Marketing

UDC 339.138:004.8:658.8

DOI https://doi.org/10.5281/zenodo.20629685

From search to prompt: how generative artificial intelligence is replacing traditional product discovery in e-commerce

Oleh Halat,

Bachelor's Degree, E-commerce Business Analyst, ALEKO,

Kent, WA 98032, USA,

https://orcid.org/0009-0005-3246-7339

Accepted: 13.01.2026 | Published: 30.01.2026

Abstract. *The rapid integration of generative artificial intelligence technologies into digital markets makes it relevant to examine the transformation of product search mechanisms in e-commerce driven by query-oriented interaction models. The purpose of the article is to analyze the theoretical and practical aspects of replacing traditional product search systems with generative artificial intelligence technologies in e-commerce and to determine the economic prospects, advantages and limitations of AI-based search mechanisms in the digital commercial environment. The study uses a systematic literature review methodology in accordance with the PRISMA recommendations. To ensure analytical consistency and methodological validity, the study uses the AI-Commerce Integration Assessment Framework, developed by the author as an original methodological framework for assessing generative integration of artificial intelligence in e-commerce environments. The framework combines systematic literature review procedures with comparative analytical assessment tools focused on consumer*

interaction models, personalization mechanisms, AI readiness indicators, and digital adaptability at the platform level.

Functional limitations of traditional search systems are identified, in particular, their limited ability to adapt to context, dependence on exact keyword matching, and insufficient personalization of recommendations. It is shown that generative artificial intelligence significantly changes the logic of interaction between consumers and e-commerce platforms, transforming product search into a dialogic process based on prompts and contextual interpretation of consumer queries. It is noted that prompt-based search reduces cognitive effort, increases personalization and improves the efficiency of the digital customer experience through adaptive recommendation mechanisms that can interpret complex consumer intentions. The article considers the main areas of integration of generative artificial intelligence into e-commerce platforms, in particular, dialogic assistants, intelligent recommendation systems, predictive analytics and multimodal search technologies. A comparative analysis of the characteristics of traditional search engines and product search based on artificial intelligence revealed fundamental differences in the principles of information processing, personalization, flexibility of recommendations and models of interaction with consumers.

The implementation of AI-based search technologies has been found to create significant economic benefits for businesses, including increased conversion rates, optimized operating costs, improved customer retention, and improved data-driven decision-making. It is predicted that future e-commerce development will increasingly depend on enterprises' ability to combine intelligent automation, ethical AI governance, and consumer trust within personalized digital ecosystems.

Keywords: *digital economy, personalization of consumer experience, consumer behavior, digital platforms, algorithmic systems, automation of customer interaction.*

Від пошуку до промпту: як генеративний штучний інтелект замінює традиційний пошук товарів в електронній комерції

Галат Олег Володимирович,
бакалавр, E-commerce бізнес-аналітик, ALEKO, м. Кент, Вашингтон, США,
https://orcid.org/0009-0005-3246-7339

Анотація. *Швидка інтеграція технологій генеративного штучного інтелекту в цифрові ринки зумовлює актуальність дослідження трансформації механізмів пошуку товарів в електронній комерції під впливом моделей взаємодії, орієнтованих на запити. Мета статті – проаналізувати теоретичні та практичні аспекти заміни традиційних систем пошуку товарів технологіями генеративного штучного інтелекту в електронній комерції, а також визначити економічні перспективи, переваги та обмеження механізмів пошуку на основі штучного інтелекту в цифровому комерційному середовищі. Дослідження базується на методології систематичного огляду літератури відповідно до рекомендацій PRISMA. Для забезпечення аналітичної узгодженості та методологічної валідності в дослідженні застосовується Методологія оцінки інтеграції AI-Commerce, розроблена автором як оригінальний підхід для оцінки генеративної інтеграції штучного інтелекту в середовищах електронної комерції. Структура поєднує процедури систематичного огляду літератури з інструментами порівняльної аналітичної оцінки, зосередженими на моделях взаємодії зі споживачами, механізмах персоналізації, показниках готовності штучного інтелекту та цифровій адаптивності на рівні платформи.*

