

## **Marketing in the age of artificial intelligence: from assisted creativity to algorithmic decisions**

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**Abstract:** Artificial intelligence is profoundly transforming marketing activities, from consumer analysis and communication personalization to content generation, campaign optimization and customer relationship management. This paper examines the most relevant directions of AI impact on marketing, based on recent literature and international reports published in recent years. The main conclusion is that AI does not replace strategic marketing, but forces it to become faster, more predictive, more personalized and more responsible, in a context marked by risks related to authenticity, transparency and human control.

**Keywords:** artificial intelligence; digital marketing; personalization; consumer behavior; automation

**JEL Classification:** M31; M15; O33

### **1. Introduction**

Artificial intelligence has become one of the most important forces reshaping contemporary marketing. Only a few years ago, AI was usually associated with the automation of repetitive tasks. Today, it influences almost every stage of the marketing process: market analysis, consumer insight, content generation, message personalization, campaign optimization, consultative selling, customer service and customer relationship management.

This rapid expansion is not merely a technological evolution. It also indicates a change in managerial logic. Marketing no longer operates only with historical data, traditional research and creative intuition. It increasingly works with systems able to anticipate, generate, recommend and adapt communication in real time. In a digital economy where consumers leave behavioral traces in almost every interaction, AI becomes a tool for interpretation, prediction and action.

At the same time, the development of AI should not be understood only through an optimistic lens. Recent studies show an ambivalent picture. AI can increase productivity, reaction speed and personalization capacity, but it can also produce standardized content, loss of authenticity, data dependence, algorithmic errors and ethical challenges. The AI Index Report 2025 emphasizes that AI influence across society, business and

governance has intensified, while responsible AI practices and regulatory responses have become increasingly important (Maslej et alera, 2025).

In marketing, this tension is particularly relevant. The value of AI is not measured only by the speed with which it produces texts, images, advertisements or reports. Its value depends on the ability of the organization to integrate such outputs into a coherent brand strategy, a credible positioning and a meaningful relationship with customers. AI can generate content, but it cannot independently decide which brand promise is credible. It can segment audiences, but it cannot fully understand the cultural meaning of a community. It can propose campaigns, but it cannot assume the ethical responsibility of communication.

This paper analyzes the impact of artificial intelligence on marketing activities, with emphasis on the major directions highlighted in recent literature: predictive marketing, personalization, content generation, campaign optimization, customer experience, CRM, social media, generative search and the ethics of AI use. The study has a conceptual and analytical nature [1], being based on academic literature, recent reports and observations regarding the transformation of marketing practice.

The central thesis of the paper is that artificial intelligence does not transform marketing only through automation. It changes the way organizations understand, anticipate and build relationships with customers. In this new stage, competitive advantage will not belong to companies that simply use the largest number of AI tools, but to those able to combine algorithmic efficiency, human creativity, quality data and ethical responsibility.

## **2. Artificial intelligence in marketing: conceptual delimitations**

### ***2.1. From automation to augmentation***

Artificial intelligence in marketing should not be confused with simple automation. Automation means executing repetitive tasks according to predefined rules: sending scheduled e-mails, posting social media content or triggering notifications. AI adds an additional dimension: the ability to learn from data, identify patterns, estimate probabilities, generate content and recommend actions.

Therefore, AI-assisted marketing moves from the logic of 'if X occurs, then execute Y' to the logic of 'based on observed behavior, this customer is likely to prefer message Z, through channel W, at moment T'. This distinction is essential because it marks the transition from automation to augmentation. AI does not only execute. It supports analysis, creativity and decision-making.

In recent literature, this evolution is usually discussed through three categories: predictive AI, generative AI and agentic AI. Predictive AI is used to estimate future behavior, such as purchase probability, churn risk, customer lifetime value or campaign efficiency. Generative AI produces text, images, video, concepts and communication alternatives. Agentic AI goes further, referring to systems able to execute more complex tasks with a higher degree of autonomy.

## **2.2. Predictive AI and generative AI in marketing**

Predictive AI plays a significant role in data-driven marketing. It enables organizations to anticipate behaviors, prioritize segments, personalize offers and optimize budgets. It is already integrated into CRM platforms, marketing automation systems, recommendation engines and lead scoring models (Davenport et al., 2020; Huang and Rust, 2021).

