

AI-Powered Digital Marketing: Enhancing Customer Behaviour Predictions

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ABSTRACT:

The article explores the current practices of using artificial intelligence (AI) in digital marketing ecosystems to predict customer behaviour. It has been found that using machine learning technologies and AI analytical tools will not only facilitate the automation of marketing processes but also allow the creation of personalised content, increasing the accuracy of predicting consumer decisions, which helps businesses optimise communication with customers and increase customer loyalty. The study analysed various functional AI tools, such as analytical, predictive, generative, communication, and optimisation technologies. The study uses a scientific integration method that combines theoretical analysis, modelling and empirical research through a survey of 20 experts from five leading Ukrainian retailers. A stratified selection of respondents and a differentiated scoring methodology were used to assess the implementation of digital technologies, programmes and marketing tools. The study highlights the need to improve the methodological approach to using AI in marketing strategies to adapt business processes to changes in consumer behaviour. A conceptual model for integrating digital marketing ecosystems using AI has been developed, providing an integrated approach to data analysis, forecasting and automation of communications. A methodology for assessing enterprises' digital maturity level in marketing is proposed based on determining the implementation index of digital technologies, software and marketing tools. The study results show that artificial intelligence has great potential for developing modern marketing strategies, especially for creating personalised solutions that improve the prediction of the behaviour of individual customer groups.

Keywords: digital marketing ecosystems, artificial intelligence, customer behaviour forecasting, marketing automation, machine learning, content personalization.

1. Introduction

The rapid advancement of digital technologies is driving profound transformations in marketing. Artificial intelligence (AI) has become a key driver, enabling consumer behaviour analysis and market trend forecasting.

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The prevailing conditions of intense global competition, the need for personalised strategies, and the demand for rapid business process adaptation stimulate scientific research into innovative solutions to more effectively manage customer interaction processes. In this context, advanced digital marketing ecosystems, incorporating both Big Data technologies, machine learning algorithms, and predictive marketing models, have begun to evolve into drivers for improving communication efficiency between companies and their target audiences while simultaneously optimising marketing initiatives (Vlacic, 2021). When implemented quickly, these ecosystems can also strengthen companies' current competitive positions by accelerating market-driven decision-making, reducing operational costs, and fostering a flexible adaptation strategy to changes in consumer behaviour patterns (Zhang, 2024).

The relevance of this research direction is entirely justified by the exponential growth of marketing (commercial) data, which records the evolving trends in customer behaviour. This, in turn, presents companies with the challenge of implementing deep, systematic market analysis methods to identify patterns that can be used to refine and accelerate the development of their strategies. Companies have the opportunity to ensure transparency and fairness by implementing ethical principles of AI use, including explanation of algorithms, data privacy, and non-discriminatory analysis. It is important to introduce independent audits of AI solutions and communicate with consumers about the use of their data, increasing trust and reducing the risk of manipulation. AI has the potential to automate routine marketing analytics and enhance both the accuracy of demand forecasts and the creation of adaptive mechanisms aimed at maximising customer satisfaction by addressing their needs and expectations. A scientific analysis of digital marketing ecosystems and AI's role in predicting consumer behaviour is of critical importance.

2. Literature review

Boom-Cárcamo *et al.* (2024) define a marketing ecosystem as a dynamic, interconnected system of interactions between businesses, customers, technology, data, and other market participants shaped to create, deliver, and exchange value in the digital economy. From another angle, Komodromos *et al.* (2024) state that the modern marketing ecosystem is a complex dynamic system that encompasses a set of interconnected digital and traditional marketing tools, platforms, technologies, strategies and participants (brands, consumers, partners, suppliers, advertising agencies) that interact to create, promote and distribute value propositions in the market.

According to Cagiran Kendirli (2024) and Nim, Pedada, & Hewett (2024), the use of artificial intelligence in marketing activities is becoming increasingly common, especially in the retail sector, where it plays a key role in the processes of personalising marketing campaigns, analysing consumer demand, and optimising product placement through the use of analytical algorithms that work with large amounts of data in real-time. Bormane & Blaus (2024), Makki (2023), and Peltier, Dahl, & Schibrowsky (2024) offer a systematic approach to AI technologies, treating them as an integral component of marketing digital ecosystems that integrate innovative solutions such as virtual and augmented reality, as well as Internet of Things (IoT) technologies. They emphasise that successful interaction

with consumers in the digital environment is only possible if data analytics, market research and CRM tools are deeply integrated. This allows businesses to understand customer behaviour, build personalised communication strategies, and ensure long-term customer loyalty.

