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ETHICAL CHALLENGES IN DIGITAL MARKETING AND NEW TECHNOLOGIES

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The aim of this article is to analyse the ethical challenges of digital marketing arising from new technologies in Poland, with particular emphasis on artificial intelligence (AI) and Big Data, in the context of growing corporate social responsibility and expectations of Polish consumers. The article also outlines directions for further research on ethical issues in digital marketing. The study uses desk research, including academic literature, industry reports, and case studies of Polish companies in e-commerce, banking, retail, and logistics. Digital marketing is undergoing transformation influenced by digitization, AI, and Big Data, requiring the integration of technological innovations, social values, and ethical standards. While these technologies provide business benefits such as personalized offers and process optimization, they also raise ethical concerns, including privacy protection, excessive profiling, lack of algorithmic transparency, and potential manipulation of consumer behaviour. A particular issue is "shadow AI" – unauthorized use of AI tools by employees outside formal procedures – raising risks of data misuse and security breaches. Polish consumers are increasingly aware of data protection and expect responsible, transparent corporate practices. Although regulations like the GDPR set standards, technology often outpaces legal adaptation, creating ethical gaps and requiring corporate self-regulation. The findings indicate that responsible digital marketing requires combining technological innovation with ethical reflection and legal compliance. Building consumer trust depends on transparent data practices, informed consent, limited surveillance, and algorithmic accountability. The analysis here highlights the need to continuously update ethical standards to keep pace with technology and societal expectations, enabling ethical and effective marketing strategies.

Keywords: artificial intelligence, digital marketing, ethical challenges, responsible marketing, marketing ethics

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1. INTRODUCTION

Contemporary marketing is undergoing a profound transformation driven by dynamic social, technological, and economic changes. Digitalization, the development of artificial intelligence (AI systems capable of learning and making data-driven decisions), Big Data analytics (processing and interpreting large datasets), and the automation of marketing decision-making and customer communication processes are significantly reshaping the way companies operate in the market. These changes also affect the role of marketing, which is evolving from a traditional sales instrument into an area integrating technological innovation, social values, and ethical standards (Domański, 2021; KPMG, 2022). Modern marketing is no longer limited to profit maximization; it also functions to build trust, raise consumer awareness, and support corporate social responsibility (GfK, 2023; PwC, 2024). In this context, numerous ethical challenges arise, which are related both to the use of advanced digital tools and to societal expectations regarding transparency, data protection, and corporate responsibility (Bajdak, Spyra, 2024; Rudnicka et al., 2020).

The scale of AI adoption in Polish companies has reached an unprecedented level, making it one of the key challenges for the economy, technology management, and business ethics. Its importance is heightened by the fact that AI is penetrating nearly all sectors, from banking and retail to e-commerce and services, thereby shaping how companies operate and interact with consumers. According to a KPMG study, 82% of Polish companies reported AI implementation in 2025, representing almost a threefold increase from 28% the previous year (KPMG, 2025). Globally, 78% of organizations use AI in at least one business function, and 71% regularly employ generative AI (McKinsey, 2025). Companies implement AI primarily in marketing, customer service, marketing communication, and data analytics, allowing them to automate processes, personalize offers, and improve operational efficiency. The increasing use of AI in enterprises is also accompanied by growing consumer awareness of data protection, driven by both GDPR regulations and widespread public campaigns on user rights. This issue is particularly relevant given that over half of AI implementations in Poland are either pilot projects or limited in scope, with only 43% of companies having a formal implementation strategy (KPMG, 2025). Consequently, rising consumer expectations compel companies to ensure transparency in data use, obtain informed consent from users, and prevent excessive surveillance, which is essential to maintaining customer trust and adhering to ethical marketing standards.

This article presents an analysis of the ethical challenges of marketing arising from the implementation of new technologies in Poland. The study focuses on identifying key risks, with particular emphasis on the use of AI and Big Data in the context of increased corporate social responsibility and consumer expectations. To this end, a desk research methodology was applied, including a literature review,

industry reports, and case studies covering Polish companies across various sectors, such as e-commerce, banking, retail, media and logistics. This approach allows for both the description of current marketing practices and the assessment of their implementation effects from ethical and social perspectives.

