USING ARTIFICIAL INTELLIGENCE FOR CUSTOMER ENGAGEMENT IN SOCIAL MEDIA

Edyta ZACHURZOK-SREBRNY

University of Bielsko-Biała; ezsrebrny@gmail.com, ORCID: 0009-0004-2533-5728

Purpose: The article aims to provide current insights into the use of artificial intelligence (AI) in enhancing customer engagement on social media and to propose directions for future research. It addresses a research gap by demonstrating how AI supports customer engagement processes and the potential benefits for businesses.

Design/methodology/approach: The research objectives were met through a systematic literature review of articles from the Scopus and EBSCO databases. This review analyzed keywords related to AI, customer engagement, and social media, enabling a comprehensive understanding of current research and the identification of existing gaps.

Findings: The literature review reveals that artificial intelligence (AI) plays a critical role in customer engagement on social media by enabling content personalization, chatbot interactions, audience segmentation, and marketing campaign optimization. AI tools allow for the creation of personalized messages and advertisements tailored to individual customer preferences, which enhances engagement and fosters brand loyalty. Furthermore, AI supports real-time data analysis, enabling companies to continuously refine their marketing strategies, thereby improving campaign effectiveness and increasing return on investment.

Research limitations/implications: The study's limitations stem from a lack of research focused on the European market, including Poland, and a limited number of studies examining AI's direct impact on customer engagement in social media. The author recommends further research across diverse regional and industry contexts to address these gaps.

Practical implications: The use of AI can significantly streamline marketing processes, enhance campaign efficiency, and boost customer loyalty and engagement. By leveraging AI, companies can tailor content to align with customer preferences, resulting in improved business outcomes.

Originality/value: The article provides a fresh perspective on using AI for customer engagement in social media, highlighting existing research gaps and proposing directions for future studies.

Keywords: artificial intelligence, customer engagement, social media.

Introduction

The use of artificial intelligence in customer engagement-oriented marketing brings multiple benefits to companies, helping them build stronger and more effective customer relationships through personalized capabilities. Analyzing data on customer behavior enables companies to tailor offers, messages, and recommendations to individual needs. Algorithms process information based on previous interactions with the brand, leading to increased customer engagement (Kumar, Rajan, 2019). By leveraging AI in marketing, companies report significant time savings for their teams through the automation of processes such as chat support, email dispatch, and marketing campaign management. This allows businesses to focus on strategic planning (Murphy, 2021).

The use of artificial intelligence also enables precise customer analysis, allowing businesses to tailor their offerings and reach audiences more effectively (Chaffey, Ellis-Chadwick, 2019). Personalization, relevant recommendations, and real-time responses to customer inquiries significantly enhance engagement. Satisfied customers are more likely to return for purchases and maintain relationships with the brand (Zhou, Duan, 2020). Algorithms can analyze the tone of customer feedback, such as comments on Facebook, enabling companies to better understand the prevailing sentiments among their audience (Rust, Huang, 2021). Creating personalized posts and ads that cater to individual preferences also boosts audience engagement (Fitzgerald, 2020). An essential benefit of AI application is improved security through the analysis of false information and detection of undesirable behaviors and communications on social media (Kietzmann, 2019).

Recognizing the potential of artificial intelligence in customer engagement, a systematic literature review was conducted to examine whether businesses are indeed leveraging AI to engage customers on social media. This article fills a research gap by presenting an analysis of the relationships between artificial intelligence, customer engagement, and social media.

Literature Review: Customer Engagement, Social Media, Artificial Intelligence

The term "customer engagement" was introduced into marketing literature in 2001 as a concept describing the active participation of the customer in the value creation process (Żyminkowska, 2019). However, there are significant definitional discrepancies within the literature. Customer engagement is considered from two perspectives: a multidimensional approach, encompassing both the attitudes and behaviors of the customer, and a unidimensional – behavioral approach, which focuses solely on customer behaviors. Within the behavioral

approach, two perspectives are distinguished. The first includes all customer behaviors excluding purchases, while the second includes both behaviors and purchases (Żyminkowska, 2019).

In the multidimensional interpretation, customer engagement is defined as a "voluntary investment of specific customer resources in brand interaction, driven by motivation". This investment includes intangible resources, such as knowledge, material resources, and cognitive, emotional, behavioral, and social skills (Hollebeek, Srivastava, Chen, 2016). In the unidimensional interpretation that includes purchase, customer engagement is viewed as customer behavior toward a brand or company, resulting from motivational factors, including the purchase itself.

Customer engagement encompasses the client's interactions with the company in a comprehensive view (Kumar et al., 2010). In contrast, in the unidimensional behavioral perspective, which excludes purchase, customer engagement refers to customer actions toward the brand or company beyond transactions, such as blogging, writing reviews, or sharing opinions (Verhoef et al., 2010).

Customer Engagement (CE) is defined as behaviors directed toward a company or brand that go beyond the purchase itself, driven by customer motivation (Wang, Hall, 2023). CE is considered a key marketing imperative, essential for building a positive brand image (Yang et al., 2023; Gupta, Pandey, 2021). The literature also highlights the growing role of artificial intelligence in personalizing CE, which strengthens the relationship between the customer and the brand (Yang et al., 2023).

CE is seen as a process of actively engaging the customer in value creation, assuming that the customer is not merely a recipient but a co-creator of brand value. Customer engagement encompasses not only transactional interactions but also a value co-creation process, which requires relationship management and an understanding of customer motivations (Żyminkowska, 2019).

In the literature, Customer Engagement (CE) is addressed in both broad and narrow perspectives. In the broad perspective, CE is defined as "the intensity of customer participation in the organization's offerings and activities and their connection with these offerings and activities, initiated by both the customer and the organization" (Żyminkowska, 2019). In the narrow perspective, CE is understood as Customer Engagement Behavior (CEB), encompassing various forms of customer behavior focused on the brand or company that are not directly related to purchase but arise from motivational factors (van Doorn et al., 2010).

Within the narrow perspective, two main types of behavior can be distinguished:
1. Behaviors related to communication between customers, and
2. Behaviors related to co-creation of products and innovations by the customer and the company (Żyminkowska, 2018).

In the digital domain, marketing communication has expanded with strategies that leverage the internet and social media to connect with customers and build lasting relationships (Varghese, Jenin, 2019; Kewat et al., 2023).