According to De Mauro, Sestino, and Bacconi (2022) and Kumar, Ashraf, and Nadeem (2024), artificial intelligence is being implemented at all stages of value creation in enterprises' marketing activities, from the planning and implementation of marketing strategies, market analysis, and demand forecasting to logistics, payment processes, and customer service.

Madanchian (2024) emphasises that artificial intelligence plays a key role in creating personalised marketing offers. AI accompany the customer at all stages of their interaction with the brand—from the first contact to the purchase and post-sale service. By using AI, companies can offer individualised options for goods and services that best meet the customer's needs and predict their future behaviour, adapting their marketing strategy to reflect changes in customer preferences.

As Chotisarn & Phuthong (2025) have already substantiated, the omnichannel concept involves the integrated management of various channels of interaction between businesses and consumers, including traditional media, social networks, websites, messengers, email and other marketing platforms. The peculiarity of the omnichannel approach is not in the even distribution of marketing potential between different channels but in creating a single effective communication system that increases customer engagement and enhances marketing impact through a comprehensive analysis of customer behavioural patterns. Ranjan and Upadhyay (2024) explore the role of interactive artificial intelligence (AI) in creating shared value in e-commerce. The study focuses on how interactive AI facilitates the interaction between a company and its customers, which is a key aspect of the marketing ecosystem for corporate businesses.

Modern researchers, such as Ayeni et al. (2024) and Paşcalău et al. (2024), highlight in their works the issue of the increasing use of artificial intelligence (AI) in company marketing. Their position is formulated: "AI is a potential technology that addresses key strategic marketing tasks, including optimising current sales planning, ensuring the effectiveness of advertising campaigns, and rational budget management." However, according to the views expressed by the research group of Prakash et al. (2023), the full integration of AI into corporate marketing can only be achieved through the development of algorithmic mechanisms for AI functionality and the components of the marketing mix.

The article aims to develop a methodological toolkit for integrating artificial intelligence technology and a company's digital marketing ecosystems to manage the behaviour of existing and new customers.

3. Research methodology

1. The scientific method of integration used in this study is a comprehensive approach to analysing digital marketing ecosystems, where artificial intelligence plays a crucial role in predicting customer behaviour. The study consists of the following stages: a) theoretical review - generalisation of scientific concepts on the integration of AI into marketing processes; b) system modelling - the creation of a structured model of digital

technologies interaction to predict customer actions; c) empirical research - assessment of the actual use of AI in marketing strategies through an expert survey, using for statistical analysis of the results; d) recommendations and improvements - development of practical proposals to improve the efficiency of marketing ecosystems.

2. The survey method was used to collect marketing data from leading Ukrainian retailers, such as Varus, Fozzy Group, ATB, Auchan Ukraine, and Novus, which are in the Ukrainian market. The sample size of the respondents was 20 professionals, and the survey covered professionals from the above five leading retailers in Ukraine who use digital marketing solutions in their operations. We chose a sample of 20 experts that provides valuable insights holistically, as it includes professionals from five leading retailers in Ukraine that use digital marketing and AI. The selection was based on the principles of representativeness to ensure the inclusion of experts with experience in digital and AI, and a stratified method was used to cover different levels of competence and roles within the companies.

3. The methodology of differentiated analysis of the degree of implementation of marketing digital technologies, which considers their functional compliance with the strategic objectives of marketing in the digital economy, is used. The application of this approach allows not only the determination of the level of awareness and competence of specialists in the use of digital tools but also the assessment of the depth of understanding of the role of marketing technologies in shaping the competitive advantages of enterprises. A specially developed formula was used to determine the level of readiness of an enterprise to integrate digital marketing ecosystems with artificial intelligence into its activities in the service market:

$$R_{prep} = \frac{P_{tech} + P_{soft} + P_{soft}}{S_{max}} \quad (1)$$

Where:

R_{prep} is an indicator of the company's readiness to implement digital marketing ecosystems;

$P(tech)$ is a parameter of the intensity of the use of digital technologies for analysis and forecasting;

$P(soft)$ is the degree of involvement of specialised AI-enabled software solutions;

$P(tools)$ is the level of use of digital marketing tools to predict customer behaviour;

S_{max} is the maximum score, which is 9 points.