Addressing this topic is significant for marketing science, as integrating new technologies with business ethics principles has become essential for effective and responsible corporate operations. Analysing ethical issues in the context of AI and Big Data not only helps to understand the mechanisms influencing consumer behaviour but also provides theoretical and practical frameworks for implementing responsible marketing strategies. The findings of this study have practical applications in designing marketing policies, developing self-regulatory procedures, and establishing transparent data-processing mechanisms. The article represents an attempt to combine theoretical knowledge with practical examples from the Polish market, enabling both researchers and practitioners to better understand the complexity of contemporary marketing ethical challenges and to identify directions for future research in this area.

2. EVOLUTION OF MARKETING ETHICS IN THE CONTEXT OF DIGITALIZATION AND SOCIAL AWARENESS

Among many definitions, marketing has long been described as a "bridge connecting a company with its market environment", serving to integrate business processes with consumer needs (Domański, 2021). Initially, marketing focused primarily on creating and satisfying the market needs of producers and sellers, with the overarching goal of maximizing profits by employing effective promotional tools. Over time, greater importance has been attached to the concept of mutual benefits and adapting activities to consumer needs.

The rapid development of new technologies, particularly digitalization, artificial intelligence (AI), and Big Data analytics, has fundamentally transformed contemporary approaches to marketing. Marketing has increasingly become an area of intensive digital transformation, where precise targeting, automated communication, and integration of consumer data play a central role (KPMG, 2022). Examples from the Polish market, such as the implementation of AI-based solutions in e-commerce services or the use of Big Data in retail, indicate that these technologies have become an essential element of competitive advantage.

Changing consumer expectations force companies to redefine their approach to marketing. According to the AMS report (2024) "Eco-Awareness in Consumer Choices", 86% of Polish consumers expect companies to be leaders in sustainable development, and more than half (56%) acknowledge that they have changed their purchasing behaviours due to environmental concerns. Moreover, 57% of consumers report that they are more likely to choose products from brands that are socially

responsible and engage in important social and environmental issues (AMS, 2024). The SW Research report (2023) emphasizes that contemporary consumers increasingly expect transparency and responsibility from brands, which affects their purchasing decisions and brand loyalty. Consumers also expect companies to communicate their involvement in ESG (Environmental, Social, Governance) issues.

Awareness of personal data protection is also increasing, as confirmed by Polish companies. According to PwC (2025), enhanced awareness of consumer rights and regulations such as GDPR require companies to be increasingly transparent and responsible in managing personal data. As a result, marketing is no longer merely a sales function, but becomes a key tool for building trust, educating consumers, and shaping a positive and responsible brand image.

Technological changes and evolving consumer expectations also necessitate reflection on ethical issues in marketing, which evolve alongside social and economic transformations. The 1960s saw a backlash against the aggressive sales orientation of companies, with marketing expected to focus on the welfare of customers and society rather than manipulation or dishonest sales practices (Drapińska, 2015; Kotler, Keller, 2012, cited in Drapińska, 2015). At that time, the main ethical concerns were excessive promotion, lack of transparency, and misleading sales practices (Drapińska, 2015).

Due to the complexity and sensitivity of many ethical issues in marketing, in mature societies, marketing activities were gradually subjected to legal and industry regulations. Initially, these regulations addressed standards of quality, product safety, curbing manipulative persuasion techniques, preventing unfair competition, and not misleading consumers. By the late 20th century, regulations also covered other areas: marketing directed at children, the elderly, and disadvantaged groups; the ethical responsibility of research agencies for accuracy and privacy protection; unfair competitive practices, such as price undercutting or product copying; and employee relations, including anti-discrimination and labour rights protection (Drapińska, 2015). At the same time, new challenges emerged due to globalization, mass access to media, and advances in production technologies, allowing mass production, often in countries with low costs, where Western regulations did not apply.

At the turn of the 20th and 21st centuries, ethical challenges in marketing intensified, driven by growing consumer awareness and the development of technology, including mass access to communication technologies (e.g., social media). Key ethical issues included product safety and quality, unfair pricing practices, advertising ethics, sales techniques, responsibility toward different consumer groups, reliability of marketing research, relations with competitors and employees, and the level of marketing education regarding ethics (Drapińska, 2015). These challenges focused primarily on minimizing harmful practices in traditional marketing and protecting the interests of consumers and society. Rapid and unrestricted information exchange among consumers worldwide further increased pressure on companies, which had to not only respond to current issues related to product quality, advertising, and

customer service but also proactively implement strategies ensuring greater transparency, fairness toward consumers, and social and environmental responsibility to build trust and maintain a positive brand image.