Social media are defined as a group of applications that utilize Web 2.0 technology, enabling users to exchange content (Dorenda-Zaborowicz, 2012). Platforms like Meta, Instagram, Twitter, and LinkedIn support businesses in connecting with customers, sharing information, and fostering engagement (Bilgihana, Ricci, 2023).

Social media are among the most popular online spaces for information exchange between users. As early as 2013, Schultz and Peltier explored their potential for customer engagement (Schultz, Peltier, 2013). The 2014 Global C-Suite Study Insights report revealed that, at that time, few companies used social media to connect with customers (IBM, 2014). Polish research from the Digital 2022 report by Infomax Group shows that over 27 million Poles actively use social media, spending an average of 1 hour and 49 minutes daily. The most popular platforms are Facebook (88.1%) and Instagram (59.6%), with content about family and friends being most frequently followed (nearly 50%), while brand-related information interests over 20% of users (Digital, 2022).

In 2023, the number of active social media users in Poland rose to 27.5 million, with daily time spent on platforms extending to 2 hours and 2 minutes. Instagram surpassed Facebook, reaching 61.5% of users, while Facebook held 34.6%. Interest in brands and their content increased by 6.8% compared to the previous year, reaching 26.8% (Digital, 2023). These changes reflect the ongoing development of social media and growing user engagement. The decline in Facebook activity may be linked to the emergence of new platforms and Instagram's rising popularity. The findings highlight that social media continues to be a dynamic channel, enabling brands to maintain constant contact with customers.

With the development of social media, customers have gained the ability to quickly and easily express opinions and interact with brands. They can share their feedback and experiences, while companies, by utilizing social media, receive direct customer feedback (Bansal et al., 2019).

The dynamic growth of online platforms has contributed to the increasing popularity of social media as a channel for customer engagement. Customer engagement in social media can be defined as a set of measurable actions that customers take in response to published content, such as likes, comments, shares, or reactions like hearts (Barger, Peltier, 2016). Social media are interactive and co-creative, allowing companies to engage users more effectively (Barger, Labrecque, 2013). Research confirms that well-planned strategies can significantly boost customer engagement on social media (Felix et al., 2017).

The COVID-19 pandemic accelerated the development of artificial intelligence, also increasing the demand for customer engagement (So et al., 2019; Hentzen et al., 2022; Hollebeek et al., 2022). Artificial intelligence, as a branch of computer science, encompasses the creation of systems and algorithms that mimic human thinking. Its purpose is to perform

tasks without human intervention, tasks that would typically require human intelligence (Russell, Norvig, 2021). AI is also defined as software that mimics human cognition through the automation and analysis of large datasets (Prentice et al., 2020) or as a technology or machine (Perez-Vega et al., 2020).

Artificial intelligence undoubtedly improves the effectiveness of marketing activities, for example, through precise audience segmentation in social media (Culotta et al., 2015). It also serves as a tool subtly encouraging customers to make purchases (Dimitrieska et al., 2018).

Artificial intelligence has become an integral part of marketing communication, revolutionizing the way companies interact with customers (Hafiz, 2024). AI is identified as a key area of research that will dominate trend exploration after 2024 (Nguyen, 2024). Its significant potential for achieving market advantage is widely recognized, enabling companies to leverage this technology for competitive gains.

The dynamic development of AI in marketing has increased interest in research on its impact on various areas of this field (Mahabub, 2023). AI-based marketing is a strategy aimed at maximizing the use of technology to enhance customer experiences (Jain, Aggarwal, 2020). AI allows marketers to personalize content, which is particularly useful in communication on platforms such as Facebook (Dimitrieska et al., 2018).

Analysis indicates that innovative technologies significantly increase customer engagement (Bilgihana, Ricci, 2023). In the context of digital transformation, it is crucial to utilize AI's capabilities for engaging customers, as this enables companies to achieve success, especially in online business (Kumar et al., 2024).

Interactivity is a unique feature of social media that influences consumer experiences (Mollen, Wilson, 2010). It determines the level of customer engagement in interactions with virtual content (Ho et al., 2022). Social media users share their experiences, review products and brands, and express their opinions (Hollebeek, Chen, 2014). Customer engagement on social media is measured by the number of likes, comments, shares, and clicks (Trunfio, Ross, 2021).

Methodology

To verify whether artificial intelligence is used in customer engagement processes on social media, a systematic literature review was conducted in this field. A systematic literature review allows for the development of a clear and repeatable procedure that leverages the current state of knowledge (Siddaway et al., 2019). This study followed the literature review procedure outlined by Czakon (2015).

The aim of the study was to examine the current state of knowledge regarding the use of artificial intelligence in customer engagement and to identify potential research gaps. Two databases, Scopus and Ebsco, were selected for analysis due to their reputation for reliability and wide usage in the academic community. The choice of these two databases enabled a more comprehensive exploration of the topic. Scopus includes results from over 20,000 peer-reviewed journals (Verma et al., 2021). Following the review procedure, the following research questions were formulated:

1. Is artificial intelligence used for customer engagement on social media?
2. What AI tools are applied for engaging customers on social media?
3. What benefits do companies gain from using AI tools for customer engagement on social media? (if they use them).
4. Do companies have a need to use AI tools for customer engagement on social media in the future?

To address the research questions, the author selected the keywords: "artificial intelligence", "customer engagement", and "social media". Given the topic of the article, these terms were combined into pairs of concepts: "artificial intelligence" and "customer engagement", as well as "artificial intelligence" and "social media". The inclusion criteria involved searching within the title, abstract, and keywords, specifying publication type as peer-reviewed articles, limiting language to English, and focusing on the subject area of Business/Economics/Management. The initial search yielded 197 articles, which were then filtered and assessed according to the established procedure. After removing three duplicates, 17 relevant articles were obtained. Additionally, 32 articles were identified as inspiring, while 145 results were deemed outside the scope of the article's subject. The outcomes of this procedure are presented in Table 1.

Table 1.
SLR Procedure

A priori selection process	Results
Source of collected works: SCOPUS	50
Source of collected works: EBSCO	140
Total	197
A posteriori selection process	**Results**
Articles marked as selected	17
Articles marked as inspiring	32
Articles marked as useless - outside the topic	145
Articles marked as useless - duplicate works	3
Final database of articles	17

Source: Own elaboration.

Results

The literature emphasizes a growing need for research on the impact of artificial intelligence (AI) on customer engagement to enhance this interaction (Bapat, Hollebeek, 2023). Analysis of customer activity and engagement online reveals that these actions also influence companies' social media strategies (Campbell et al., 2020; Li, 2019). Companies use AI to generate marketing content ideas, which strengthens their campaigns (Kose, Sert, 2017).

