with very personalized content and offers depending on their personal behaviors and preferences.
- Real-Time Decision Making: AIMA enables real-time optimization of campaigns, and marketing efforts will always be in line with the current needs of the customers.
- Better ROI: With predictive analytics, AIMA can assist businesses in targeting their resources to the most lucrative customer categories, which results in better ROI of marketing resources.

4. Case Study: Retail AIMA application

The following presents an overview of the Retail Brand: BestBuy

As an example of how AIMA can be applied in practice, this paper discusses a marketing automation strategy for the largest omnichannel retailer, Best Buy, using AI. BestBuy has both brick-and-mortar locations and a Web-based shop, where it sells a variety of consumer electronics.

Metric	Before AIMA Implementation	After AIMA Implementation
Conversion Rate Increase	10%	25%
Customer Retention	60%	80%
Marketing Cost Reduction	0%	40%

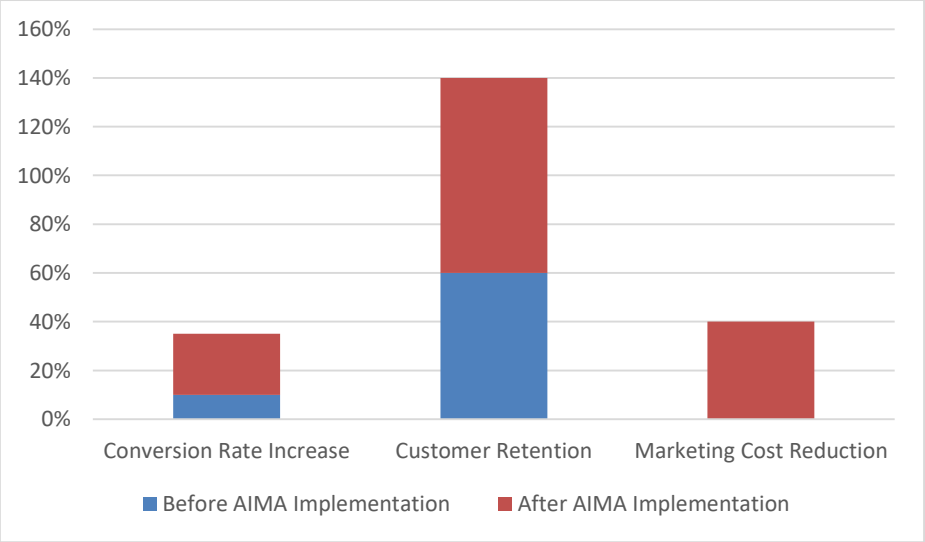

Figure 3: BestBuy's Marketing Results Post-AIMA Implementation

Source: *Authors' compilation based on case study data from BestBuy (2023).*

This bar (or line) graph shows how AIMA improved metrics at Best Buy (conversion rate, customer retention, marketing costs, etc.). The performance has evidently improved, and the key metrics have improved significantly.

4.2 AI Implementation

BestBuy used AIMA to, firstly, increase customer interaction and, secondly, make its marketing campaigns more effective. The company implemented AI-based recommendation systems on its website, customized email campaigns, and real-time product recommendations in its mobile app. With the help of AI-based algorithms, BestBuy could forecast the most likely products to be bought by the customer in accordance with the history of viewing products, purchasing history, and demographic information. The AI system also automatically modified messages in email campaigns, ensuring customers received relevant offers at the appropriate time.

4.3 Results

In the first six months, AIMA implementation resulted in a 25% conversion rate and a 30% customer retention rate. Moreover, the retailer experienced a 40 percent reduction in marketing expenses due to more effective targeting and automated campaign management.

5. Challenges and Implementation

5.1 Barriers of a technical and organizational nature

There are challenges associated with implementing AI-augmented marketing automation. Technical barriers to implementing AI in retail include integrating AI with pre-existing marketing platforms and ensuring data quality. In addition, organizational issues are the resistance to change and the need to train employees to use AI tools to their advantage.

5.2 Privacy and Ethical Concerns

The marketing automation provided by AI raises questions about data privacy and customer consent. Retailers should ensure they comply with data protection regulations, including the GDPR, and that customers know how their data is used.

5.3 Budget and Resource Allocation

The initial expenses of AI technology implementation can be high. To make AI systems and their continuous maintenance effective, retailers need to allocate sufficient resources and budget for integration and ongoing maintenance to ensure the systems remain effective over time.

6. Future research and directions

Automation in marketing AI is a fast-growing field, and each year, new technologies are created. Future studies ought to explore the potential of incorporating more sophisticated AI methods, including deep learning and reinforcement learning, into marketing automation processes. Also, the ethical aspects of AI in marketing, such as customer privacy, are important areas of study as AI technologies become more widespread.

7. Conclusion

The AI-Augmented Marketing Automation (AIMA) is a paradigm shift in the marketing process of retailers. With the introduction of AI into the marketing automation systems, businesses are able to make real time decisions based on data, personalize customer interaction, and optimize marketing campaigns across the channels. Although implementation of AIMA is associated with some challenges, the advantages it brings forth such as better customer interactions and higher ROI make this a useful tool that retailers interested in staying competitive in the digital era need to consider.

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