The development of technology and digitalization introduced new ethical challenges in marketing, such as eco-marketing and sustainable development, requiring companies to engage in environmentally friendly and socially responsible practices while maintaining transparency and authenticity in communication (Sęczkowska, 2023; Bajak, Spendel, 2023; Kamiński, 2019, cited in Sęczkowska, 2023). Eco-marketing, although known since the 1970s, gained importance due to increased consumer awareness regarding product composition, packaging, production processes, and recycling (Tarapata, 2020, cited in Sęczkowska, 2023). These issues became more significant with the growing share of imported products from Eastern countries (e.g., China, Vietnam, Taiwan), where EU environmental standards do not apply.

One of the most frequently discussed risks remains greenwashing, which involves false or misleading claims about a company's or product's environmental impact, manifesting in such practices as using earth tones and nature symbols on packaging, or vague terms such as "natural ingredients" or "eco-friendly product", the manipulative use of statistics without sources, or superficial ecological actions, for example, omitting phone chargers in smartphone sets or reducing towel replacement options in hotels under the pretext of environmental protection (Smolińska, Domaradzka, 2024; Sęczkowska, 2023). Other examples include promoting products as organic or vegan when the attribute is naturally inherent to the product category (e.g., tea) or engaging in pro-environmental initiatives while lobbying against environmental regulations (Smolińska, Domaradzka, 2024; Sęczkowska, 2023).

The growth of digitalization, AI and Big Data has introduced further challenges, including privacy and personal data protection, algorithmic discrimination, lack of transparency in technology operations, accountability for AI-generated content, fake news and disinformation, and the influence of technology on consumer financial decisions (Rudnicka et al., 2020; Bajdak, Spyra, 2024). Digital technologies allow for personalization and automation of processes but also require companies to develop mechanisms for self-regulation and transparent principles of conduct.

3. SOCIAL RESPONSIBILITY AND ETHICS IN DIGITAL MARKETING

Business ethics are defined as "the principles and standards that determine acceptable conduct within business organizations. The acceptability of behaviour in business is shaped by customers, competitors, regulators (authorities), interest

groups, public opinion, as well as individual personal moral principles and values" (Ferrell, 2013, cited in Stachowicz-Stanusch, 2016). An understanding of ethics evolves alongside socio-economic and technological changes. In marketing practice, this concept acquires an operational dimension, defined as a set of social and professional standards regarding law and fair practices, which marketing managers should follow in the process of creating and implementing strategies (Laczniak, Murphy, 2006, cited in Żbikowska, 2014).

Contemporary reflections on marketing ethics, however, are not limited to classical legal and normative issues; they are increasingly shaped by challenges arising from the development of digital technologies, such as Big Data, artificial intelligence (AI), and automation of communication processes. These changes necessitate a redefinition of existing ethical standards, as traditional regulations cannot keep pace with the speed of innovation (European Union, 2024). At the same time, the growing awareness among consumers increasingly questions not only the effectiveness of marketing actions but also their alignment with social values and respect for individual privacy and autonomy. Negative perceptions of marketing often result from it being associated with aggressive sales and manipulation, whereas in essence, according to ethical principles, marketing should integrate the interests of businesses, consumers, and, more broadly, society (Gasparski, 2000).

From this perspective, marketing ethics must be dynamic and flexible to respond to the challenges posed by new technologies and growing consumer expectations regarding transparency, fairness, and corporate social responsibility, while remaining universal enough to allow application regardless of cultural or geographical context.

Modern consumers are increasingly socially, environmentally, and ethically aware, expecting companies not only to provide high-quality products and services but also to ensure transparency in marketing practices and responsible use of data (ETB, 2022; Adanyin, 2024). In Poland, as in Western markets, consumers are paying ever-greater attention to factors such as data privacy, algorithmic transparency, and avoiding manipulation in their marketing communications. Polish consumers are becoming more aware of the risks associated with the use of their personal data. Sixty-two percent of Polish respondents are concerned that companies use their data unethically, and 59% are worried about algorithms learning the preferences of users when browsing content on social media platforms (KPMG, 2024).