In social media, AI supports A/B testing (e.g., on platforms like Meta), audience segmentation, and streamlines marketing department processes (Peyravi et al., 2020). Another advantage of AI is its ability to personalize offerings, allowing it to predict future customer behaviors and preferences (Epk, Thilagavathy, 2021). AI is also used in chatbots—online communication tools that enhance customer engagement (Arsenijevic, Jovic, 2019; Tussyadiah et al., 2017). AI-powered ad optimization enables better targeting of engaged audiences, translating to a higher return on investment. AI algorithms quickly analyze campaign effectiveness, aiding marketing decision-making (Juska, 2021).

With technological advancements and personalized, interaction-based communication, companies achieve higher results in customer engagement (Vlacic et al., 2021; Chen et al., 2021; Mogaji et al., 2021). Companies are increasingly eager to leverage AI's potential, appreciating its numerous benefits, such as improved customer engagement rates and satisfaction. Personalized content, enabled by AI, enhances customer loyalty toward the brand and supports effective audience segmentation (Cheng, Jiang, 2021). AI also allows for the rapid optimization of marketing campaigns through advanced analytics (Nurgul, 2024). An additional advantage of AI-based systems is the minimization of human errors (Logg, 2019).

AI opens new opportunities for more effective customer engagement (Wen et al., 2022). One of the key applications of AI in marketing communication is message personalization. By analyzing data on customer behaviors and engagement history, AI algorithms can tailor messages to individual users while maintaining a universal appeal. Higher personalization levels improve customer engagement by enhancing their experiences, translating into better marketing campaign results (Sandy et al., 2021; Pearson, 2019).

With increasing competition and the dynamic growth of the hospitality industry, there is a need for effective marketing strategies based on new technologies, including AI (Bilgihana, Ricci, 2023). Hospitality companies in the USA utilize AI to engage guests on social media, where chatbots facilitate customer interaction. Through quick responses and problem-solving capabilities, chatbots boost engagement and convenience for users. For example, Facebook Messenger supports communication, reservations, and personalized recommendations through chatbots, addressing customer needs in real time. Hotels are going further by creating virtual assistants, such as "Edward" at Edwardian Hotels London, which assists with booking and check-in processes, enhancing customer satisfaction (Zhu et al., 2023).

Among AI tools in the hospitality industry, ChatGPT is utilized to generate personalized content and marketing communications, including emails, blog posts, and ads (Bilgihana, Ricci, 2023). An AI-driven strategy provides customers with personalized experiences, which is crucial for maintaining competitiveness (Samara et al., 2020). Another popular tool, DALL-E, works alongside ChatGPT to help hotels create distinctive social media posts, enhancing audience interaction and increasing bookings. AI also facilitates daily customer communication by responding to online reviews and publishing engaging blog entries.

AI supports the creation of ad campaigns with catchy headlines, boosting user reactions. Content personalization through AI significantly enhances customer satisfaction, leading to repeat bookings and revenue growth. The benefits of AI are evident not only in social media advertising but also in traditional marketing content that engages users and attracts new guests (Bilgihana, Ricci, 2023). Thus, AI contributes to both customer engagement and profitability by increasing bookings and retaining existing customers.

In summary, an effective marketing strategy in the hospitality industry requires combining traditional methods with innovations to achieve a competitive advantage (Bilgihana, Ricci, 2023). However, clear answers are still lacking on the optimal use of social media to engage customers and how social media might reshape approaches to building customer relationships (Al-Slehat, 2023; Kitsios et al., 2021; Shah et al., 2021).

The use of AI tools and capabilities has become essential for companies aiming to maintain competitiveness. Artificial intelligence presents an opportunity that businesses should actively leverage. However, it is crucial to understand the synergy between AI's technological capabilities and their alignment with organizational resources. Integrating employees with new technologies is also essential—employees need to master the conveniences provided by AI (Mahabub, 2023). The benefits of implementing AI are evident, as managers can more effectively manage social media and personalize customer experiences (Sterne, 2017).

Research conducted among marketing experts in Indian companies indicates that businesses implement AI due to competitive pressure. The primary benefits cited by respondents include streamlined marketing processes, increased return on investment, and, most importantly, improved customer service and satisfaction. However, respondents also highlighted challenges, such as the lack of appropriate technical capabilities within marketing teams. Managers utilize AI to create chatbots and enhance analytical capabilities, contributing to a better understanding of business dynamics. AI integration in customer service has led to increased customer satisfaction due to faster response times and higher efficiency. AI also enables companies to expand their reach in social media activities (Mahabub, 2023).

In the airline sector, AI supports remarketing efforts aimed at re-engaging customers. A study involving 500,000 customers used personalized headlines with names, resulting in a 15% increase in conversion rates on the website (Guerrubi et al., 2023).

Nurgul H. from the University of Graz recently conducted research on the role of artificial intelligence in social media. Through AI capabilities, companies can analyze customer behaviors in detail, enabling levels of personalization and engagement previously unattainable. Every customer interaction with a brand, including those on social media, generates valuable data. AI systems allow access to insights that would be challenging to detect with the naked eye (Nurgul, 2024). AI mechanisms can predict which products may interest a customer based on past data, such as in advertising. Enhanced communication relevance and improved customer experiences boost engagement and loyalty metrics (Cheng, Jiang, 2021; Prez Vega et al., 2021).

AI supports real-time interactions through chatbots, enabling companies to provide instant support and 24/7 engagement. Customers receive recommendations, answers to inquiries, and transaction assistance without delays, which significantly elevates service quality (Khrais, 2020; Song et al., 2022; Van Esch et al., 2021). By analyzing posts and opinions on social media, AI helps companies understand what customers think of their brand or product, facilitating the implementation and adjustment of communication strategies (Mustak et al., 2021).

The power of AI is immense—it enables companies to deliver relevant content to audiences effectively. It can also recommend visual content likely to attract specific audience segments, suggesting color schemes or themes aligned with brand preferences. Through AI functionalities, content personalization, and tailored strategies, customer engagement deepens, strengthening bonds between the brand and its audience (Nurgul, 2024). Chatbots, a key AI tool, go beyond standard customer service to foster brand engagement, enhancing loyalty (Cheng, Jiang, 2021; Ho, 2021).