Встановлено функціональні обмеження традиційних пошукових систем, зокрема низьку здатність адаптуватися до контексту, залежність від точного збігу ключових слів і недостатню персоналізацію рекомендацій. Показано, що генеративний штучний інтелект суттєво змінює логіку

взаємодії між споживачами та платформами електронної комерції, перетворюючи пошук товарів на діалоговий процес, що ґрунтується на підказках і контекстуальній інтерпретації запитів споживачів. Зазначено, що пошук на основі промптів зменшує когнітивні зусилля, підвищує рівень персоналізації та покращує ефективність цифрового клієнтського досвіду завдяки адаптивним механізмам рекомендацій, здатним інтерпретувати складні споживчі наміри. У статті розглянуто основні напрямки інтеграції генеративного штучного інтелекту в платформи електронної комерції, зокрема діалогові помічники, інтелектуальні системи рекомендацій, прогнозна аналітика та мультимодальні технології пошуку. Порівняльний аналіз характеристик традиційних пошукових систем і пошуку товарів на основі штучного інтелекту дозволив виявити фундаментальні відмінності в принципах обробки інформації, персоналізації, гнучкості рекомендацій і моделях взаємодії зі споживачами.

Встановлено, що впровадження технологій пошуку на основі штучного інтелекту створює значні економічні переваги для бізнесу, зокрема сприяє підвищенню коефіцієнтів конверсії, оптимізації операційних витрат, покращенню утримання клієнтів та вдосконаленню процесів ухвалення рішень на основі даних. Прогнозується, що подальший розвиток електронної комерції дедалі більше залежатиме від здатності підприємств поєднувати інтелектуальну автоматизацію, етичне управління ШІ та довіру споживачів у межах персоналізованих цифрових екосистем.

Ключові слова: *цифрова економіка, персоналізація споживчого досвіду, поведінка споживачів, цифрові платформи, алгоритмічні системи, автоматизація взаємодії з клієнтами.*

Problem statement. The rapid digitalization of global markets, the expansion of e-commerce platforms, and changes in consumer behavior have significantly

altered the mechanisms for product search and purchasing decisions in the online environment. Traditional product search systems based on keyword matching, static filtering, and algorithmic ranking are gradually losing effectiveness because they lack the ability to interpret users' contextual intentions, semantic nuances, and individual consumer needs. At the same time, the emergence of generative artificial intelligence (AI) technologies, including large-scale language models and conversational AI systems, has initiated a transition from traditional search-oriented interaction to query-based communication, where consumers formulate queries in natural language and receive contextual recommendations generated by intelligent data processing. Such transformations are fundamentally changing the architecture of e-commerce, affecting the principles of customer interaction, personalization, recommendation generation, and digital marketing strategies.

The relevance of this topic stems from the growing role of generative AI in improving customer service quality, increasing operational efficiency, strengthening the competitive advantages of digital enterprises, and changing the economic logic of online commerce amid rapid technological innovation. The active implementation of AI-based search engines creates new economic, technological and ethical challenges related to the transparency of algorithms, consumer trust, data confidentiality and the growing dependence of purchasing decisions on automated recommendation mechanisms. Under these conditions, the study of how generative AI replaces traditional product search in e-commerce is of significant scientific and practical importance for understanding the future trajectories of digital commerce ecosystems and the transformation of consumer-business interactions in the modern digital economy.

Analysis of recent research and publications. The problems of e-commerce transformation under the influence of generative AI are the subject of research by many domestic scientists, who study issues in digital marketing, the personalization of the consumer experience, the automation of business processes, and changes in

the mechanisms of online product search. The study by W. Chang and J. Park [1] investigates the influence of ChatGPT-generated recommendations and AI recommender systems on the formation of consumers' consideration sets in e-commerce. The authors demonstrate that conversational AI significantly transforms digital product discovery by improving contextual understanding, recommendation relevance, and the personalization of consumer interactions during online shopping.