Data from ClickMeeting and Santander Consumer Bank indicate that the majority of Poles (78%) are concerned about data security online, and trust in modern technologies is limited: 45% believe that these technologies are insufficient to protect privacy (SCB, 2024). Consumers are also concerned about excessive personalization of offers, profiling without consent, the risk of data breaches, and manipulation of purchasing preferences (European Union, 2024; PwC, 2025).

4. ETHICAL CHALLENGES ARISING FROM AI AND BIG DATA IMPLEMENTATIONS IN MARKETING IN POLAND

The ethical challenges arising from the use of AI and Big Data in digital marketing in Poland are partially regulated by laws aimed at protecting consumer privacy and ensuring transparency in marketing activities. A key regulation is the General Data Protection Regulation (GDPR), implemented in Poland in May 2018, which requires obtaining consent for personal data processing, informing users about how their data is used, and ensuring the right to have their data deleted. GDPR provides a framework for companies regarding the collection and analysis of customer data, enforcing transparency in analytical processes and minimizing the risk of privacy violations (Act of 10 May 2018 on the Protection of Personal Data, Journal of Laws 2018, item 1000).

Polish law also includes regulations on direct marketing and electronic communication. The Act of 18 July 2002 on the Provision of Electronic Services (Journal of Laws 2002 No. 144, item 1204) regulates the informational obligations of service providers toward users, ensuring transparency of electronic services and basic responsibility for content shared electronically. At the same time, the Act of 16 February 2007 on Competition and Consumer Protection (Journal of Laws 2007 No. 50, item 331) prohibits practices that limit competition and actions that may lead to consumer discrimination in terms of offers and pricing.

In the context of artificial intelligence, although these regulations were established before its widespread use, they clearly emphasize the need to ensure transparency of the algorithms used for offer personalization and customer segmentation, as well as to prevent discrimination in automated decisions. However, even these regulations cannot keep pace with the rapid development of technology and marketing practices, leaving legal gaps regarding the use of AI, Big Data, and automated recommendation systems. As these tools become more widespread, it becomes necessary to introduce new regulations covering such aspects as privacy protection, algorithmic transparency, equal treatment of consumers, and corporate accountability for decisions made by automated systems.

While the use of Big Data in marketing brings significant benefits, it also presents ethical challenges for companies related to consumer privacy and invasive digital practices, such as lack of algorithmic transparency, risk of manipulating user behaviour, profiling that may lead to discrimination, social scoring, excessive surveillance, and unauthorized collection of personal data. Regulations such as GDPR (Regulation (EU) 2016/679) aim to increase security and transparency in personal data processing. However, market practices show that companies often operate on the borderline of what is legally compliant and socially acceptable.

The AI Act (Regulation (EU) 2024/1689) introduces a ban on high-risk practices in AI systems and requires transparency, auditability, and protection of consumer rights. Yet audits of AI systems and risk reporting remain insufficient in many

companies, with consumers often not being informed about how their data is processed (Silicki, 2023; Szostek et al., 2023). On the one hand, digital tools enable personalization, optimization of sales activities, and effective campaign targeting. On the other, they raise questions about privacy protection, algorithmic transparency, and the risk of manipulating consumer behaviour (European Union, 2024; Adanyin, 2024).

5. RESEARCH METHOD

The study of ethical challenges in digital marketing was based on an analysis of secondary sources (desk research), including academic literature, industry reports, interviews, and case studies of Polish companies from the e-commerce, banking, retail, and logistics sectors, published between 2000 and 2025. The inclusion of non-academic sources, such as reports and interviews, allowed for consideration of current market practices and practitioner perspectives, which is essential for understanding the real ethical challenges in digital marketing.

This method enabled the identification of key ethical issues related to the implementation of AI and Big Data in Polish companies and pointed to potential directions for further research. Combining theoretical and practical data allowed a preliminary framework to be constructed for responsible marketing strategies, building consumer trust, and establishing self-regulatory procedures in the context of rapidly evolving technologies.

Based on the collected examples of practices used in Polish companies, an analysis was conducted to identify both the positive and potentially problematic aspects of using AI and Big Data in marketing. These practices were organized into the following categories: benefits for the company, benefits for customers, risks for the company, risks for customers, and ethical challenges. This structure allowed for a comprehensive understanding of both the strategic effects of these practices and potential risks, as well as for the identification of ethical challenges arising from the presence of these solutions in market practice and their impact on consumer relationships.