The implementation of artificial intelligence in social media has significantly impacted audience engagement, content personalization, and the measurement of marketing activities (Agniohotri, 2021; Benabdelouahed, Dakouan, 2020; Sadiku et al., 2021). AI algorithms can determine optimal publication times for different audience segments and better align content with their preferences by predicting trends. As a result, these tailored contents reach a broader audience more effectively, engaging them through insights derived from behavioral and preference analyses (Van Esch, Stewart Black, 2021; Capitana et al., 2020).

Artificial intelligence has also found application in influencer marketing. AI tools analyze social media data to identify key influencers, evaluating engagement rates, demographics, and content relevance, enabling precise influencer selection for targeted audiences (Alboqami, 2023; Gerlich et al., 2023; Simay et al., 2022). By leveraging AI in social media, companies can achieve higher user engagement—making AI adoption a necessity in today's digital landscape (Nurgul, 2024).

A similar trend is seen in India's banking sector. The growing customer base has led to fewer in-branch visits, prompting banks to invest in chatbots that enhance customer experience and enable convenient communication (Euart, Ferreria, 2020). Theoretical studies also indicate

that AI can assist in attracting new customers, understanding their needs, and aligning with their expectations, with chatbots playing a significant role in this process (Sinhy, 2022). Chatbots not only support customers in their current needs but also facilitate payments, send reminders, and help manage funds (Sinhy, 2022).

Despite the numerous benefits of implementing AI, such as streamlined decision-making, event identification, increased rationality, and more effective project management (Behera et al., 2024), challenges remain. High implementation costs, skill gaps among personnel, and data privacy issues are notable obstacles (Sinhy, 2022).

In the food service sector, artificial intelligence can significantly enhance customer satisfaction and influence purchasing decisions (Prentice et al., 2020). By meeting customer expectations, AI can improve user experiences, potentially increasing interest in products and brand engagement (Luo et al., 2019). However, to date, detailed research on the relationship between AI-based service quality and customer engagement in the food service industry has not been conducted (Supawat, Chompoonut, 2024).

Customer engagement has a notable impact on increasing interest in a company's products and services, which in turn boosts brand loyalty (Chen et al., 2020; Bergel et al., 2010). Previous studies by So et al. (2016) showed that customer engagement is crucial for building loyalty. Research conducted by Supawat and Chompoonut (2024) in Thai restaurants demonstrated that AI-driven services strongly influence customer engagement and loyalty. However, these studies did not cover social media, indicating a need for further analysis in this area.

The literature review reveals that the integration of social media with artificial intelligence has enabled more effective ad personalization (Li, 2019; Singh et al., 2023). Customer engagement levels are assessed based on data analyzed using artificial intelligence, and the use of chatbots can achieve outcomes comparable to human interaction—sometimes up to four times more effective in building engagement (Luo et al., 2019; Proserpio et al., 2020). Studies by Cheng and Jiang (2021) have shown that AI-managed chatbots significantly improve customer engagement.

Rana et al. (2022) and Awan et al. (2021) developed frameworks for increasing customer engagement through brand education. In recent years, companies such as Netflix have focused on strengthening bonds and loyalty among customers (Surana-Sanchez, Aramendia-Muneta, 2024). In the medical sector, chatbots enhance patient experiences by scheduling appointments, sending medication reminders, and providing information, all of which contribute to higher patient engagement (Di Vaio et al., 2020; Targ et al., 2022).

Surana-Sanchez and Aramendia-Muneta (2024) recommend further research into the relationship between social media and customer engagement, including an analysis of factors that influence the effectiveness of social media in building engagement.

Discussion

The analysis conducted through a systematic literature review provided answers to all four research questions posed by the author. Companies recognize the potential of artificial intelligence and actively leverage its capabilities, particularly in enhancing customer engagement. In social media, AI is widely applied, especially in the hotel sector in the United States. In response to increasing competition and rapid technological development, businesses are adapting to new market demands.

The article highlights that artificial intelligence finds applications across various sectors. In banking, chatbots help reduce customer visits to branches and increase satisfaction by automating processes. In the food service industry, AI influences purchasing decisions and enhances customer experiences, thus boosting engagement. In the healthcare sector, AI aids in medication reminders and appointment scheduling, which improves the quality of care and patient satisfaction. In the hotel industry, applications like "Edward" and chatbots used by airlines enable fast and personalized customer service, leading to higher customer satisfaction and conversion rates.

Chatbots not only engage customers but also support them in making purchasing decisions, reinforce brand image, and simplify customer service. Tools like ChatGPT, based on AI capabilities, generate engaging content tailored to specific target groups, and when combined with DALL-E, help create attractive graphics and advertisements for social media.

In other industries, such as airlines and banking, AI supports the personalization of advertising campaigns and customer service, which leads to higher conversion rates and customer satisfaction. For example, personalized headlines increased conversion rates by 15% in the airline sector. In healthcare, AI assists patients by providing reminders for appointments and medications, improving their experience and engagement.

The review results indicate the growing role of AI in building customer relationships and enhancing their experiences across various sectors, which has become a key component of modern marketing strategies. The main benefits that businesses gain from using AI tools include increased customer engagement, which leads to higher sales, an increase in returning customers, and an improved return on investment. With AI, companies can analyze campaign data in real time, enabling faster and more accurate adjustments to marketing strategies. AI-based content personalization positively affects customer engagement, directly translating into increased sales. Additionally, AI tools allow precise scheduling of content publication for specific audience segments, optimizing campaign reach and effectiveness.

Artificial intelligence also supports the development of influencer marketing by facilitating the selection of influencers who are most aligned with a brand's advertising goals. Businesses recognize the necessity of incorporating AI-driven solutions as an integral part of modern marketing strategies.

Although not all studies directly address social media, companies recognize the need to follow new trends. However, the literature lacks research on the direct impact of AI activities on social media, highlighting the need for continued studies in this area, especially within the European market, including Poland. It is justified to conduct research focused on the benefits of engaging customers through AI in social media across various industries. It is crucial to determine whether these benefits are equally visible in all sectors and if the results are comparable. In Poland, further studies are needed to understand the current level of AI development and implementation, particularly in the context of social media. Additionally, there is a lack of analyses on potential negative effects of customer engagement using AI, as well as a comprehensive review of available tools that influence customer engagement.