The methodological approach allows for a comprehensive assessment of an enterprise's ability to adapt to digital challenges, focusing on integrating artificial intelligence to predict future customer behaviour.

4. Results

1. The role of artificial intelligence in transforming digital marketing ecosystems to predict customer behaviour

In today's digital marketing ecosystems, artificial intelligence plays a role in automating routine processes and as a creative and strategic tool that can significantly increase the effectiveness of marketing campaigns, personalise content, and improve customer experience. Machine learning technologies and data processing algorithms enable in-depth analysis of large amounts of information, which is especially important in the context of growing data volumes in the digital environment (Millagala & Gunasinghe, 2024). In addition to the general introduction of artificial intelligence into marketing activities, an important aspect is its application in the form of individual technological solutions used by specific business needs (Bohnsack et al., 2024). As shown in Figure 1, businesses can use different scenarios to integrate artificial intelligence within their marketing processes, ranging from predictive consumer behaviour analysis to automated communication through chatbots and voice assistants.

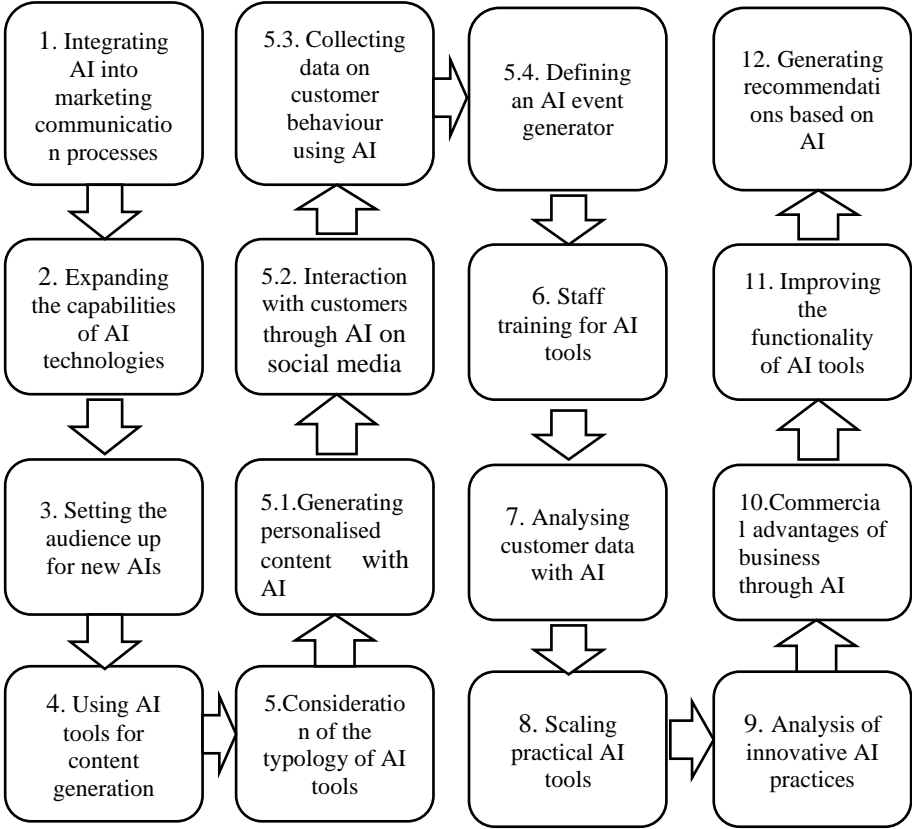


Figure 1. The sequence of integrating artificial intelligence into digital marketing ecosystems to predict customer behaviour
Source: Compiled by the author

The ability of artificial intelligence to quickly process, analyse, and interpret information makes it an indispensable component of digital marketing strategies aimed at

predicting customer behaviour, adapting marketing offers, and increasing customer engagement. As a rule, enterprises use several functionally oriented artificial intelligence tools in the structure of digital marketing ecosystems that perform various tasks within marketing activities (Table 1).