6. RESULTS

Based on the identified sources, the article presents a summary that highlights both the benefits of using AI and Big Data and the potential risks and ethical challenges associated with their implementation. While it is impossible to provide a complete overview due to the breadth and continuous development of these technologies, the examples collected in Table 1 illustrate how modern marketing technologies can support business growth while requiring a conscious and ethical approach to data

processing and communication with stakeholders. Table 1 presents a summary of new tools and the dilemmas arising from the development of digital technologies, artificial intelligence, and increasing consumer awareness.

Table 1. Applications of Modern Marketing Tools in the Context of Benefits and Ethical Challenges

Company/ Sector	**Tools/ Solutions**	**Benefits for the Company**	**Benefits for Customers**	**Risks for the Company**	**Risks for Customers**	**Ethical Challenges**
Allegro (e-commerce)	Recommendation algorithms based on Big Data, personalized offers in the user panel, "Buy Similar" system	Increased sales, higher customer engagement	Better product matching, time savings when shopping	Reputational risk, potential legal issues due to data misuse	Excessive profiling, privacy breaches, algorithm opacity	Transparent data use, customer consent, avoiding excessive surveillance
InPost (logistics/e-commerce)	AI for route optimization, customer behaviour analysis in app and parcel lockers	Delivery efficiency, reduced operational costs	Faster, more convenient deliveries, service personalization	Operational errors due to AI decisions, reputational risk	Excessive monitoring, lack of consent for location tracking, non-auditable algorithms	Data transparency, consent for location tracking
PKO BP (banking)	AI for transaction analysis, scoring systems, fraud detection	Increased financial security, operational efficiency	Faster credit approval, fraud protection	Errors in automated decisions, potential regulatory penalties	Excessive monitoring, algorithmic bias, opaque decision-making	Balance between security and privacy, algorithm accountability
Bank Millennium (banking)	Big Data and AI for customer behaviour forecasting and product offers	Improved cross-selling, marketing efficiency	Better product matching, time savings	Legal and reputational risks from incorrect scoring	Excessive profiling, lack of control over personal data, opaque scoring	Transparency, privacy protection, algorithm accountability

Company/ Sector	Tools/ Solutions	Benefits for the Company	Benefits for Customers	Risks for the Company	Risks for Customers	Ethical Challenges
Żabka (retail)	Big Data analytics for product placement, dynamic pricing, AI-based loyalty programmes	Improved assortment planning, increased sales, efficient promotions	Personalized offers, attractive discounts	Data breaches, reputational damage	Sensitive data collection, lack of transparency	Obtaining consent, responsible data use, transparency
Empik (retail)	Personalization in app and newsletters, AI-based product recommendations	Increased conversion, marketing efficiency	Personalized offers, better shopping experience	Reputational risk if personalization fails	Excessive segmentation, privacy breaches, opaque recommendation algorithms	Ethical use of consumer data
Allegro Ads/ Adform (programmatic advertising)	Automated ad targeting platforms, machine learning for user segmentation	Higher campaign effectiveness, cost optimization	More relevant ads, fewer irrelevant messages	Potential misuse of consumer data, reputational risk	Behavioral manipulation, algorithmic bias	Algorithm transparency, ethical targeting
Onet/WP (online media)	AI for content personalization, article and ad recommendations, user behaviour analysis	Higher engagement, increased ad revenue	Tailored content, easier information access	Reputational risk, loss of trust	Filter bubbles, opinion manipulation, opaque algorithms	Ethical data use, combating disinformation

Source: based on websites and materials from the following companies/sectors: Allegro; PKO BP; Żabka; Allegro Ads/Adform; Onet/WP; Bank Millennium; InPost; Empik; own compilation.

The analysis of the examples of Big Data and AI applications in marketing reveals a clear duality. On one hand, these technologies bring tangible business benefits for companies and customers; on the other, improper use can create risks and

present significant ethical challenges. For companies, benefits include increased sales and revenue through precise campaign targeting and product recommendations (Allegro, Empik), optimization of operational and logistical processes (InPost, Allegro Ads, Bank Millennium), enhanced financial security through fraud detection (PKO BP, Bank Millennium), and building customer loyalty via accurate and personalized messages (Allegro, Empik). For consumers, these tools allow easier and faster search for products and services (Onet/WP, InPost), personalized recommendations (Allegro, Empik), better alignment of offers with individual needs and improved shopping experience (Żabka, Bank Millennium), as well as time savings and increased convenience (InPost, Allegro). Shared benefits for both parties include better alignment of offers and communications with user needs (Allegro, Empik, Bank Millennium), higher satisfaction and quality of customer interaction (Żabka, Allegro Ads, Onet/WP), and optimization of the shopping experience combining business efficiency with consumer convenience (InPost, Empik).