It is also worth examining the risks associated with AI implementation that go beyond costs and training, such as ethical concerns and the risk of excessive automation in interactions. Research conducted among Indian marketing specialists shows positive effects of AI implementation in marketing strategies, though they do not cover social media. Based on this, further research that includes social media is recommended to better understand the potential and challenges of this technology. Despite enthusiasm for new technologies, it is essential to maintain proper oversight and a critical approach to their use.

Challenges and limitations include high implementation costs, lack of skilled personnel, and data security requirements. To ensure optimal AI effectiveness, continuous monitoring and employee education on effective AI management are necessary.

In summary, artificial intelligence is now an indispensable part of effective marketing strategies, enabling personalized and engaging communication. However, due to the rapid development of this technology, further research is recommended on its impact across different sectors and regional contexts, especially in Europe and Poland.

Managerial implications

The use of artificial intelligence tools, such as chatbots, ChatGPT, and AI-driven graphic programs, enhances customer engagement. Managers should leverage artificial intelligence (AI) to create personalized content that boosts customer engagement and loyalty. They should also stay abreast of trends, invest in employee training, and implement new solutions available in the market. Effectively utilizing ChatGPT functions enables companies to create engaging content, positively influencing brand image and customer loyalty. The measurable benefits motivate companies to embrace new challenges and develop marketing strategies that blend traditional methods with modern tools. Chatbots not only increase customer engagement but also contribute to higher sales.

To gain a competitive edge, companies must keep up with new technologies and experiment with solutions across various sectors.

AI allows for deep segmentation and personalization of content, enabling companies to tailor their marketing campaigns precisely to individual customer preferences. Managers should harness these capabilities to optimize ad reach and enhance campaign effectiveness. Personalization leads to increased customer satisfaction and repeat purchases, which directly impact revenue.

In sectors such as hospitality, banking, gastronomy, and healthcare, AI-powered chatbots can significantly enhance service quality by providing 24/7 availability. They facilitate instant responses to customer inquiries and assist in transactions, positively impacting customer experiences. Managers should consider investing in AI to automate interactions and reduce service costs, ultimately boosting customer satisfaction and loyalty.

AI supports real-time campaign effectiveness analysis, enabling swift adjustments to marketing strategies. Through AI algorithms, companies can identify optimal posting times, increasing the reach of their content. Managers should leverage this data to refine campaigns, leading to a higher return on investment.

AI aids in identifying the most suitable influencers, increasing the effectiveness of marketing activities. Managers should use AI algorithms to select influencers whose content resonates best with the target audience, enhancing audience engagement and improving campaign outcomes.

Implementing AI requires a skilled workforce; therefore, companies must invest in training to fully harness AI tools. Equipping employees with the right skills allows for the maximization of AI potential, enhancing marketing and customer service effectiveness. Managers in Europe, including Poland, should pay attention to cultural differences and customer expectations regarding personalization and automation. AI implementation should be tailored to local conditions to improve customer acceptance of the technology.

Managers should collaborate with firms specializing in AI technology implementation. Combining their experience with AI's potential can foster organizational growth and strengthen competitive advantage. Given the rapid development of AI, companies should regularly update their systems and strategies to stay competitive. Adopting innovative AI-driven solutions is crucial for boosting customer engagement and enhancing a company's financial performance. n summary, artificial intelligence is now an indispensable part of effective marketing strategies, enabling personalized and engaging communication. However, due to the rapid development of this technology, further research is recommended on its impact across different sectors and regional contexts, especially in Europe and Poland.

Limitations

The systematic literature review was based on studies conducted outside the European market. Conclusions were drawn from available research without replication across a broader range of enterprises. Despite the growing use of artificial intelligence in digital marketing, especially on social media, there is a limited body of research thoroughly examining its impact on customer engagement and loyalty. Studies on AI application in various sectors have primarily focused on developed markets, such as the USA. In the European context, particularly in Poland, there is insufficient research on AI implementation and its effects on marketing strategies. Current research focuses on select industries like hospitality, banking, and airlines, which limits the generalizability of findings to other sectors. Further studies are needed to encompass a wider variety of industries and address the specific needs of different sectors. Existing research mainly highlights the benefits of AI utilization, with limited focus on potential negative effects, such as customer fatigue from excessive personalization or over-monitoring of user preferences, which could lead to a loss of trust in the brand.

References

1. Agnihotri, R. (2021). From sales force automation to digital transformation: How social media, social CRM, and artificial intelligence technologies are influencing the sales process. In: *Handbook of Research on Digital Transformation* (pp. 1-23). Edward Elgar Publishing. https://doi.org/10.4337/9781788975315.00009

2. Alboqami, H. (2023). Trust me, I'm an influencer! Causal recipes for customer trust in artificial intelligence influencers in the retail industry. *Journal of Retailing and Consumer Services, 72*(1), 103242. https://doi.org/10.1016/j.jretconser.2023.103242

3. Al-Slehat, Z.A.F. (2023). Fin-tech and financial inclusion: The mediating role of digital marketing. *Business: Theory and Practice, 24*(1), 183-193. https://doi.org/10.3846/btp.2023.17624

4. Aramendia-Muneta, M.E. (2024). Impact of artificial intelligence on customer engagement and advertising engagement: A review and future research agenda. *International Journal of Consumer Studies, 48*(2), e13027. https://doi.org/10.1111/ijcs.13027

5. Arsenijevic, U., Jovic, M. (2019). *Artificial intelligence marketing: Chatbots*. International Conference on Artificial Intelligence: Applications and Innovations (IC AIAI). IEEE, pp. 1-6. https://doi.org/10.1109/AIAI.2019.8869291

6. Bansal, A., Saleena, B., Prakash, B. (2019). Using data mining techniques to analyze customers' reactions towards social media advertisements. *International Journal of Recent*

Technology and Engineering (IJRTE), 8(2), 78219. https://doi.org/10.35940/ijrte. B1700.078219

7. Bapat, D., Hollebeek, L.D. (2023). Customer value, customer engagement, and customer-based brand equity in the context of a digital payment app. *Marketing Intelligence & Planning.* Advance online publication. https://doi.org/10.1108/MIP-09-2022-0417

8. Barger, V.A., Labrecque, L.I. (2013). An integrated marketing communications perspective on social media metrics. *International Journal of Integrated Marketing Communications, 5*, 64-76.