Table 1: Classification of artificial intelligence tools in digital marketing ecosystems for predicting customer behaviour

Name of the tools	Role in digital marketing ecosystems to predict customer behaviour
Analytical tools	Used to process large volumes of structured and unstructured data, identify patterns in customer behaviour and predict their actions using AI in real time to optimise marketing strategies
Forecasting tools	Artificial intelligence-based tools that build accurate customer behaviour prediction models using sophisticated machine learning algorithms to predict future customer actions and adapt marketing campaigns
Monitoring tools	AI tools to continuously analyse data, track changes in customer behaviour, evaluate the effectiveness of marketing initiatives, and adjust strategies based on real-world feedback and metrics
Generative artificial intelligence tools	They are used to create personalised content tailored to customer profiles, predicting their needs and preferences, which allows for generating targeted marketing messages to increase engagement.
Communication tools	AI tools such as chatbots and voice systems that analyse customer interactions, predict customer needs and provide personalised communication to build trust and loyalty in marketing ecosystems
Optimisation tools	AI tools for analysing marketing processes, identifying opportunities to improve campaigns, optimising targeting, and increasing the efficiency of predicting customer behaviour by adapting digital strategies
Functionally orientated tools	AI tools that integrate into marketing operational processes, for example, to automate customer data analysis, predict customer behaviour, and optimise budgets and resources to maximise the return on marketing efforts

Source: Cuel et al., 2024; He et al., 2025; Makedon et al., 2024a

These instruments include:

- customer behaviour analysis and demand forecasting - using machine learning algorithms to assess changes in customer preferences and predict their future response to marketing communications;
- content personalisation and recommendation systems - developing individual offers for customers based on purchase history, behavioural data and preference analysis;

- chatbots and voice assistants - automation of communication with customers in real-time, which allows for improved service and reduces the workload of support operators;
- automated advertising campaign management- using artificial intelligence to optimise advertising costs, select effective communication channels and increase conversions.
- analysis of customer emotions and reactions - processing of text, visual and voice data to determine the emotional response to marketing messages, allowing for more accurate content adaptation to the target audience (Ebuzoeme, 2024; Ma & Gu, 2024).

Despite the significant development and diversity of modern technological solutions in artificial intelligence, the issue of their availability and effective use within digital marketing ecosystems focused on predicting customer behaviour remains relevant. In particular, one of the most widespread areas of artificial intelligence use in marketing is generative artificial intelligence, represented by tools such as ChatGPT, Google Bard, and similar technologies that allow the automated creation of textual content adapted to specific requests and business goals of the company (GhorbanTanhaei et al., 2024). Generative AI greatly optimises the preparation of marketing materials, ensuring the rapid creation of personalised advertising messages, product descriptions, analytical reports, and other communication materials (Hermann & Puntoni, 2024). However, it should be noted that automatic content generation does not eliminate the need for editing and adaptation; it only helps reduce the time and financial costs associated with developing marketing texts and unique communication materials.

Before analysing specific technological solutions and their application in marketing processes, it is worth emphasising that integrating artificial intelligence into a company's marketing and its systematic use depends on various factors that directly affect the efficiency of digital marketing ecosystems.

Firstly, it is the availability of tools that are in line with business objectives. This means the availability of specific technological solutions that a company can use to implement marketing tasks and operations. The main limitation in this context is when the available AI tools and software cannot fully meet the enterprise's needs, which reduces the potential for their effective integration (Xue, 2024).

Secondly, staffing factors are related to the level of digital competence and readiness of staff to use artificial intelligence. Despite the rapid development of digital technologies, insufficient digital literacy among employees, lack of relevant skills in working with AI tools, and low motivation to master new technologies can significantly reduce the efficiency of their use (Makedon et al., 2024b). That is why businesses need to develop programmes that contain detailed instructions on implementing and operating AI tools within marketing processes, which will help increase productivity and adapt the company to the digital economy (Patil, 2024).