Generative AI, however, has produced the most visible change in recent years. Large language models and text-to-image systems have made it possible to generate advertising copy, social media posts, product descriptions, newsletters, video scripts, landing pages and commercial images at a speed previously difficult to imagine. In practice, marketers use these tools for brainstorming, copywriting, tone adaptation, translation, summarization, A/B testing of message variants and scalable content production.

Nevertheless, recent research emphasizes that generative AI should be interpreted primarily as an augmentation tool rather than a replacement for human creativity. A 2025 meta-analysis on generative AI and creativity found that humans collaborating with generative AI significantly outperform humans working without assistance, but the diversity of ideas may decline when users rely excessively on AI suggestions (Holzner, Maier and Feuerriegel, 2025). For marketing, this finding is particularly important: AI can accelerate ideation, but it may also produce uniformity. If many brands use the same tools, the same prompts and similar message structures, differentiation becomes more difficult.

## **3. Recent directions of AI impact on marketing activities**

### **3.1. Market research and consumer analysis**

One of the most important applications of AI in marketing is consumer analysis. By processing large volumes of data, AI can identify behavioral patterns that would be difficult to observe through traditional methods. Data may come from transactions, online navigation, social media interactions, reviews, chatbot conversations, call centers, e-mails or digital campaigns.

AI supports market research through sentiment analysis, social listening, identification of recurring themes in customer feedback, detection of emerging trends and behavioral segmentation. Instead of relying exclusively on surveys or focus groups, organizations can continuously analyze signals generated by consumers in the digital environment.

However, this transformation does not eliminate qualitative research. On the contrary, it makes it more important. AI can indicate what happens at scale, but the deeper interpretation of motivations, emotions and cultural context remains a human competence. A model can identify a decline in positive sentiment towards a brand, but it may not always understand irony, cultural nuance or the social meaning of conversations. Thus, the future of market research will combine automated analysis with human interpretation.

### ***3.2. Segmentation and hyper-personalization***

Traditional segmentation was based on demographic, geographic, psychographic or behavioral criteria. AI extends this logic by creating dynamic microsegments and by personalizing messages at the individual level. Instead of sending the same message to a broad segment, organizations can adapt the message according to purchase history, recent behavior, preferences, location, moment of interaction and conversion probability.

Personalization no longer means inserting the customer's name into an e-mail. It means choosing the right content, the right offer, the right channel and the right moment. In e-commerce, this transformation is visible through product recommendations, post-purchase communication, contextual offers and dynamic content.

The strategic promise of hyper-personalization is significant, but it also raises a delicate question: where does relevance end and intrusion begin? A message may be appreciated when it is useful and contextual, but it may be rejected when the consumer feels that the brand 'knows too much'. Therefore, personalization must be accompanied by transparency, consent and user control.

### ***3.3. Content generation and assisted creativity***

Generative AI has deeply changed content production in marketing. Advertising copy, social media posts, product descriptions, newsletters, video scripts, commercial images and campaign ideas can now be generated much faster than in the past. This capacity reduces execution time and allows teams to test several message variants simultaneously.

Recent business cases show that companies are already using generative AI to reduce creative production costs and speed up marketing operations. Klarna reported in 2024 that AI tools helped reduce image production costs and shorten the production timeline for marketing assets, while also contributing to a reduction in sales and marketing expenses (Bruell, 2024). Other firms have experimented with AI systems for producing personalized marketing material at scale, indicating a shift from isolated content generation to campaign-level content orchestration.

At the same time, AI-assisted creativity has limits. Generated content can be correct but without creative tension. It can be fluent but generic. It can formally adapt to a target audience but remain culturally superficial. For marketing, the conclusion is clear: AI can produce alternatives, but the brand must choose the meaning. AI can generate executions, but the strategic idea, positioning and authentic brand voice remain human responsibilities.

### ***3.4. Campaign optimization and programmatic advertising***

AI has a significant impact on campaign optimization. Digital platforms already use algorithms for automated bidding, audience selection, creative testing, budget redistribution and conversion estimation. In programmatic advertising, AI contributes to real-time decisions regarding the display of advertisements.