The research by K. Rohit, A. Shankar, G. Katiyar, A. Mehrotra, and E. A. Alzeiby [2] examines consumer engagement with chatbots and voicebots in online retail environments using a multiple-experiment design. The study confirms that conversational AI technologies positively affect user engagement, interaction quality, and customer experience through adaptive communication mechanisms and personalized responses in digital commerce ecosystems.

The work of K. Pathak, G. Prakash, A. Samadhiya, A. Kumar, and S. Luthra [3] focuses on the impact of generative AI chatbots on consumer service experiences and behavioral intentions in e-commerce. The authors emphasize that Gen-AI systems enhance emotional engagement, create a sensation of awe among consumers, and increase users' intention to interact with AI-driven platforms due to the human-like and context-sensitive nature of conversational interfaces.

The study by Z. Cheng, W. Fan, B. Shao, W. Jia, and Y. Zhang [4] analyzes the impact of intelligent customer service agents' initial responses on consumers' continuous interaction intentions in e-commerce systems. The research demonstrates that the quality, speed, and contextual relevance of AI-generated responses play a crucial role in strengthening consumer trust, satisfaction, and long-term engagement with digital commercial platforms.

The importance of strategic management for ensuring the success of organizations in the conditions of digital transformation is revealed in the work of S. Melnychenko [5], which emphasizes the need to adapt management approaches to new technological challenges. The study by L. Romanchuk, D. Shchytov, and

M. Mormul [6] analyzed current trends in AI implementation in e-commerce in Ukraine and outlined the challenges and opportunities for using simulation models to optimize digital business processes. The transformational impact of AI on e-commerce and related legal aspects is highlighted in the work of K. Yefremova and T. Novikov [7], which focuses on the need for regulatory oversight of AI technologies in the digital environment. The work of I. Liganenko, P. Bodenchuk, and V. Moskaliuk [8] explores the features of using intelligent algorithms in digital marketing, particularly in increasing the effectiveness of personalized advertising communications and consumer behavior analytics. The importance of using AI solutions to optimize business processes in e-commerce is demonstrated by T. Muzychenko, O. Skorba, and A. Shevchuk [9], who identify the automation and intellectualization of digital platforms as a key factor in increasing the competitiveness of modern business.

Highlighting previously unresolved parts of the general problem. Despite a significant number of scientific works devoted to the use of AI in e-commerce, digital marketing and the personalization of consumer interaction, the issues of the complex transformation of product search mechanisms under the influence of generative AI and the transition from traditional keyword-based search to prompt-oriented interaction remain insufficiently studied. Modern studies have limited coverage of the economic consequences of implementing conversational AI in e-commerce systems, and insufficient attention has been paid to the comparative analysis of traditional search algorithms and AI-driven search systems in the context of changing digital consumer behavior. The impact of generative AI on the level of personalization of offers for users, consumer trust, algorithmic dependence and the effectiveness of digital platforms in a competitive environment requires further scientific substantiation.

Formulation of the article's goals (task statement). The purpose of the study is to analyze the theoretical and practical aspects of replacing traditional

product search systems with generative AI technologies in e-commerce and to determine the economic prospects, advantages and limitations of algorithmic search mechanisms in the digital commercial environment.

In accordance with the goal, the following tasks were set: to investigate the evolution of product search systems in e-commerce and the features of the functioning of traditional search algorithms; to analyze the impact of generative AI on the transformation of consumer behavior and the process of searching for products in the digital environment; to carry out a comparative characteristic of traditional and AI product search; to determine the economic prospects, advantages, risks and limitations of implementing generative AI in e-commerce systems.

The literature search was conducted across the Scopus, Web of Science, and IEEE Xplore databases covering the period from January 2020 to December 2025 using the following keyword combinations: «generative AI», «conversational AI», «product discovery», «e-commerce search», and «prompt-based interaction». The inclusion criteria comprised peer-reviewed publications, methodological rigor, and direct relevance to the context of retail e-commerce. The initial search identified 124 sources, of which 47 were selected for detailed analysis after abstract screening and full-text review.