Thirdly, comparative efficiency factors determine the feasibility of using artificial intelligence for specific marketing tasks. Even if technological tools are available and staff are sufficiently trained, artificial intelligence can demonstrate different efficiency

depending on the specifics of the tasks being solved. For example, in analysing large amounts of data, automated customer segmentation, and predicting customer behavioural patterns, AI provides significantly higher accuracy and speed of information processing than traditional methods (Kshetri *et al.*, 2024). However, in matters that require creativity, out-of-the-box thinking, or a high level of emotional intelligence (in particular, in the process of generating unique marketing ideas or creating creative concepts for advertising campaigns), artificial intelligence may be inferior to humans in terms of innovation and adaptability (Table 2).

Table 2: The main task of digital marketing ecosystems with AI integration is to predict customer behaviour

Objectives.	Task description	Process of execution
Collecting and analysing data on customer behaviour	It involves using digital marketing ecosystems with artificial intelligence integration to systematically collect and analyse customer behaviour data, predict future actions based on statistical models and machine learning, and create personalised marketing strategies that optimise customer experience and adapt to their preferences, solving complex real-time forecasting tasks.	Identification and analysis of customer behaviour using AI: <ul style="list-style-type: none"> - creation of databases with predictive models that allow predicting behaviour; - audience segmentation and data structuring; - the use of AI for targeting marketing campaigns; - personalised forecasting and optimisation of customer interaction.
Implementation of recommender systems	It involves implementing artificial intelligence-based systems that use big data analytics to recommend personalised products or services to specific customers based on their behaviour, preferences and historical data stored in digital ecosystems to improve forecasting and increase brand loyalty.	Collecting and analysing customer behaviour data using AI: <ul style="list-style-type: none"> - identifying patterns in audience segments; - generation of personalised recommendations based on forecasts - tracking the effectiveness of recommendations; - Adapting marketing strategies to improve customer satisfaction.
Dynamically combine personalised content.	A set of digital tools enables the real-time functioning of marketing ecosystems. The ecosystem's digital content involves predicting customer behaviour based on artificial intelligence (AI).	Analysis of customer behaviour data using AI: <ul style="list-style-type: none"> - Identifying trends and factors that influence customer actions; - uniqueness of content for target segments - assessment of relevance and prediction of reaction to content; - automatic generation of personalised recommendations;

Objectives.	Task description	Process of execution
		- tracking performance and adapting content to optimise customer experience.

Source: Compiled by the author

According to the findings of the scientific study by Thangavel, V. (2024), there is a well-founded argument for the contribution of artificial intelligence (AI) to the development and activation of personalised marketing practices in the field of fast-moving consumer goods (FMCG). The study identified how AI technologies can modernise corporate marketing ecosystems and ensure further personalised interactions with existing and new customers in a dynamic environment. The research results demonstrated that AI could already shape and influence personalised strategies for key marketing components, including targeted advertising campaigns, promotional recommendations, and seasonal promotional activities (Morgan-Thomas, Dessart, Veloutsou, 2020). In addition, the current study focuses on the potential of AI in personalizing FMCG marketing strategies, but the issues of consumer fatigue and privacy are important aspects that require further analysis. Excessive personalization can cause information overload or raise concerns about the use of personal data.

2. Assessing the readiness of enterprises to integrate artificial intelligence into digital marketing ecosystems to predict customer behaviour

The study focused on retailers in Ukraine, namely supermarket and hypermarket chains such as Varus, Fozzy Group, ATB, Auchan Ukraine and Novus, which specialise in FMCG retail and implement digital marketing ecosystems. The survey was conducted online (CAWI - Computer-Assisted Web Interviewing), as it is convenient for collecting data from specialists of large companies in different regions of Ukraine. This format allowed respondents to assess the degree of technology adoption on a proposed scale (0-3) using questionnaires that could be completed remotely. During the survey, respondents themselves assessed the degree of implementation of each of the proposed technologies using the developed scale, which includes the following indicators (Gonçalves et. al., 2023):

0 - the technology is not used, which indicates a complete lack of integration of digital solutions and artificial intelligence into the company's marketing processes;

1 - the initial level of use, characterised by occasional and limited use of digital tools with little impact on predicting customer behaviour;

2 - a moderate level of implementation, reflecting the partial integration of digital marketing ecosystems into the company's activities, where technology plays an important but not key role in shaping strategies and predicting customer actions;

3 - intensive use, which indicates the active and systematic use of digital technologies with artificial intelligence, significantly improving the quality of analytics and the accuracy of predicting customer behaviour.

