

ORIGINAL SCIENTIFIC PAPER

The Role of Artificial Intelligence in The Digital Transformation of Marketing and Business Resilience

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ABSTRACT

Artificial intelligence (AI) is transforming marketing by driving digital innovation and strengthening business resilience in an era of economic volatility. This paper investigates the impact of AI technologies on marketing strategies, operational efficiency, and strategic adaptability through a case study of a Serbian e-commerce platform which has successfully integrated AI tools across content production, personalized customer experiences, and campaign automation. Results confirm that AI-powered solutions such as automated content generation and recommendation systems significantly reduce operational costs, enhance productivity, and increase conversion rates. Additionally, findings emphasize the necessity of hybrid models combining AI automation with human oversight to ensure quality, authenticity, and strategic control. The study demonstrates that empirical implementation of AI enables companies to realize substantial savings, accelerate processes, and achieve measurable business outcomes, making digital transformation not merely an

optimization but a strategic imperative for long-term resilience. The paper concludes with practical guidelines for organizations seeking to leverage AI, highlighting challenges related to ethics, privacy, and the human factor in marketing innovation

Keywords: artificial intelligence, marketing strategy, digital transformation, business resilience, e-commerce, predictive analytics

JEL classification: L21, M14, G32

Introduction

Modern business is characterized by the growing pressure of digital transformation, with artificial intelligence (AI) becoming a key factor for competitive advantage and stability. This paper analyzes how AI technologies transform marketing strategies by examining an e-commerce platform in Serbia that has successfully implemented AI solutions.

In the context of increasing market volatility and economic uncertainty, AI-driven digital marketing transformation contributes not only to operational efficiency but also to companies' strategic resilience—their ability to swiftly adapt to changing market conditions, anticipate risks, and seize new opportunities.

AI transforms marketing by enabling greater personalization, automation, and data-driven decision-making. These changes significantly improve business outcomes and open new strategic possibilities. Advances in AI technology have fundamentally changed how marketers interact with customers, understand their needs, and deliver value [1], [2].

The global AI market in marketing is expected to reach \$107.54 billion by 2028, representing growth of over 300% from current levels [3]. In practice, many marketing functions have implemented AI, including tools such as chatbots, predictive

analytics, recommendation systems, automated content creation, natural language processing for feedback, and programmatic advertising, to optimize customer experience and campaign performance. Technologies like predictive analytics are key to forecasting customer behavior, enabling marketers to develop both proactive and reactive strategies [4]. Companies with advanced AI implementation demonstrate 35% greater resilience to economic crises [5]

This paper aims to quantify the impact of AI technologies on marketing transformation through a case analysis. It will identify key success factors for AI implementation to enhance business resilience. The paper also offers practical guidelines for organizations planning AI transformation.

Despite growing global adoption, scientific attention to the transformational impact of AI on marketing remains limited. The research problem of this paper lies in the insufficiently explored impact of AI on specific business outcomes in the local market.

THEORETICAL FRAMEWORK AND PREVIOUS RESEARCH

Digital marketers can acquire numerous benefits by integrating artificial intelligence into their daily operations. AI can analyze huge amount of data quickly and accurately, helping marketers understand consumer behavior, market trends, and the effectiveness of their campaigns. AI can be used to personalize content, offers, and marketing experiences for individuals—boosting engagement and conversions. Personalized AI campaigns consistently achieve engagement rates 25–40% higher [6], while AI analyzes vast amounts of customer data to deliver hyper-personalized experiences, recommendations, and targeted content, thereby improving customer satisfaction and loyalty [7]. AI can automate tasks such as email marketing, scheduling social media

posts, and data analysis. Routine tasks such as campaign management, content creation, lead collection, and customer support (e.g., chatbots) can be automated, allowing marketers to focus on strategy and innovation [2].

AI helps optimize marketing campaigns in real time, ensuring the right message is delivered to the right audience at the right time. AI supports predictive analytics, real-time performance measurement, and marketing strategy optimization, leading to more efficient resource allocation and higher ROI [8]. It is empowering marketers to take a proactive approach to strategy development.

AI enables businesses to respond quickly to market changes and crises through automation, real-time data analysis, and personalized communication. This also contributes to business resilience and sustainability [9]. AI enables more effective resource allocation through precise targeting and campaign optimization, contributing to economic sustainability [10]. Strategic use of AI contributes to lower operating expenses and increased efficiency via automation of routine tasks, ad optimization, personalization, and rapid, accurate data analysis. Using AI reduces campaign execution time by up to 33% [11].

Companies that implement advanced AI demonstrate 35% greater resilience during economic crises [12]. This finding is especially important for understanding the long-term strategic advantages organizations gain from AI implementation, particularly in today's unstable economic conditions.

Strategic application of AI in marketing increases content production efficiency [13]. This is achieved through automation, personalization, and cost reduction. However, it requires attention to ethical aspects and ongoing human oversight.