At the same time, the risks observed highlight the need to consider ethical aspects of marketing processes. Issues such as privacy protection, lack of algorithm transparency, and the risk of manipulation or excessive personalization of offers are increasingly visible in market practice (Adanyin, 2024; ETB, 2022). Examples from the e-commerce and banking sectors demonstrate that even well-established companies must balance marketing effectiveness with societal expectations regarding responsibility and transparency (PKO BP, 2023; Allegro, 2023). For consumers, this can sometimes mean a lack of real choice – to use one service, they must consent to data processing in other areas or accept bundled services. Online media users (Onet/WP) are required to share behavioural data for content personalization, while digital bank customers often must accept profiling and data processing in recommendation systems to access basic account functions.

Risks also emerge in scoring systems that assess a customer's risk or value based on multiple data points, such as transaction history, online behaviour, or demographic data. Non-transparent scoring decisions mean the customer does not know which information influenced their evaluation or how to affect the outcome. This can result in loans being denied, higher service fees, or limited access to financial services without full awareness of the reasons behind such decisions. Practices like these create both consumer risks – lack of autonomy, risk of discrimination, restricted access to services, or uninformed financial decisions – and company risks – loss of trust, reputational damage, legal or financial liability.

The analysis of Big Data and AI use in marketing shows that digital technologies provide companies with significant growth and revenue opportunities while generating new ethical and social challenges. Offer personalization, product recommendations, and optimization of logistics and sales processes increase marketing efficiency and improve customer experience. However, excessive profiling, privacy risks, algorithmic opacity, and the potential for consumer manipulation require a conscious ethical approach.

Despite substantial automation of the tools listed in table 1, human factors remain a risk, such as the phenomenon of shadow AI – using AI tools outside official procedures and institutional control, creating the possibility of unauthorized processing of company and client data, circumvention of legal regulations, and loss of decision-making oversight. In practice, employees may use AI systems unpredictably, e.g., to analyse customer data or automate communications, without proper legal or ethical safeguards. International research confirms this: 56% of employees in the US use generative AI at work, and 90% of them do so outside official systems provided by employers, for example, using publicly available free AI chats and entering sensitive company or client data. There have also been documented leaks of information, such as source code or client data, resulting from uncontrolled AI use (Strzelecki, 2025). Such actions increase companies' exposure to privacy violations, algorithmic errors, and loss of consumer trust, demonstrating that ethical AI use requires not only systemic regulation but also effective organizational culture management and employee accountability.

A major challenge remains the pace of legal regulation, which lags behind technological innovation. AI and Big Data tools in marketing are evolving faster than the legislation related to data protection, algorithmic responsibility, or consumer rights. In practice, this means companies often operate in areas that are not fully regulated, creating legal and ethical risks – from improper data processing, through erroneous algorithmic decisions and consumer manipulation, to liability for automated systems' actions. The mismatch between law and technology emphasizes the need for corporate self-regulation, transparent procedures, and internal ethical codes that protect consumers and build brand trust.

The findings indicate that effective use of modern marketing technologies requires integrating three dimensions: technological, ethical, and legal. Ethical challenges include transparent data usage, obtaining customer consent, avoiding excessive monitoring, and balancing security with privacy. Responsibility for algorithmic actions, ethical targeting, combating misinformation, and protecting consumer privacy during data collection and analysis is also critical.

Consumers expect much more than mere legal compliance: they demand ethical, responsible, and transparent actions (ETB, 2022). These expectations arise from increasing social and environmental awareness, as well as experiences with privacy violations or manipulative use of data in digital marketing. Moreover, technological development, including AI and Big Data, often outpaces current legal regulations, leaving certain ethical aspects outside formal oversight. In practice, issues such as ethical targeting, prevention of excessive monitoring, algorithm transparency, and responsible data use remain in the hands of companies' goodwill and require standards exceeding minimum legal requirements to build consumer trust and social legitimacy for marketing activities.