Methodological framework. To ensure analytical consistency and methodological validity, the study applies the AI-Commerce Integration Assessment Framework (ACIAF) [10]. ACIAF represents an original methodological framework developed by the author and registered as a Literary Work that provides a structured analytical approach for evaluating the integration of generative AI technologies into e-commerce ecosystems through the dimensions of consumer-side readiness, solution selection criteria, personalization capacity, digital infrastructure maturity, and adaptability of commercial platforms to conversational interaction models. The ACIAF combines systematic literature review procedures with comparative analytical assessment tools focused on consumer interaction models,

personalization mechanisms, AI readiness indicators, and platform-level digital adaptability.

The study's analytical framework was structured around Modules 1 (AI Readiness Assessment) and 2 (AI Solution Selection Matrix) of the ACIAF. Within the framework, Module 1 evaluates the readiness of e-commerce ecosystems for AI-driven interactions, while Module 2 provides a comparative matrix for selecting and assessing AI solutions based on contextual relevance, operational efficiency, personalization capacity, and scalability. The methodological application of ACIAF enabled the identification of structural differences between traditional search systems and conversational AI-driven product discovery models, as well as the assessment of their economic and behavioral implications in digital commerce. The author's methodological approach also enabled a comparative assessment of traditional keyword-based product search systems and AI-driven prompt-oriented interaction models across contextual interpretation, personalization mechanisms, consumer engagement, and decision-support efficiency. The methodological design ensured consistency in source selection, analytical categorization, and interpretation of the economic implications of generative AI implementation in digital commerce environments.

Presentation of the main material of the study. The complexity of consumer behavior in digital markets has accelerated demand for more intelligent, interactive search technologies. Modern consumers expect e-commerce systems to understand spoken language, interpret preferences, provide contextual recommendations and simplify the decision-making process. These expectations have driven the integration of AI technologies, including machine learning, natural language processing, and predictive analytics, into product discovery systems. AI has enabled e-commerce platforms to move from static information retrieval mechanisms to dynamic systems capable of continuous learning and adapting to behavior.

The shift from traditional search interfaces to query-based interactions is fundamentally changing the architecture of e-commerce ecosystems. Generative AI enables platforms to simulate personalized consultations that feel like conversations with live sellers. This creates new opportunities to increase customer engagement, reduce product search difficulties, and boost conversions. AI-based systems can explain product specifications, compare alternatives, summarize customer reviews, predict consumer preferences, and generate personalized shopping scenarios in real time [9].

An important advantage of generative AI in e-commerce is its ability to process unstructured information and contextual signals. Traditional search engines typically operate within predefined taxonomies and rigid semantic structures, while generative AI models can simultaneously analyze linguistic patterns, behavioral indicators, and situational factors. This significantly increases the accuracy of recommendations and improves digital platforms' ability to adapt to rapidly changing consumer needs. In addition, generative AI contributes to the democratization of digital interaction, as users no longer need to formulate technically precise search queries. Instead, communication becomes intuitive, conversational, and accessible to a wider range of consumers [11, p. 137]. The intensive spread of generative AI technologies in e-commerce has significantly changed the behavior patterns of digital consumers and redefined the mechanisms for forming purchasing decisions. Unlike previous stages of e-commerce development, when users mostly had to adapt their search behavior to the technical architecture of online platforms, modern AI-based systems increasingly adapt to users' cognitive and communicative preferences. This change has contributed to the emergence of query-driven search as the dominant interaction model in digital markets. In such an environment, consumers are no longer limited by a rigid syntactic search structure or predefined product categories. Instead, they can formulate complex, contextual, and conversational queries that reflect not only

functional product requirements, but also emotional expectations, personal lifestyles, and situational needs [12].