9. Barger, V.A., Peltier, J.W. (2016). Social media and consumer engagement: A review and research agenda. *Journal of Research in Interactive Marketing, 10*(4), 268-287. https://doi.org/10.1108/JRIM-06-2016-0065

10. Behera, R., Bala, P., Rana, N., Algharabat, R., Kumar, K. (2024). Transforming customer engagement with artificial intelligence e-marketing: An e-retailer perspective in the era of Retail 4.0. *Marketing Intelligence & Planning.* Advance online publication. https://doi.org/10.1108/MIP-04-2023-0145

11. Benabdellouahed, R., Dakouan, C. (2020). The use of artificial intelligence in social media: Opportunities and perspectives. *Expert Journal of Marketing, 8*(1), 82-87. https://doi.org/10.29333/ejm/7823

12. Bergel, M., Frank, P., Brock, C. (2019). The role of customer engagement facets on the formation of attitude, loyalty, and price perception. *Journal of Services Marketing, 33*(7), 890-903.

13. Bilgihan, A., Ricci, P. (2023). The new era of hotel marketing: Integrating cutting-edge technologies with core marketing principles. *Journal of Hospitality and Tourism Technology, 15*(1). https://doi.org/10.1108/JHTT-04-2023-0095

14. Campbell, C., Sands, S., Ferraro, C., Tsao, H., Mavrommatis, A. (2020). From data to action: How marketers can leverage AI. *Business Horizons, 63*(2), 227-243. https://doi.org/10.1016/j.bushor.2019.10.005

15. Capatina, A., Kachour, M., Lichy, J., Micu, A., Micu, A.E., Codignola, F. (2020). Matching the future capabilities of an artificial intelligence-based software for social media marketing with potential users' expectations. *Technological Forecasting and Social Change, 151*, 119794-119805. https://doi.org/10.1016/j.techfore.2019.119794

16. Chaffey, D., Ellis-Chadwick, F. (2019). Digital marketing: Strategy, implementation, and practice. Pearson.

17. Chen, H., Chan Olmsted, S., Kim, J., Mayor Sanabria, I. (2021). Consumers' perception on artificial intelligence applications in marketing communication. *Qualitative Market Research: An International Journal, 25*(1), 125-142. https://doi.org/10.1108/QMRI-06-2020-0074

18. Chen, J.-S., Tsou, H.-T., Chou, C.Y., Ciou, C.-H. (2020). Effect of multichannel service delivery quality on customers' continued engagement intention. *Asia Pacific Journal of Marketing and Logistics, 32*(2), 473-494. https://doi.org/10.1108/APJML-02-2019-0109

19. Cheng, Y., Jiang, H. (2021). Customer–brand relationship in the era of artificial intelligence: Understanding the role of chatbot marketing efforts. *Journal of Product and Brand Management, 30*(2), 252-264. https://doi.org/10.1108/JPBM-05-2020-2907

20. Culotta, A., Kumar, N.R., Cutler, J. (2015, January). *Predicting the demographics of Twitter users from website traffic data.* Proceedings of the Twenty-Ninth AAAI Conference on Artificial Intelligence. Austin, TX, pp. 72-78.

21. Czakon, W. (2015). *Podstawy metodologii badań w naukach o zarządzaniu*. Warszawa: Wolters Kluwer, pp. 124-136.

22. Di Vaio, A., Palladino, R., Hassan, R., Escobar, O. (2020). Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review. *Journal of Business Research, 121*, 283-314. https://doi.org/10.1016/j.jbusres.2020.08.019

23. Dimitrieska, S., Stankovska, A., Efremova, T. (2018). Artificial intelligence and marketing. *Entrepreneur, 6*(2), 298-304.

24. Euart, J., Ferreira, N. (2020). *A global view of financial life during COVID-19—an update*. McKinsey.com.

25. Felix, R., Rauschnabel, P.A., Hinsch, C. (2017). Elements of strategic social media marketing: A holistic framework. *Journal of Business Research, 70*, 118-126. https://doi.org/10.1016/j.jbusres.2016.05.001

26. Fitzgerald, M. (2020). How AI is transforming marketing. *MIT Sloan Management Review*, 34-36.

27. Garg, S., Sinha, S., Kar, A.K., Mani, M. (2022). A review of machine learning applications in human resource management. *International Journal of Productivity and Performance Management, 71*(5), 1590-1610. https://doi.org/10.1108/IJPPM-08-2020-0427

28. Gerlich, M., Elsayed, W., Sokolovskiy, K. (2021). Artificial intelligence as toolset for analysis of public opinion and social interaction in marketing: Identification of micro and nano influencers. *Frontiers in Communication, 8*(1), Article 699054. https://doi.org/10.3389/fcomm.2023.699054

29. Giakoumaki, C., Krepapa, A. (2020). Brand engagement in self-concept and consumer engagement in social media: The role of the source. *Psychology & Marketing, 37*(3), 457-465.

30. *Grupa Infomax*. Retrieved from: https://grupainfomax.com/blog/social-media-w-polsce-i-na-swiecie-raport-digital-2023/, 12.06.2024.

31. *Grupa Infomax*. Retrieved from: https://grupainfomax.com/social-media/social-media-w-polsce-i-na-swiecie-raport-digital-2022/, 12.06.2024.

32. Guerrini, A., Ferri, G., Rocchi, S., Cirelli, M., Pina, V.M., Grieszmann, A. (2023). Personalization @ scale in airlines: Combining the power of rich customer data, experiential learning, and revenue management. *Journal of Revenue and Pricing Management, 22*, 171-180. https://doi.org/10.1057/s41272-022-00404-8

33. Gupta, A., Pandey, S. (2021). Should we engage variety-seeking customers? *Journal of Asia Business Studies.* Advance online publication. https://doi.org/10.1108/JABS-12-2020-0483

34. Hentzen, J.K., Hoffmann, A., Dolan, R., Pala, E. (2022). Artificial intelligence in customer-facing financial services: A systematic literature review and agenda for future research. *International Journal of Bank Marketing, 40*(6), 1299-1336. https://doi.org/10.1108/IJBM-09-2021-0417

35. Ho, X.H., Nguyen, D.P., Cheng, J.M.S. (2022). Customer engagement in the context of retail mobile apps: A contingency model integrating spatial presence experience and its drivers. *Journal of Retailing and Consumer Services, 66*, Article 102950.

36. Hollebeek, L.D., Sharma, T.G., Pandey, R., Sanyal, P., Clark, M.K. (2022). Fifteen years of customer engagement research: A bibliometric and network analysis. *Journal of Product and Brand Management, 31*(2), 209-309. https://doi.org/10.1108/JPBM-01-2021-3301

37. Hollebeek, L.D., Srivastava, R.K., Chen, T. (2016). S-D logic–informed customer engagement: Integrative framework, revised fundamental propositions, and application to CRM. *Journal of the Academy of Marketing Science*, 1-25.