Based on previous research, there is a strong theoretical basis for expecting significant effects of AI implementation on marketing performance and, indirectly, on business stability

through resource optimization and cost savings that can be redeployed elsewhere. However, most available studies focus on global companies and developed markets, offering little empirical evidence from smaller, local markets—specifically Serbia. Addressing this specific gap in the literature on the Serbian market motivates this research.

METHODOLOGY

This paper analyzes the ways in which AI technologies transform marketing strategies and strengthen business resilience through an empirical analysis of an e-commerce platform in Serbia that has successfully implemented AI solutions. Due to the lack of empirical studies from the region that systematically analyze the effects of AI in marketing processes, the author's contribution of this work is reflected in a detailed case study of a company operating in the Serbian market, aiming to quantify the impact of AI on specific marketing processes and to identify key factors for successful implementation.

In order to test the stated hypotheses, in addition to theoretical research, qualitative research was conducted in the form of a case study analyzing how one of the leading local e-commerce platforms – ePlaneta – uses AI tools for creating personalized consumer experiences. The study examines how this company leverages AI to improve its marketing strategies and approach to consumers, including enhancements to the company's financial performance.

Research assumption that this paper seeks to prove is: The strategic application of artificial intelligence in marketing significantly contributes to reducing operational costs, increasing content production efficiency, improving personalization of the user experience, and achieving measurable business results. The focus is on the local market to demonstrate that similar trends

prevail as in the global market.

The general hypothesis concerns the impact of AI on reducing operational costs of content production

H1: The implementation of AI tools for creating audiovisual content in e-commerce marketing leads to a reduction in operational content production costs.

H2: The use of AI tools in the processes of creating marketing content increases productivity.

H3: The implementation of AI-based recommendation systems using predictive analytics of user behavior leads to an increase in conversion rates.

H4: A hybrid model that combines AI automation with human supervision and final review achieves superior results compared to fully autonomous or completely manual approaches.

H5: The implementation of AI technologies in marketing and operational processes increases business resilience

CASE STUDY FINDINGS

Elaboration of the problem and empirical data – ePlaneta case study

ePlaneta, an e-commerce platform, was one of the first in Serbia to actively use AI tools in 2023 across consumer experience personalization, marketing, and operational efficiency. AI has become a key factor in reducing costs, optimizing resources, and increasing sales, enabling the realization of campaigns without production costs, which typically range from 2,000 to 10,000 euros per campaign.

The application of AI has brought direct benefits—significant budget savings, increased operational efficiency, and improved sales results. Indirect effects include improved user experience,

strengthened customer loyalty, and a competitive edge. AI has enabled the implementation of campaigns that were previously unaffordable.

Key areas of AI application

1. Content and visual production

Managing a portfolio exceeding 100,000 items, ePlaneta adopted AI as a core tool for designing creative concepts and segmenting marketing campaigns. Traditional production was unsustainable given the vast scale of the campaign and limited budgets.

ePlaneta employs various AI tools tailored to distinct requirements. For visuals and creative assets, it uses Midjourney and ChatGPT, while Sora, Aijinglemaker, Aiva, and Elevenlabs are used for audio and video output. Weshop and Bright River automate high-quality product photography.

AI tools generate campaign texts, newsletters, radio jingles, and Viber messages, though final editing remains in human hands to maintain quality and relevance.

In the SEO area, ChatGPT generates product, category, and blog descriptions, as well as simulated focus groups for insights into customer behavior. The company has developed crawlers that automatically send titles to ChatGPT for description generation, speeding up the process by 5x—rather than 10 texts, it's possible to generate 50 in the same timeframe.

The greatest progress has been made in creating product photographs through AI processing, eliminating the costs of traditional photoshoots, venue rentals, and logistics. In 2023, the company saved over 100,000 euros through 7-8 AI-generated campaigns, accelerated photo and video production by 5x, automated jingle production, and significantly reduced manual management, allowing employees to focus on strategic tasks.

2. CRM and data usage

ePlaneta is implementing a sophisticated AI recommendation engine based on user behavior, transactions, and demographics. With data from 1.5 million users, the "Constructor" system will use predictive analytics rather than simple logic for recommendations.

Instead of sending identical messages to all users, AI enables precise targeting. Out of 300,000 potential users, the system identifies the 10,000 most likely to buy a specific product, thus significantly increasing message relevance and reducing spam. An expected 3% increase in conversions is anticipated through the "Constructor" system, representing the first such example in Serbia.

Looking ahead, ePlaneta aims to deploy an AI chatbot that will promptly answer frequent customer questions, easing the call center's workload. The bigger ambition: develop a digital assistant that acts as an AI personal shopper, delivering a tailor-made experience for every customer.

3. Advertising and campaign automation

In the field of advertising, the company uses Meta Advantage+, Google Performance Max, and Hunch to improve conversion rates and achieve more precise targeting. Automated visual generation and continuous optimization through performance marketing result in significantly reduced manual labor, better return on investment, and faster campaign delivery.

Strategy and the human Factor

The company maintains an omnichannel approach with 130 stores that are continuously expanding, along with an advanced e-commerce platform. Plans include chatbot use, with the option to choose between AI and human employees, enabling flexibility and personalized service for different customer segments.