This transformation makes campaigns faster and more efficient, but it may also reduce decision transparency. Marketers may know that a campaign works without fully understanding why it works. In addition, excessive

optimization for clicks or immediate conversions can damage long-term brand objectives. A campaign may perform tactically while weakening brand differentiation if messages are built only for quick reactions.

The managerial challenge is not only to use AI for optimization, but to define the right objectives for AI systems. If the algorithm optimizes the wrong goal, technical efficiency can produce weak strategic outcomes. In this stage, a key marketing competence is the ability to formulate objectives that connect performance metrics with brand strategy.

### ***3.5. CRM, customer experience and loyalty***

Customer relationship management is one of the areas where AI can create immediate value. Chatbots, virtual assistants, recommendation systems, churn prediction, lead scoring and automated post-sale interactions allow organizations to offer faster responses and more adaptive experiences.

In the past, CRM was often perceived as a database and as a system for tracking interactions. Today, AI-assisted CRM becomes a predictive and conversational system. It does not only record what the customer has done; it estimates what the customer might do, what need might appear and what type of message might be appropriate.

This transformation can improve customer experience, but it can also generate frustration if automation is poorly calibrated. A chatbot that answers quickly but fails to solve the problem does not increase satisfaction. A personalized recommendation that seems too aggressive can damage trust. An automated message that imitates empathy too much can be perceived as artificial. Therefore, AI in CRM should follow a simple rule: automation is valuable when it reduces customer effort, not when it masks the absence of a human relationship.

### ***3.6. Social media, authenticity and synthetic content***

Social media is one of the spaces where the impact of AI on marketing is most visible and, at the same time, most risky. AI tools enable the rapid generation of posts, images, short videos, comments, answers, virtual influencers and advertisements. Production costs decrease and content volume increases.

This abundance creates a major problem: the erosion of trust. Consumers may become more skeptical when they cannot clearly understand whether they are interacting with a real person, a brand representative, a bot or an artificial avatar. An experimental study published in 2025 on the impact of generative AI on social media found that AI tools may increase content volume and engagement, but can reduce perceptions of conversation quality and authenticity (Moller et alera, 2025).

For brands, authenticity becomes a competitive advantage. It is not enough for content to be well produced; it must be credible. It is not enough for a message to be personalized; it must be honest. It is not enough for a campaign to be efficient; it must be ethically and socially acceptable.

## 4. Marketing in the age of generative search

### 4.1. From search engine optimization to answer visibility

A new and important direction for marketing is the transformation of online search. For two decades, digital visibility was dominated by classical search engine optimization: optimizing pages so that they appear higher in search results. With the emergence of AI-generated answers, the logic changes. The user no longer receives only a list of links, but also a synthesized and conversational answer, sometimes without visiting the source websites.

This shift has created discussions around generative engine optimization, answer engine optimization and large language model optimization. The objective is no longer only to rank on the first page, but to be accurately represented in AI-generated answers. For companies, this becomes a strategic challenge: how can they ensure that brand information is correct, coherent and sufficiently present in the sources from which AI systems learn or retrieve information?

### 4.2. Strategic implications for brand visibility

This transformation forces marketing to reconsider content strategy. Articles, product pages, case studies, reviews, media mentions, social platform presence and message consistency become part of an informational ecosystem that AI may synthesize. If the brand is inconsistent across its own channels, AI systems may generate incomplete or incorrect descriptions. If the brand lacks digital authority, it may be absent from generated answers.

Therefore, the future of digital marketing will not optimize only for people and search engines, but also for AI systems that mediate people's access to information. This does not eliminate SEO; rather, it extends it. Visibility will depend not only on technical optimization, but also on authority, trustworthiness, semantic clarity and consistency across channels.

## 5. Main benefits of AI for marketing activities

### 5.1. Operational benefits

AI can generate several operational benefits for marketing teams. It accelerates routine tasks, increases the number of creative alternatives, improves targeting, reduces manual reporting effort and allows faster testing. As shown in Table no. 1, the benefits cover both analytical and creative activities.