At the initial stage of the study, a list of key digital technologies, software, and marketing tools used to analyse and predict the behaviour of customer groups was compiled. Then, to obtain a comprehensive assessment of their implementation, a survey was conducted among specialists from relevant enterprises and organisations that use digital marketing solutions in their activities (Deniz & Çökekoğlu Bülbül, 2024).

After collecting the responses, we analysed and calculated the average indicators of digital technology adoption for each enterprise, which allowed us to assess the overall level of adaptation to digital marketing ecosystems (Table 3).

Table 3: Assessment of the Impact of Digital Technologies and AI on Predicting Customer Behaviour in the Marketing Ecosystem of Leading Ukrainian Retail Companies

Tools for the enterprise digital ecosystem	Varus network	Fozzy Group network	ATB network	Network. Auchan Ukraine	Network. Novus	Indicator Rprep
1.Digital technologies						
Cloud technologies	2	3	1	2	2	1
Data analytics	3	3	3	2	3	2
Digital marketing platforms	1	2	1	2	1	2
Internet of Things (IoT)	1	1	2	1	1	1
Geoanalytics	2	1	2	1	2	1
AI technologies	3	3	3	3	3	3
Average value:	2,0	2,2	2,0	1,8	2,0	1,7
2.Software tools						
CRM systems with AI	2	3	2	2	2	1
Analytical tools	3	2	3	2	3	2

Tools for the enterprise digital ecosystem	Varus network	Fozzy Group network	ATB network	Network. Auchan Ukraine	Network. Novus	Indicator Rprep
Marketing automation	1	2	1	2	1	2
Average value:	2,0	2,3	2,0	2,0	2,0	1,7
3.Digital marketing tools						
Targeting with AI	3	2	3	2	3	2
Contextual advertising with AI	2	1	2	2	2	1
SMM with forecasting	2	3	2	3	2	3
Email with AI	2	2	3	2	1	2
SEO with AI	1	2	1	2	1	2
Mobile Marketing	2	1	2	1	2	1
Average value:	2,0	1,8	2,2	2,0	1,8	1,8

Source: Compiled by the author

Table 3 already contains the average values for each category for each marketing task. To calculate the intermediate indicators P(tech), P(soft), and Ptools, we need to take the overall average for each section. Since the table shows the average values for each column separately, we will calculate the average for all tasks in each section.

1. Digital technologies (P(tech):

$$P_{tech} = \frac{2.0 + 2.2 + 2.0 + 1.8 + 2.0 + 1.7}{6} = \frac{11.7}{6} = 1.95,$$

2. Software (P(soft):

$$P_{soft} = \frac{2.0 + 2.3 + 2.0 + 2.0 + 2.0 + 1.7}{6} = \frac{12}{6} = 2,$$

3. Digital marketing tools (Ptools):

$$P_{tools} \frac{2.0+1.8+2.2+2.0+1.8+1.8}{6} = \frac{11.6}{6} = 1.93.$$

Now let's substitute the obtained values into formula (1):

$$R_{prep} \frac{1.95+2.0+1.93}{9} = \frac{5,88}{9} \approx 0.65.$$

The indicator of readiness of Ukrainian retail companies to implement digital marketing ecosystems to influence customer behaviour based on AI technologies is $R_{prep} = 0.65$. The value of $R_{prep} = 0.65$ (or 65%) indicates that the company has an average level of readiness to integrate digital marketing ecosystems with artificial intelligence. The findings indicate that although digital technologies, software, and marketing tools have already been implemented in retailers' activities, their use is partial. Therefore, there is significant potential for further development, particularly in the deeper integration of artificial intelligence to analyse and predict customer behaviour (Rosário, 2024). The defined composite index reflecting the level of readiness of enterprises for digital transformation was calculated based on a generalisation of the obtained estimates, which allowed to assess the degree of their adaptation to modern market requirements and the prospects for the introduction of AI to build effective marketing strategies focused on predicting customer behavioural patterns.