On one hand, Big Data provides immense opportunities for competitive advantage, offer personalization, and marketing efficiency; on the other, it raises ethical

concerns regarding privacy, transparency, and balancing company interests with consumer rights (Kotler, Keller, 2019; Gonçalves et al., 2023). In this context, it is crucial to introduce responsible data management principles, including transparent information policies, ethical AI usage standards, and control over profiling processes.

7. DISCUSSION

Based on the above analysis, three main areas of ethical challenges and directions for further research can be identified:

1) Privacy, transparency, and algorithmic ethics. This area encompasses the growing consumer expectations regarding data protection and ethical use of digital tools, particularly in the context of excessive profiling and surveillance. Key aspects include increasing demand for transparency and data protection, obtaining informed customer consent for the use of information and location tracking, algorithmic transparency and accountability, ethical targeting, and measures to prevent misinformation and avoid excessive surveillance. Proposed research directions include analysing consumer perceptions of excessive profiling in Poland, assessing the validity of consent for behavioural data processing, studying the functioning of algorithms in recommendation and scoring systems, developing ethical targeting frameworks to minimize discrimination, and evaluating the effectiveness of tools counteracting misinformation.
2) Regulatory gaps and strategic adaptation of ethical standards. This area concerns challenges arising from rapid technological development that outpaces legal regulations, and the need to integrate technological, ethical, and legal dimensions into corporate strategies. Important considerations include the speed of technological progress exceeding regulatory updates, the need for continuous adaptation of ethical standards to evolving technologies, and balancing marketing efficiency with social responsibility. In this context, proposed research directions focus on analysing the impact of the AI Act on marketing practices in Poland, the role of self-regulation and ethical codes in addressing legal gaps, adapting ethical standards for generative AI, and studying how ESG engagement is communicated, and greenwashing is prevented.
3) Internal risk and organizational responsibility. This area focuses on risks arising from human factors, including unauthorized use of artificial intelligence within organizations. Of particular importance is the phenomenon of shadow AI, which poses risks related to loss of control over decision-making processes and potential data breaches involving client information. Research could explore the scale and characteristics of shadow AI in Polish companies, mechanisms for preventing unauthorized AI use, and guidelines for employee responsibility, organizational culture, and the effectiveness of institutional security and supervision measures.

This study has several limitations related to both the methodology chosen and the nature of the research area. Firstly, relying solely on secondary research, including industry reports, literature, and case studies, limits the ability to deeply understand the decisions and attitudes of the studied entities. The absence of primary empirical data means that the results are descriptive and theoretical, and the conclusions may not fully reflect actual consumer behaviour or the practices of ethics and compliance managers. Given the study's goal – identifying areas for future research – the selection of secondary sources was justified but limits the possibility of empirically testing hypotheses. Future studies could include primary quantitative research, such as surveys or large-scale experiments, as well as qualitative research, such as in-depth interviews with managers, to obtain more detailed and up-to-date data.

The second limitation concerns the incomplete cataloguing of phenomena and tools related to the research area. The rapid development of technologies and the confidentiality of the solutions used (e.g., to maintain competitive advantage) make it difficult to determine the actual scope and detail of AI-related risks. Emerging ethical dilemmas make it impossible to prepare a complete and exhaustive list of threats and mitigation strategies. Future research should narrow the focus to a single, particularly high-risk domain, thereby allowing for a more detailed and in-depth analysis that increases the practical value of the results.

A third limitation is that technological development, such as AI and Big Data, often outpaces legal regulations. Research conclusions may quickly become outdated in light of new legislation, such as the AI Act, reducing their relevance and utility for managerial practice.

The analysis also focused primarily on large Polish enterprises in e-commerce, banking, retail, media and logistics due to the availability of secondary sources. Excluding small and medium-sized enterprises (SMEs) means that specific challenges faced by this sector, including the lack of formal AI strategies, were not considered. Expanding the research to include SMEs could evaluate their ability to implement transparent procedures and a holistic approach integrating technological, ethical, and legal aspects, increasing the universality and practical value of the findings.

The proposed directions for further research highlight key problems and can serve as a basis for developing studies that incorporate primary quantitative and qualitative research, focus on selected high-risk domains, monitor regulatory changes, and test the effectiveness of risk management mechanisms in various types of enterprises, including SMEs. Such an approach would yield more detailed, up-to-date, and practically useful conclusions.