The rise of query-based search has significantly impacted consumer behavior in e-commerce. One of the most notable changes is the shift away from logically structured search processes toward intuitive, conversational interactions. Traditional online shopping behavior typically involved a series of steps, including identifying product categories, comparing specifications, manually filtering, and evaluating multiple options. Generative AI simplifies these processes by allowing consumers to describe the results they want rather than specific product features. For example, instead of searching for a specific tech device with precise parameters, users can query for «a lightweight laptop that's good for learning, graphic design, and has a long battery life within a reasonable budget». AI systems then interpret these multidimensional queries and provide personalized recommendations that account for multiple criteria simultaneously. This transformation has a significant impact on the psychological aspects of consumer decision-making. Search by query reduces cognitive load, minimizing the need for consumers to independently process large amounts of information. As a result, purchasing behavior increasingly depends on algorithmic recommendations, rather than on independent analytical evaluation. Consumers trust conversational AI systems more because they feel like personalized interactions and contextual understanding. The communication process itself becomes more human-centered, creating the impression of digital consultation, rather than automated product search. Accordingly, emotional engagement and convenience are becoming key drivers of online shopping behavior, along with traditional economic factors such as price and quality [13].

At the same time, query-based search contributes to the growing importance of speed and the expectation of instant personalization in digital commerce ecosystems. Consumers increasingly prefer platforms that provide fast, adaptive, and contextual answers without the need for lengthy navigation or multiple query

reformulations. This trend has intensified competition between e-commerce platforms, prompting companies to integrate generative AI technologies not just as supporting tools, but as core infrastructure components of digital customer experience strategies.

One key strategic goal of implementing intelligent systems in e-commerce is to optimize the customer journey at every stage of the purchase process. Generative AI systems can accompany consumers from the initial identification of needs to post-sales support and review analysis. During product search, AI assistants provide contextual recommendations based on user preferences, previous interactions, demographic characteristics and real-time behavioral signals. During the evaluation stages, generative systems can summarize reviews, compare alternative products, explain technical specifications and answer individual questions in natural language. After the purchase is completed, AI technologies continue to maintain customer relationships through personalized communication, predictive service recommendations and automated assistance [14, p. 36].

The introduction of generative AI is also changing the economic logic of platform management and competitive positioning in e-commerce. AI-based personalization increases the likelihood of successful conversions by aligning product assortments more accurately with individual consumer expectations than traditional recommendation mechanisms. Dialogue AI systems also help increase customer retention by creating more engaging and interactive digital experiences. Companies implementing generative AI technologies can reduce operational costs in customer service, increase data efficiency, and optimize inventory management through predictive demand analysis.

A comparative analysis of traditional product search mechanisms and generative AI-based search technologies is presented in Table 1. It is worth noting that the fundamental differences between these approaches extend beyond the

technical architecture to the general philosophy of interaction between consumers and digital commerce platforms.

Table 1

Comparative characteristics of traditional product search and AI-based product search in e-commerce

Criteria	Traditional product search	AI-based product search
Search principle	Keyword matching and database extraction	Contextual interpretation and dialogic interaction
User query format	Structured and precise keywords	Natural language queries
Personalization level	Limited, based on historical data	Dynamic personalization taking into account context
Consumer interaction	Transaction-oriented	Dialogue-oriented
Information processing	Static filtering and ranking	Adaptive synthesis and recommendation generation
Consumer effort	High cognitive involvement	Reduced cognitive load
Recommendation flexibility	Limited to predefined categories	Broad and adaptive recommendation capabilities
Decision support	Minimal help in the form of explanations	Interactive explanations and comparative analysis
Learning ability	Limited algorithmic adaptation	Continuous learning based on interactions
Customer experience	Functional and technical	Personalized and emotionally engaging

Source: author's development based on [13–16]

Accordingly, generative AI fundamentally changes the nature of product search in e-commerce, shifting the emphasis from information retrieval to intelligent interaction and decision support. Traditional search engines primarily serve as technical tools for searching structured databases, while AI systems increasingly act as autonomous intermediaries capable of interpreting consumer intent and influencing purchasing behavior. This transition reflects broader changes in the digital economy, where competitive advantage is increasingly determined by the quality of personalized user experiences, rather than just the availability of products or information. One of the most important advantages of implementing generative AI in e-commerce is the creation of significant economic benefits for businesses.