**Table no. 1. Benefits of AI in marketing activities**

Marketing area	Main benefit	Example of use
Market research	Rapid analysis of large data volumes	Sentiment analysis in reviews and social media
Segmentation	Dynamic micro segmentation	Grouping customers by actual

		behavior
Personalization	Individually adapted messages	Contextualized recommendations and offers
Content	Fast production of creative variants	Copy, images, advertisements, newsletters
Campaigns	Real-time optimization	Budget and audience adjustment
CRM	Fast response and behavioral prediction	Chatbots, scoring, churn prevention
Customer experience	Reduction of customer effort	24/7 support and proactive recommendations
Digital strategy	Visibility in AI-mediated search	Optimization for generative answers

*Source: author synthesis based on recent literature.*

## **5.2. Strategic benefits**

The benefits of AI do not appear automatically through the purchase of tools. Organizations need clean data, clear objectives, well-defined processes and interpretation skills. Without these elements, AI may accelerate confusion instead of producing value.

The strategic benefits appear when AI is integrated into a broader marketing logic. In this case, AI helps organizations understand customers more precisely, communicate more relevantly and react more quickly. It also allows marketing teams to focus more on positioning, experience design, brand meaning and long-term relationship building.

## **6. Risks and limits of AI use in marketing**

### **6.1. Loss of authenticity**

One of the most important risks of AI in marketing is the loss of authenticity. Consumers are exposed to increasing volumes of AI-generated or AI-assisted content. Over time, this abundance may produce saturation and distrust. Content becomes more abundant, but not necessarily better.

Authenticity cannot be simulated only through conversational tone. It depends on coherence, real behavior and long-term relationship. Brands that use AI only to increase content volume may weaken trust if the communication becomes too generic, too frequent or too obviously synthetic.

## **6.2. Bias, discrimination and algorithmic errors**

AI learns from data. If the data are incomplete, historical, unbalanced or contaminated by bias, the results can reproduce or amplify those problems. In marketing, bias can affect segmentation, targeting, dynamic pricing, recommendations and eligibility for certain offers.

A system may exclude certain categories of consumers from premium campaigns because historical data indicate a lower probability of conversion. Technically, the system optimizes efficiency. Ethically, it may amplify inequality or reduce access to opportunities. This is why human evaluation remains necessary, especially when AI outputs influence access, visibility or pricing.

## **6.3. Data privacy and transparency**

Personalization is based on data. The more precise the message, the more carefully organizations must manage consent, security and transparency. Consumers may accept personalization when they perceive it as useful, but reject it when it seems invasive.

In the context of data protection regulations and growing public sensitivity regarding the use of personal information, AI-assisted marketing must be built on data minimization, clear explanations and user control. The European Union AI Act, adopted in 2024, reflects the broader regulatory trend towards risk management, transparency and accountability in AI systems (European Parliament and Council of the European Union, 2024).

## **6.4. Dependence on platforms and loss of strategic control**

Another risk is excessive dependence on external AI platforms. If organizations outsource too much of creation, analysis and decision-making to systems they do not control, they may lose essential internal capabilities. Moreover, brands may begin to resemble one another because they use the same tools, similar models and similar recommendations.

Strategic marketing requires differentiation. AI can support execution, but true differentiation requires positioning clarity, cultural understanding and creative courage. Therefore, organizations should avoid confusing algorithmic efficiency with strategic originality.

## **7. Strategic directions for marketing in the AI context**

### **7.1. Building AI governance in marketing**

Organizations that use AI in marketing need clear rules. Who can use AI? For what types of content? What must be verified? When is human intervention mandatory? How is AI-generated content labelled? How are data protected?

AI governance is not a bureaucratic obstacle, but a condition for trust. Without internal rules, teams may use AI inconsistently, creating reputational risks, errors or confidentiality problems. Governance should include guidelines for data, content, brand voice, approval workflows, documentation and ethical review.

## **7.2. Developing AI literacy**

Marketers do not need to become AI engineers, but they must understand how these tools work, what they can do, what they cannot do and where they can fail. AI literacy becomes a basic professional competence.

This includes the ability to formulate prompts, verify outputs, interpret data, detect generic content, evaluate risks and integrate AI results into a coherent strategy. In the absence of AI literacy, marketers may either overthrust AI systems or reject them without understanding their value.

## **7.3. Preserving human control over strategy**

AI can recommend, but humans must decide. This rule is essential in marketing. Brand identity, positioning, values, communication tone and ethical boundaries should not be fully delegated to algorithms.