5. Discussion

The study confirmed the key positions of previous scientific works while introducing new perspectives into the discourse on the functions of AI in digital marketing. The findings correlate with the conclusions of Cagiran Kendirli (2024) and Nim, Pedada, and Hewett (2024), who highlight the role of AI in content personalisation and consumer demand analysis. The results show that AI not only automates marketing operations but also enhances real-time analytics, which is in line with Bormane and Blaus (2024), Makki (2023), and Peltier, Dahl, and Schibrowsky (2024). The latter consider AI as an element of the digital ecosystem, and this study underlines their idea that it is critical to integrate innovative technologies such as IoT, virtual and augmented reality to enhance the personalisation of marketing activities to predict customer behaviour in the current marketing ecosystem of the enterprise. While the research emphasizes the role of AI in marketing ecosystems, its impact on small and medium-sized enterprises remains under-examined. Unlike large corporations, SMEs often have limited financial and technological resources, making it difficult to implement AI. However, the use of cloud solutions, modular AI platforms, and outsourcing models can facilitate the adaptation of technologies without significant costs.

While the results overlap with previous work, they highlight unique aspects of AI applications. For example, unlike De Mauro, Sestino, and Bacconi (2022) and Kumar, Ashraf, and Nadeem (2024), who focus on optimising strategies through historical data

analysis, this study demonstrates how AI provides tools to adapt a company's marketing model in response to changes in customer behaviour in the present.

Furthermore, compared to the findings of Komodromos et al. (2024) and Madanchian (2024), which describe AI as a tool for personalising offers, the focus of this paper is shifted to the synergy of generative AI and predictive analytics to create flexible strategies. This confirms Ayeni et al. (2024) and Paşcalău et al. (2024) on the impact of AI on cost optimisation but extends it by finding that maximum efficiency is achieved only when AI is combined with powerful analytics platforms and expert teams - mirroring the findings of Prakash et al. (2023).

The proposed model for assessing companies' readiness to integrate AI provides a systematic approach to implementing digital strategies. The developed tool for measuring the level of marketing technologisation can be scaled up for different industries, helping businesses transform processes and taking into account market specifics and customer behaviour.

6. Conclusion

Based on the findings of scientific research and generalisations, the horizon for implementing and using various artificial intelligence (AI) tools in supporting and further developing digital marketing ecosystems for companies and enterprises has been outlined. Among the diverse and promising technological solutions based on AI, the following have been identified: analytical, predictive, generative, communication, and optimisation technologies for developing marketing ecosystems. These tools aim to ensure the comprehensive and stable processing of large volumes of marketing data regarding customer preferences, create personalised marketing content, and enhance the efficiency of future marketing campaigns.

Comprehensive research has been conducted on leading methodological approaches and practices to implement AI technologies, specifically in digital marketing. This list includes applied machine learning algorithms for systematically analysing large amounts of customer data, personalising marketing strategies, automated chatbots, and auxiliary neural networks for assessing customers' emotional and behavioural responses to a company's marketing communications. The study's conclusions established that even though many enterprises in the fast-moving consumer goods (FMCG) sector have already integrated various digital technologies, their current level of integration remains insufficient for the full realisation of AI's marketing potential.

The study results are also presented in developing a conceptual model for managing AI integration into FMCG companies' current digital marketing ecosystem. The proposed model processes and helps improve key technological components of the marketing system in the following areas: deep market data analysis, personalised consumer content creation, and automation of marketing communications. Additionally, a procedural algorithm for assessing the level of digital transformation was proposed based on selected indices of appropriate digital technology implementation and applied marketing tools. As a result of the conducted evaluation, it has been demonstrated that companies can achieve a high level of comprehensive integration of AI tools and corporate marketing ecosystems. While AI opens up new opportunities for digital marketing, it is

important to critically assess its long-term sustainability. An over-reliance on automated algorithms can lead to a diminished role for human creativity and innovation in marketing strategies. The balance between technology and human factors is key to the effective use of AI.

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