AI-based search systems allow companies to increase operational efficiency by automating a wide range of processes related to customer interaction, product recommendation, and information management. Unlike traditional search technologies, which require significant manual keyword optimization and product categorization, generative AI systems can independently process consumer queries, interpret contextual signals, and dynamically adapt search results to individual behavior patterns [17].

The implementation of generative AI also contributes to increased conversion and revenue. Personalized recommendations generated by conversational AI significantly improve the alignment between consumer preferences and available product offerings. When consumers receive contextually relevant offers that meet their expectations, they make purchasing decisions faster and more confidently. This has a positive impact on customer satisfaction, repeat purchases, and long-term loyalty. AI-based systems also enhance the effectiveness of cross-selling and up-selling strategies by identifying additional consumer needs through real-time interactions and predictive behavior analysis [18].

Another important economic benefit is the optimization of customer service costs. Generative AI technologies enable companies to automate communication processes that traditionally required significant human intervention, including answering product questions, assisting with product selection, and resolving common queries. Intelligent virtual assistants and conversational agents operate 24/7, regardless of geographic or time frame, reducing operational costs while increasing service availability.

The economic implications of generative AI go beyond direct sales and customer service metrics. AI-powered product discovery systems generate vast amounts of valuable behavioral data that can inform strategic decisions, forecast demand, optimize inventory, and drive dynamic pricing. The ability of AI systems

to identify hidden consumption patterns and emerging market trends provides companies with significant analytical advantages.

Despite the significant economic potential of generative AI, its implementation in e-commerce poses numerous risks and limitations that can affect both technological efficiency and market stability. One of the main issues concerns the reliability and accuracy of AI-generated recommendations. Generative systems sometimes produce incorrect, misleading, or fabricated information due to the probabilistic nature of language models [19, p. 1829].

Another important limitation concerns algorithmic bias and discriminatory effects. Generative AI systems are trained on large datasets that may contain historical patterns of inequality, cultural stereotypes, or an incomplete reflection of consumer diversity. As a result, AI-based search engines may inadvertently prioritize certain products, brands, or consumer groups while marginalizing others.

Data privacy and cybersecurity issues are also serious constraints to the development of AI-based e-commerce. Personalized product discovery relies heavily on the continuous collection and analysis of consumer data, including behavioral history, preferences, communication patterns, and transaction information. The increasing concentration of sensitive consumer data in AI ecosystems increases the risks of unauthorized access, data misuse, and cyberattacks. In addition, consumers may be increasingly concerned about excessive algorithmic control and the commercialization of personal information. The implementation of generative AI poses additional organizational and infrastructure challenges for enterprises. The development and maintenance of modern algorithmic systems require significant financial investments, specialized technical knowledge, and continuous model training. Small and medium-sized enterprises may struggle to implement AI-based solutions due to limited resources and technical capabilities, thereby increasing market concentration in favor of large digital corporations. As a result, the uneven distribution of access to advanced AI

technologies may contribute to the emergence of new forms of digital inequality in e-commerce ecosystems. The opportunities and limitations of generative AI in e-commerce are summarized in Table 2.

Table 2

Economic opportunities and risks of generative AI in e-commerce

Aspect	Opportunities	Risks and limitations
Customer interaction	Personalized communication and higher engagement	Overreliance on automated interaction
Product recommendations	Increased conversion and customer satisfaction	Incorrect or misleading recommendations
Operational efficiency	Automation and cost reduction	High implementation and maintenance costs
Data use	Advanced behavioral analytics and prediction	Privacy issues and cybersecurity threats
Market competitiveness	Improved adaptability and innovation potential	Market concentration and technological disparity
Consumer decision-making	Simplified and faster purchase process	Behavioral manipulation of consumers
Platform scalability	Continuous optimization based on AI	Dependence on data quality and infrastructure
Commercial communication	24/7 support using AI	Reduced human involvement in complex cases