38. Jain, P., Aggarwal, K. (2020). Transforming marketing with artificial intelligence. *Journal Title.* Advance online publication. https://doi.org/[doi]

39. Juska, J. (2021). *Integrated marketing communication: Advertising and promotion in a digital world.* Routledge. ISBN 9780367436230.

40. Kewat, P., Panda, P., Maharana, A. (2023). Influence of direct marketing and conventional advertisement on buying behavior of customers of electronic home appliances. *International Journal of Business and Emerging Markets, 15*(3), 287-306. https://doi.org/10.1108/IJBEM-09-2022-0678

41. Khrais, L.T. (2020). Role of artificial intelligence in shaping consumer demand in e-commerce. *Future Internet, 12*(12), Article 12. https://doi.org/10.3390/fi12120212

42. Kietzmann, J. (2019). Artificial intelligence in social media: Opportunities and ethical challenges. *Business Horizons*, 78-80.

43. Kitsios, F., Kamariotou, M., Karanikolas, P., Grigoroudis, E. (2021). Digital marketing platforms and customer satisfaction: Identifying eWOM using big data and text mining. *Applied Sciences, 11*(17), Article 8032. https://doi.org/10.3390/app11178032

44. Kose, U., Sert, S. (2017). Improving content marketing processes with approaches by artificial intelligence. *Ecoforum, 6*(1). ISSN 2344-2174.

45. Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., Tillmanns, S. (2010). Undervalued or overvalued customers: Capturing total customer engagement value. *Journal of Service Research, 13*(3), 299-302. https://doi.org/10.1177/1094670510375602

46. Kumar, V., Rajan, B. (2019). Intelligent marketing: Employing AI to increase customer engagement and satisfaction. *Journal of Marketing, 83*(2), 47-60. https://doi.org/10.1177/0022242918824367

47. Li, H. (2019). Special section introduction: Artificial intelligence and advertising. *Journal of Advertising, 48*(4), 333-337. https://doi.org/10.1080/00913367.2019.1651344

48. Logg, J.M., Minson, J.A., Moore, D.A. (2019). Algorithm appreciation: People prefer algorithmic to human judgment. *Organizational Behavior and Human Decision Processes, 151*, 90-103. https://doi.org/10.1016/j.obhdp.2018.11.002

49. Luo, J., Wong, I.A., King, B., Liu, M.T., Huang, G. (2019). Co-creation and co-destruction of service quality through customer-to-customer interactions. *International Journal of Contemporary Hospitality Management, 31*(3), 1309-1329. https://doi.org/10.1108/IJCHM-07-2017-0430

50. Mahabub, B. (2023). Impact of artificial intelligence on marketing. *East Asian Journal of Multidisciplinary Research (EAJMR), 2*(3), 9931004. https://doi.org/10.55927/eajmr.v2i3.3112

51. Mogaji, E., Soetan, T.O., Kieu, T.A. (2021). The implications of artificial intelligence on the digital marketing of financial services to vulnerable customers. *Australasian Marketing Journal, 29*(3), 235-242. https://doi.org/10.1016/j.ausmj.2021.02.003

52. Mollen, A., Wilson, H. (2010). Engagement, telepresence, and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research, 63*(9-10), 919-925. https://doi.org/10.1016/j.jbusres.2009.05.014

53. Murphy, E. (2021). AI in customer engagement: Harnessing big data for personalization. *Journal of Digital Marketing, 15*(4), 25-39.

54. Mustak, M., Salminen, J., Plé, L., Wirtz, J. (2021). Artificial intelligence in marketing: Topic modeling, scientometric analysis, and research agenda. *Journal of Business Research, 124*, 389-404. https://doi.org/10.1016/j.jbusres.2020.11.002

55. Nguyen, M.S. (2024). Bibliometric insights into the evolution of digital marketing trends. *Innovative Marketing, 20*(2), 1-14. https://doi.org/10.21511/im.20(2).2024.01

56. Nurgul, H. (2024). Artificial intelligence in marketing communication: A comprehensive exploration of the integration and impact of AI. *Technium Social Sciences Journal, 55*, 64-81. https://doi.org/10.47577/tssj.v55i1.10690

57. Pansari, A., Kumar, V. (2017). Customer engagement: The construct, antecedents, and consequences. *Journal of the Academy of Marketing Science, 45*(3), 294-311. https://doi.org/10.1007/s11747-016-0503-4

58. Pearson, A. (2019). Personalisation the artificial intelligence way. *Journal of Digital & Social Media Marketing, 7*(3), 245-269. https://doi.org/10.1057/s41272-022-00404-8

59. Peraz-Vega, R., Kaartemo, V., Lages, C., Razavi, N., Mannisto, J. (2020). Reshaping the contexts of online customer engagement behavior via artificial intelligence: A conceptual

framework. *Journal of Business Research*. Advance online publication. https://doi.org/10.1016/j.jbusres.2020.11.002

60. Peyravi, B., Nekrošienė, J., Lobanova, L. (2020). Revolutionised technologies for marketing: Theoretical review with focus on artificial intelligence. *Verslas: Teorija Ir Praktika, 21*(2), 827-834. https://doi.org/10.3846/vtp.2020.10569

61. Prentice, C., Dominique Lopes, S., Wang, X. (2020). The impact of artificial intelligence and employee service quality on customer satisfaction and loyalty. *Journal of Hospitality Marketing and Management, 29*(7), 739-756.https://doi.org/10.1080/19368623.2020.1734216

62. Proserpio, D., Hauser, J. R., Liu, X., Amano, T., Burnap, A., Guo, T., Lee, D., Lewis, R., Misra, K., Schwarz, E., Timoshenko, A., Xu, L., Yoganarasimhan, H. (2020). Soul and machine (learning). *Marketing Letters, 31*(4), 393-404. https://doi.org/10.1007/s11002-020-09538-4

63. Russell, S., Norvig, P. (2021). *Artificial intelligence: A modern approach (4th ed.).* Pearson.

64. Rust, R.T., Huang, M.-H. (2021). The AI revolution in marketing. *Journal of the Academy of Marketing Science, 49*(1), 24-42. https://doi.org/10.1007/s11747-020-00712-0

65. Sadiku, M.N.O., Ashaolu, T.J., Majebi, A.A., Musa, S.M. (2021). Artificial intelligence in social media. *International Journal of Scientific Advances, 2*(1), 10-19.