The human factor remains essential to the overall strategy, as no AI solution operates completely autonomously. Every iteration and product is subject to review to ensure quality and relevance. Language must resemble human-written specifically since Google penalizes websites that produce "robotic" content, which could negatively affect search rankings.

AI's Contribution to business resilience

AI contributes to strategic business resilience through several key dimensions. Financial flexibility is achieved through savings of over 100,000 euros annually, allowing the absorption of unexpected costs and the maintenance of campaigns even during reduced budgets. Operational agility is improved by fivefold acceleration of processes, enabling quick market responses and real-time campaign redefinition.

An omnichannel strategy, with 130 stores, an e-commerce platform, and AI systems, enables flexible shifting of focus between channels based on business needs. Reduced business vulnerability has been achieved through automation of AI chatbots, CRM systems, and content creation, decreasing dependence on human factors and ensuring business continuity.

Proactive risk management is enabled by predictive analytics, with 1.5 million users, ensuring the speedy identification of early market signals and the anticipation of potential problems before they become critical.

Future plans

The company plans to expand AI use in procurement by optimizing inventory using historical data analysis and testing tools to generate contingent proposals via predictive models. Dynamic pricing represents the next frontier, with automatic, real-time adjustments aligned with market conditions, product availability,

and actual demand.

The formalization of AI strategies is envisaged, with all team leaders identifying processes that can be automated to create additional value. Legal aspects deserve particular attention, focusing on data collection and processing in compliance with GDPR and local laws, as well as user segmentation in close cooperation with the legal department.

Employee education is actively supported through internal training programs and engagement of external consultants. The company actively monitors technological trends and has incorporated AI into its business model in the coming years, enabling sustainable competitive advantage in the market.

RESULTS AND DISCUSSION

In 2023, the company implemented eight marketing campaigns using AI, while venue rentals, photo, video, and audio production professionals were significantly reduced. The creation of jingles was automated, eliminating the need to hire actors for voiceovers, rent studios and cover music. **These results specifically confirm the first hypothesis**, which proves that costs can be optimized through digital transformation.

The speed and efficiency of content creation have also been significantly improved. The process of creating SEO content, which previously required a long production period, is now 5 times faster: during the time needed to create 10 texts, 50 can now be produced. This is accompanied by a fivefold acceleration in the creation of product photographs through AI optimization, while automated crawlers retrieve product titles and categories, send them to ChatGPT, which then automatically generates texts and descriptions. **This approach confirms the second hypothesis**, that AI significantly accelerates and automates content creation processes while maintaining high output quality.

The third hypothesis relates to advanced AI recommendation systems. The company uses a sophisticated AI system trained on the behavior of 1.5 million users, enabling precise segmentation and predicting the most likely buyers. Thanks to the “Constructor” tool, a 3% increase in conversion is expected, and the system automatically identifies the most profitable segments. Out of 300,000 users, 10,000 of the most likely buyers for a specific product have been identified. This type of data empirically confirms the third hypothesis: advanced AI personalization delivers high efficiency in digital marketing.

The company has not left decision-making and the creative process exclusively to algorithms. No AI tool is a completely autonomous solution – every stage of creation is subject to human oversight, and every visual created by AI goes through several iterations with designer involvement. Ultimately, final editing and content control would still remain in human hands, ensuring natural language and tone in communication. **This confirms the fourth hypothesis** – the combination of employee expertise and AI tools provides the optimal balance between automation and authenticity.

AI has enabled the development of campaigns that were previously financially unfeasible due to high costs and limited resources. At the same time, the company is not dependent on external providers and can create sustainable competitive advantages, **supporting the fifth hypothesis about AI’s impact on business resilience.**

Introducing artificial intelligence into daily business processes can create resistance, as with any change. While the transition takes time, education, and communication, the use of AI at ePlaneta has quickly delivered significant benefits, including savings, faster processes, and better product and service quality.

Empirical data indicate a significant indirect effect – strengthening organizational resilience. The automation of

marketing processes and the diversification of communication channels create a system that is less dependent on individual resources or channels, allowing for business continuity even under external shocks.

CONCLUSION

Artificial intelligence is rapidly transforming marketing by improving efficiency, personalization, and strategic innovation—confirmed through substantial savings, faster processes, deeper customer insights, and advanced segmentation. A case study presents that AI with human oversight delivers optimal results: AI enables automation, analytics, and prediction, while final control and creativity remain with experts, ensuring authenticity. Realizing AI's full potential requires tackling ethical, privacy, organizational, and technical challenges, fostering continuous learning, and setting clear guidelines. AI is a paradigm shift—those who balance innovation, responsibility, and human input will lead in growth and competitiveness. While AI can enhance marketing, the human touch remains central to strategy. Beyond direct benefits, empirical data indicate a significant indirect effect: greater organizational resilience. Automating processes and diversifying channels creates a system less dependent on individuals, ensuring business continuity during shocks. A key aspect of AI adoption is its role in resilience—enabling companies not only to survive but to thrive in economic instability, making digital marketing transformation a strategic imperative rather than just optimization.

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