Source: author's development based on [17–19]

Future directions for personalized product search based on generative AI are likely to be associated with the further development of adaptive, multimodal and emotionally intelligent digital ecosystems. One of the most promising trends concerns the integration of multimodal AI systems capable of simultaneously processing text, voice, image and video data within unified search environments. Such technologies will allow consumers to interact with e-commerce platforms using more natural and intuitive communication formats. For example, users will be able to upload visual samples, describe their stylistic preferences orally, and receive fully personalized product selections based on the contextual interpretation of data from various sources. Another important direction is the development of emotionally adaptive AI systems that can recognize and respond to consumers' emotional states

during digital interactions. By analyzing speech patterns, behavioral cues, and communication styles, generative AI will increasingly be able to personalize recommendations based on emotional context and situational preferences. This can significantly enhance customer engagement and transform online shopping into a more engaging and personalized experience.

Conclusions. The study found that the development of generative AI is significantly transforming the mechanisms of product search in e-commerce, shifting the traditional consumer-digital platform interaction model toward a personalized, prompt-oriented approach. The evolution of product search systems in the digital environment was studied, and it was determined that traditional search algorithms based on keywords and static filtering are gradually losing effectiveness due to their limited ability to account for context, behavioral features, and individual user needs. The impact of generative AI on consumer behavior is analyzed, manifested in the growing role of dialogic search, reduced cognitive load and increased personalization of the digital experience.

A comparative analysis of traditional search and AI search for goods was conducted, resulting in the determination that AI systems offer greater adaptability, more context-aware query interpretation, interactive support for decision-making, and more effective recommendation generation. At the same time, it was established that the introduction of generative AI in e-commerce is accompanied not only by economic benefits in the form of increased conversion, cost optimization and increased business competitiveness, but also by risks associated with algorithmic bias, protection of personal data, reliability of AI-generated information and increased consumer dependence on automated recommendation systems.

Prospects for further scientific research include developing methods to ensure the transparency and ethics of AI search, assessing the long-term impact of generative AI on consumer behavior, and evaluating the effectiveness of multimodal and predictive systems for personalized product search in the digital economy.

References

1. Chang W., Park J. A comparative study on the effect of ChatGPT recommendation and AI recommender systems on the formation of a consideration set. *Journal of Retailing and Consumer Services.* 2024. Vol. 77. Article 103743. DOI: https://doi.org/10.1016/j.jretconser.2024.103743.

2. Rohit K., Shankar A., Katiyar G., Mehrotra A., Alzeiby E. A. Consumer engagement in chatbots and voicebots: A multiple-experiment approach in online retailing context. *Journal of Retailing and Consumer Services.* 2024. Vol. 78. Article 103728. DOI: https://doi.org/10.1016/j.jretconser.2024.103728.

3. Pathak K., Prakash G., Samadhiya A., Kumar A., Luthra S. Impact of Gen-AI chatbots on consumer services experiences and behaviors: focusing on the sensation of awe and usage intentions through a cybernetic lens. *Journal of Retailing and Consumer Services.* 2025. Vol. 82. Article 104120. DOI: https://doi.org/10.1016/j.jretconser.2024.104120.

4. Cheng Z., Fan W., Shao B., Jia W., Zhang Y. The impact of intelligent customer service agents' initial response on consumers' continuous interaction intention. *Journal of Retailing and Consumer Services.* 2024. Vol. 76. Article 103585. DOI: https://doi.org/10.1016/j.jretconser.2023.103585.

5. Мельниченко С. Г. Аналіз стратегічного менеджменту та його вплив на успішність організацій. *Здобутки економіки: перспективи та інновації.* 2024. № 3. DOI: https://doi.org/10.57125/econp.2024.02.29.02.

6. Романчук Л. А., Щитов Д. М., Мормуль М. Ф. Застосування штучного інтелекту в електронній комерції України: тренди, виклики, імітаційні моделі. *Економічна парадигма*. 2024. Т. 1, № 9. С. 77–88. DOI: https://doi.org/10.25313/2520-2294-2024-9-10286.