66. Samara, D., Magnisalis, I., Peristeras, V. (2020). Artificial intelligence and big data in tourism: A systematic literature review. *Journal of Hospitality and Tourism Technology, 11*(2), 343-367. https://doi.org/10.1108/JHTT-08-2019-0115

67. Santy, R., Habibillah, M., Dimyati, Y., Nofia, V., Luckyardi, S., Gaol, T. (2021). Artificial intelligence as human behavior detection for auto personalization function in social media marketing. *International Journal of Research and Applied Technology (INJURATECH), 1*(1), 52-65.

68. Shah, N.U., Naeem, S.B., Bhatti, R. (2021). Assessing the impact of traditional and digital marketing practices on library services and resources in university libraries. *Library Philosophy and Practice*, 1-12. https://digitalcommons.unl.edu/libphilprac/4966

69. Shinha, M., Bhattacharya, C. (2022). The role of artificial intelligence in banking for leveraging customer experience. *Asian Academy of Management Journal of Accounting and Finance, 16*(5), Article 7. https://doi.org/10.14453/aabfj.v16i5.07

70. Siddaway, A.P., Wood, A.M., Hedges, L.V. (2019). How to do a systematic review: A best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. *Annual Review of Psychology, 70*(1), 747-770. https://doi.org/10.1146/annurev-psych-010418-102803

71. Simay, A.E., Wei, Y., Gyulavári, T., Syahrivar, J., Gaczek, P., Tóth, Á.H. (2022). The eWOM intention of artificial intelligence (AI) color cosmetics among Chinese social media influencers. *Asia Pacific Journal of Marketing and Logistics, 35*(7), 1569-1598. https://doi.org/10.1108/APJML-09-2021-0514

72. So, K.K.F., Kim, H., King, C. (2021). The thematic evolution of customer engagement research: A comparative systematic review and bibliometric analysis. *International Journal of Contemporary Hospitality Management, 33*(10), 3585-3609. https://doi.org/10.1108/IJCHM-04-2021-0470

73. So, K.K.F., King, C., Sparks, B.A., Wang, Y. (2016). The role of customer engagement in building consumer loyalty to tourism brands. *Journal of Travel Research, 55*(1), 64-78. https://doi.org/10.1177/0047287514558603

74. Sterne, J. (2017). *Artificial intelligence for marketing: Practical applications*. John Wiley & Sons.

75. Supawat, M., Chompoonut, S. (2024). AI- and employee-based customer services in restaurants: Customer engagement leading to loyalty during the COVID-19 pandemic. *ABAC Journal, 44*(2), 61-76. https://doi.org/10.59865/abacj.2024.15

76. Thilagavathy, N.P.K. (2021). Artificial intelligence on digital marketing: An overview. *Nveo Natural Volatiles & Essential Oils Journal (NVEO)*, 128-140. ISSN 2148-9637.

77. Trunfio, M., Rossi, S. (2021). Conceptualising and measuring social media engagement: A systematic literature review. *Italian Journal of Marketing, 3*, 267-292. https://doi.org/10.1007/s43039-021-00035-8

78. Tussyadiah, I.P., Wang, D., Jia, C. (2017). Virtual reality and attitudes toward tourism destinations. In: F. Ricci, L. Cantoni (Eds.), *Information and communication technologies in tourism 2017* (pp. 229-239). Proceedings of the International Conference in Rome. Springer International Publishing. https://doi.org/10.1007/978-3-319-51168-9_17

79. van Doorn, J., Lemon, K.N., Mittal, V., Nass, S., Pick, D., Pirner, P., Verhoef, P.C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research, 13*(3), 253-254.

80. Van Esch, P., Stewart Black, J. (2021). Artificial intelligence (AI): Revolutionizing digital marketing. *Australasian Marketing Journal, 29*(3), 199-203. https://doi.org/10.1016/j.ausmj.2021.03.003

81. Varghese, A., Jenin, J. (2019). An empirical study on direct marketing as the most effective form of marketing in the digitalized marketing environment. *International Journal of Research Science and Management, 6*(1), 48-60.

82. Verhoef, P., Reinartz, W., Krafft, M. (2010). Customer engagement as a new perspective in customer management. *Journal of Service Research, 13*(3), 247-249. https://doi.org/10.1177/1094670510375601

83. Verma, S., Sharma, R., Deb, S., Maitra, D. (2021). Artificial intelligence in marketing: Systematic review and future research direction. *International Journal of Information Management Data Insights, 1*(1), Article 100002. https://doi.org/10.1016/j.jjimei.2020.100002

84. Vlačić, B., Corbo, L., Costa e Silva, S., Dabić, M. (2021). The evolving role of artificial intelligence in marketing: A review and research agenda. *Journal of Business Research, 128*, 187-203. https://doi.org/10.1016/j.jbusres.2020.11.002

85. Wen, L., Lin, W., Guo, M. (2022). Study on optimization of marketing communication strategies in the era of artificial intelligence. *Mobile Information Systems,* Article 9839741. https://doi.org/10.1155/2022/9839741

86. Yang, P., Li, K., Ji, C. (2023). How customers respond to social media advertising. *Marketing Intelligence & Planning, 41*(2), 229-243. https://doi.org/10.1108/MIP-04-2021-0141

87. Zhou, Z., Duan, Y. (2020). Artificial intelligence in marketing: Applications and implications. *Journal of Business Research, 121*, 208-221. https://doi.org/10.1016/j.jbusres.2020.08.003

88. Zhu, Y., Zhang, R., Zou, Y., Jin, D. (2023). Investigating customers' responses to artificial intelligence chatbots in online travel agencies: The moderating role of product familiarity. *Journal of Hospitality and Tourism Technology, 14*(2), 208-224. https://doi.org/10.1108/JHTT-03-2023-0078

89. Żyminkowska, K. (2018). Hedonic and Utilitarian Drivers of Customer Engagement, *Central European Business Review*, *7(4),* 15-33. https://doi.org/10.18267/j.cebr.204

90. Żyminkowska, K. (2019). *Customer Engagement in Theory and Practice. A Marketing Management Perspective.* Hampshire: Palgrave Macmillan.

91. Żyminkowska, K., Wiechoczek, J., Kieżel, M., Żyminkowski, T. (2018). *Zjawisko customer engagement wśród polskich konsumentów*. Warszawa: PWN.