The best use of AI is achieved when technology takes over repetitive tasks, generates alternatives and offers analyses, while humans focus on interpretation, strategy, relationships and meaning. In other words, the future of marketing is not human or artificial, but hybrid.

## **7.4. Protecting brand authenticity**

In a world where content is increasingly easy to produce, brands will be evaluated more intensely through authenticity. This means coherence between promise and behavior, between communication and experience, between image and reality.

AI can help express the brand, but it cannot create authenticity in the absence of a clear identity. A strong brand voice, a consistent editorial logic and a responsible content policy will become more important as AI-generated content becomes widespread.

## **7.5. Integrating AI into customer experience**

Many organizations start using AI through content generation because it is visible and accessible. However, the greater strategic value lies in customer experience: reducing response time, anticipating needs, simplifying interactions, improving services and increasing loyalty.

A brand will not be perceived as innovative merely because it uses AI in advertisements. It will be perceived as innovative when it uses AI to create better experiences. Thus, the most mature applications of AI in marketing are not only communicational, but relational and experiential.

## **8. Conceptual model of AI impact on marketing**

Based on the directions analyzed above, this paper proposes a conceptual model with four levels: analysis, creation, interaction and strategy. The model is presented in Table no. 2.

**Table no. 2. Conceptual model of AI impact on marketing**

Level	Key question	Role of AI	Main risk
Analysis	What do we know about the consumer?	Identifies patterns and predictions	Superficial interpretation
Creation	How do we build the message?	Generates ideas and variants	Uniformity and loss of authenticity
Interaction	How do we communicate with the customer?	Personalizes and automates	Intrusion and lack of transparency
Strategy	How do we build value?	Supports decisions and optimization	Loss of human control

*Source: author contribution.*

The model shows that AI affects marketing on several levels simultaneously. In the analysis area, AI helps understand the consumer. In the creation area, it supports content production and ideation. In the interaction area, it personalizes communication and experience. In the strategy area, it can support decisions, but should not replace them.

The model also highlights an important principle: the deeper AI is integrated, the greater its potential value, but also the greater the risk if the organization gives up strategic control. Therefore, AI adoption in marketing should be evaluated not only through efficiency indicators, but also through criteria related to authenticity, trust, responsibility and long-term brand value.

**9. Conclusions**

Artificial intelligence fundamentally changes marketing activities, not by replacing the marketer, but by changing the professional standard of marketing. In an environment characterized by abundant data, fragmented consumers, multiple channels and increasing reaction speed, AI offers marketers new capabilities for analysis, personalization, creation and optimization.

The first conclusion of the paper is that AI transforms marketing from a mainly reactive activity into a predictive one. Organizations no longer wait only for consumer feedback; they can anticipate behaviors, needs and risks. This capability is valuable especially in CRM, retention, recommendations and digital campaigns.

The second conclusion is that generative AI profoundly changes content production. It accelerates the creative process, allows the testing of multiple variants and reduces execution costs. However, excessive use can lead to

uniformity and loss of authenticity. Therefore, AI should be used as a partner for ideation and execution, not as a replacement for creative thinking.

The third conclusion is that personalization becomes one of the most important directions of AI impact, but also one of the most sensitive. Consumers appreciate relevance, but reject intrusion. AI-based marketing must find the balance between usefulness, consent and discretion.

The fourth conclusion concerns the transformation of online search. With the emergence of generative engines, brands must think not only about classical SEO, but also about how they are represented in AI-generated answers. This change will affect visibility, authority and content strategy.

The fifth conclusion is that AI forces marketing to become more responsible. Bias, privacy, authenticity, synthetic content and transparency are not secondary issues. They are central. In a digital environment saturated with content, trust becomes a strategic resource.

Finally, the future of marketing will not be defined by the opposition between humans and artificial intelligence, but by the quality of collaboration between them. Organizations that combine algorithmic analysis, human creativity, data governance and ethical responsibility will gain a real competitive advantage. AI does not reduce the importance of strategic marketing; on the contrary, it increases it.

## Notes

[1] The paper has a conceptual and analytical nature and is based on recent academic literature, reports and industry examples concerning artificial intelligence and marketing.

[2] In this paper, the term AI is used broadly, including predictive AI, machine learning, generative AI and conversational systems used in marketing activities.

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