The findings on the ethical challenges of marketing in the digital era have both practical and theoretical implications. They can support managers in designing strategies, procedures, and marketing activities that align with consumer expectations, while also guiding researchers toward areas that require further investigation.

8. CONCLUSIONS

Contemporary marketing is undergoing a profound transformation driven by digitalization, artificial intelligence (AI), and Big Data. These technologies provide measurable benefits to companies, including increased efficiency of marketing campaigns, better alignment of offers with consumer needs, enhanced customer loyalty, and a significant competitive advantage within the sector. From the consumer perspective, these tools facilitate product and service search, enable personalized recommendations, improve service experience, and save time. At the same time, the use of AI and Big Data raises significant ethical challenges, including the risk of privacy violations, excessive profiling, lack of algorithmic transparency, and manipulation of user behaviour.

The article presents an analysis of the ethical challenges of digital marketing in Poland, focusing on the practices of companies using AI and Big Data and their growing social responsibility towards consumers. The use of secondary data analysis (desk research) made it possible to describe the current state of marketing practices, identify key risks, and highlight three areas requiring further research: privacy, transparency, and algorithmic ethics, regulatory gaps and adaptation of ethical standards, internal risks and organizational responsibility, including the phenomenon of shadow AI.

Effective and responsible marketing in the digital era requires integrating technological, ethical, and legal dimensions. Implementing internal ethical standards that anticipate emerging technologies allows companies to anticipate risks associated with AI and Big Data and to shape marketing practices aligned with social expectations. In the context of the rapid development of digital tools, responsible marketing involves building trust, respecting consumer rights, and supporting corporate social responsibility. The identified areas and the need for detailed empirical research emphasize that both the benefits and risks associated with new technologies require further in-depth analysis to ensure that marketing strategies are effective, ethical, and socially acceptable.

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ETYCZNE WYZWANIA MARKETINGU WOBEC NOWYCH TECHNOLOGII

Streszczenie

Celem artykułu jest analiza wyzwań etycznych marketingu cyfrowego wynikających z zastosowania nowych technologii w Polsce, ze szczególnym uwzględnieniem sztucznej inteligencji (AI) i Big Data, w kontekście rosnącej odpowiedzialności społecznej przedsiębiorstw i oczekiwań polskich konsumentów. W pracy wskazano także kierunki dalszych badań nad problematyką etyczną w marketingu cyfrowym. Badanie opiera się na analizie literatury naukowej, raportów branżowych oraz studiów przypadków polskich firm z sektora e-commerce, bankowego, handlowego i logistycznego. Marketing cyfrowy przechodzi głęboką transformację pod wpływem cyfryzacji, AI i Big Data, wymagając integracji innowacji technologicznych, wartości społecznych i standardów etycznych. Technologie te przynoszą znaczące korzyści biznesowe, takie jak personalizacja ofert, optymalizacja procesów i poprawa efektywności działań marketingowych, ale jednocześnie generują poważne wyzwania etyczne, w tym ochronę prywatności, nadmierne profilowanie, brak przejrzystości algorytmów oraz ryzyko manipulowania zachowaniami konsumentów. Szczególnym problemem jest „shadow AI" – nieautoryzowane użycie narzędzi AI przez pracowników poza formalnymi procedurami, co zwiększa ryzyko niewłaściwego wykorzystania danych i naruszeń bezpieczeństwa. Polscy konsumenci stają się coraz bardziej świadomi ochrony danych i oczekują odpowiedzialnych, przejrzystych działań firm. Mimo obowiązywania przepisów, takich jak RODO, rozwój technologii często wyprzedza regulacje, tworząc luki etyczne i wymagając samoregulacji przedsiębiorstw. Wnioski wskazują, że odpowiedzialny marketing cyfrowy wymaga łączenia innowacji technologicznych z refleksją etyczną i przestrzeganiem prawa. Budowanie zaufania konsumentów zależy od przejrzystego korzystania z danych, świadomej zgody, ograniczonego nadzoru i odpowiedzialności algorytmicznej. Analiza podkreśla konieczność stałej aktualizacji standardów etycznych w odpowiedzi na rozwój technologii i oczekiwania społeczne, umożliwiając wdrażanie etycznych, transparentnych i skutecznych strategii marketingowych.

Słowa kluczowe: sztuczna inteligencja, marketing cyfrowy, odpowiedzialny marketing, etyka marketingu, wyzwania etyczne