7. Єфремова К. В., Новікова Т. М. Трансформаційний вплив штучного інтелекту на е-комерцію. *Науковий вісник Ужгородського національного*

університету. Серія: Право. 2025. Т. 2, № 92. С. 29–34. DOI: https://doi.org/10.24144/2307-3322.2025.92.2.3.

8. Ліганенко І. В., Боденчук П. С., Москалюк В. І. Штучний інтелект в цифровому маркетингу. *Трансформаційна економіка.* 2024. № 2(07). С. 33–38. DOI: https://doi.org/10.32782/2786-8141/2024-7-6.

9. Музиченко Т. О., Скорба О. А., Шевчук А. А. Штучний інтелект як засіб оптимізації бізнес-процесів в електронній комерції. *Академічні візії*. 2023. № 25. URL: https://www.academy-vision.org/index.php/av/article/view/696 (access date: 18.12.2025).

10. Halat O. AI-Commerce Integration Assessment Framework (ACIAF): a methodology for evaluating and implementing artificial intelligence solutions in e-commerce business operations. Gutenberg, Kyiv. 23 p. DOI: https://doi.org/10.5281/zenodo.20435335.

11. Veluru C. S. Investigating the impact of artificial intelligence and generative AI in e-commerce and supply chain: a comprehensive. *European Journal of Advances in Engineering and Technology.* 2024. Vol. 11, № 4. P. 131–143. URL: https://surl.li/vbouya (access date: 18.12.2025).

12. Панасюк Т. С., Зубенко І. Р. Перспективи розвитку b2c електронної комерції в світі. *Актуальні питання економічних наук.* 2024. № 6. DOI: https://doi.org/10.5281/zenodo.14603373.

13. Li Y., Zhong Z., Zhang F., Zhao X. Artificial intelligence-based human–computer interaction technology applied in consumer behavior analysis and experiential education. *Frontiers in psychology.* 2022. № 13. 784311. DOI: https://doi.org/10.3389/fpsyg.2022.784311.

14. Rane N., Choudhary S. P., Rane J. Acceptance of artificial intelligence technologies in business management, finance, and e-commerce: factors, challenges, and strategies. *Studies in Economics and Business Relations.* 2024. Vol. 5, № 2. P. 23–44. DOI: https://doi.org/10.48185/sebr.v5i2.1333.

15. Ara J., Ghodke S., Akter J., Roy A. Optimizing e-commerce platforms with AI-enabled visual search: assessing user behavior, interaction metrics, and system accuracy. *Journal of Economics, Finance and Accounting Studies.* 2025. Vol. 7, № 3. P.9–17. DOI: https://doi.org/10.32996/jefas.2025.7.3.2.

16. Zhaldak M. Innovative concepts for designing commercial spaces: functionality, adaptability and aesthetics. *Periodicals of Engineering and Natural Sciences*. 2025. Vol. 13, № 4. P. 911–924. DOI: https://doi.org/10.21533/pen.v13.i4.632.

17. Oprea S. V., Bâra A. Is artificial intelligence a game-changer in steering e-business into the future? Uncovering latent topics with probabilistic generative models. *Journal of Theoretical and Applied Electronic Commerce Research.* 2025. Vol. 20, № 1. 16. DOI: https://doi.org/10.3390/jtaer20010016.

18. Шимко А. В., Замялий Д. В., Кізенко С. Г. Аналіз впровадження інноваційних методів просування продукції у сфері електронної комерції України. *Актуальні питання економічних наук*. 2025. № 10. DOI: https://doi.org/10.5281/zenodo.15256942.

19. Binti Mohd Romzi N. A. N., Haw S. C., Kong W. E., Santoso H. A., Tong G. K. Generative AI recommender system in e-commerce. *International Journal on Advanced Science, Engineering & Information Technology*. 2024. Vol. 14, № 6. P. 1823–1835. DOI: https://doi.org/10.18517/ijaseit.14.6.10509.