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BRAND MANAGEMENT INTELLIGENCE: DIGITAL TECHNOLOGIES AND TOOLS

In the context of dynamic technological changes, the intelligence of the economy is becoming particularly relevant, forming new standards of management activity, where the key resource is not only information, but also the ability to interpret and apply it to make strategic decisions. In brand management, intelligence opens up opportunities for developing unique brand strategies based on a deep analysis of consumer behavior, forecasting market trends and increasing the effectiveness of marketing campaigns. This requires rethinking traditional approaches to brand management and finding new ways to integrate digital tools to increase the consumer value of the brand. The aim of the research is to substantiate the emergence of the Branding 3.0 concept in the process of brand management intellectualization. The research is based on the hypothesis that it is the intelligence of the economy and management that has led to the emergence of the Branding 3.0 concept as a key element of modern brand management. The research methodology is based on the theoretical foundations of behavioral economics, generation theory and modern marketing approaches, as well as the use of historical and logical methods, analysis and synthesis, concepttualization, systematization and structural modeling. The research identifies the prerequisites for the

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АНАЛІТИКА БРЕНД-МЕНЕДЖМЕНТУ: ЦИФРОВІ ТЕХНОЛОГІЇ ТА ІНСТРУМЕНТИ

В умовах динамічних технологічних зрушень інтелектуалізація економіки формує нові стандарти управлінської діяльності, де ключовим ресурсом стає не лише інформація, але й здатність до її інтерпретації та застосування для прийняття стратегічних рішень. У бренд-менеджменті інтелектуалізація відкриває можливості для розроблення унікальних бренд-стратегій, які базуються на глибокому аналізі споживчої поведінки, прогнозуванні ринкових тенденцій і підвищенні ефективності маркетингових кампаній. Це вимагає переосмислення традиційних підходів до бренд-менеджменту й пошуку нових способів інтеграції цифрових інструментів для підвищення споживчої цінності бренду. Метою статті є обґрунтування становлення концепції Брендинг 3.0 у процесі інтелектуалізації бренд-менеджменту. Представлене дослідження ґрунтується на гіпотезі, що саме інтелектуалізація економіки та управління обумовила становлення концепції Брендинг 3.0 як ключового елементу сучасного бренд-менеджменту. Методологія дослідження базується на теоретичних засадах поведінкової економіки, теорії поколінь і сучасних підходах маркетингу, а також на використанні історичного й логічного методів, аналізу та синтезу, концептуалізації, систематизації і структурного моделювання. Визначено передумови

intelligence of brand management, improves the periodization of the evolution of brand management in the process of generational transformation, which reflects the movement from simple product-oriented branding to complex data-driven strategies. The terminological apparatus of brand management is developed; conceptual changes in the formation, positioning and development of brands are characterized, as well as changes in the labor market due to new challenges to the professional development of specialists in this field. The essence of the Branding 3.0 concept is revealed and its system-forming elements are substantiated. The main stages of the brand roadmap are identified and its tools are systematized in accordance with the tasks of each sub stage. The considered advantages, disadvantages, and practical examples of the application of the latest technologies in brand management allow us to conclude that brands need to adapt to intelligence in order to ensure strategic advantages in the market.

Keywords: Branding 3.0, digital branding, behavioral economics, intelligent society, AI, digital technologies, marketing tools, brand roadmap.

інтелектуалізації бренд-менеджменту, удосконалено періодизацію еволюції бренд-менеджменту у процесі перетворення поколінь, що відображає рух від простого брендингу, орієнтованого на продукт, до складних стратегій, керованих даними. Розвинуто термінологічний апарат бренд-менеджменту, охарактеризовано концептуальні зміни щодо формування, позиціювання та розвитку брендів, а також зміни на ринку праці через нові виклики професійному розвитку фахівців у цій сфері. Розкрито сутність концепції Брендинг 3.0 та обґрунтовано її системотвірні елементи. Визначено основні етапи дорожньої карти бренду та систематизовано її інструменти відповідно до завдань кожного підетапу. Розглянуті переваги, недоліки та практичні приклади застосування новітніх технологій у бренд-менеджменті дають змогу зробити висновок про необхідність адаптації брендів до інтелектуалізації задля забезпечення стратегічних переваг на ринку.

Ключові слова: Брендинг 3.0, цифровий брендинг, поведінкова економіка, інтелектуальне суспільство, AI, цифрові технології, маркетингові інструменти, дорожня карта бренду.

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Introduction

Dynamic processes of informatization and digitalization have determined the key vector of development of modern society, demonstrating the increasing importance of intellectual potential in all spheres of life.

The interest of scientists in the processes of intelligence (intellectualization) of the economy is determined by accelerated changes in the main driving forces of economic value, the emergence of new industries, business models and prospects for economic growth.

If scientific ideas about the intellectual economy, associated with the term "intellectual capital" (which was first used in 1969 by the American economist Galbraith (2007), focused on the importance of knowledge, skills and intangible assets as key resources for development, today's conceptual shift has changed the emphasis to the use of digital technologies, artificial intelligence and innovative approaches in creating added value, as can be concluded from Majure (2015), Freitas and Ofek (2024), Ziakis and Vlachopoulou (2023), Veloutsou and Guzman (2017), Zozulov and Nestorova (2008).

Ukrainian researchers devote their attention to intelligence in various spheres of the economy. Naumov (2008) defines the prerequisites for the formation of an intellectual society. Popova (2020) defines the key aspects of intellectualization and identifies the features of neo-industrialization of the economy. Bryukhovetska and Bogutska (2020) reveal the content and structure of intellectualization of the enterprise. Polyakov (2016) characterizes the impact

of intellectualization on the development of the main forms of international economic relations and provides general recommendations for improving the quality of their information support. Kolesnyk et al. (2024) investigate the issues of intellectualization of production and smart specialization of regions of Ukraine. Despite the importance of scientific developments, modern scientific literature does not pay due attention to the intellectualization of marketing and brand management, which determined the choice of the research direction.

Intelligence in brand management reflects the reorientation of brand management processes towards a more strategic, data-driven and technologically integrated approach. In today's world, a brand ceases to be just a marketing tool, but becomes part of the consumer's cultural, social and even existential identity, as comprehensively highlighted by Ilaw (2014) and Amaral & Torelli (2018).

A key condition for such changes, in particular, can be considered intellectualization, which literally opens up new horizons for brand management. Traditional brand management methods, which relied heavily on intuition and experience, are being replaced by intellectual approaches based on large volumes of consumer data and complex algorithms. Brand management itself is increasingly shifting to the digital environment, leaving traditional tools a secondary role and thereby forming a new direction of marketing activity – digital branding (Kolosok, 2023; Taylor & Pentina, 2017; Ustik et al., 2023; Iankovets, 2024). This shift represents a fundamental transformation in the processes of creating, maintaining, and optimizing brands. Research in this area is essential for organizing the effective use of the latest technologies for brand management.

In addition, consumer behavior is becoming increasingly volatile under the influence of rapid technological changes, cultural shifts, and global events (Davydova et al., 2018; Yevtushevska, 2016; Zhaldak & Yatsenko, 2021). Therefore, the intellectualization of brand management provides brands with the tools to quickly adapt to these changes by constantly analyzing consumer data and adjusting strategies in real time.

However, insufficient theoretical development and practical testing of the concept of intellectualization of brand management, in particular the integration of artificial intelligence, big data and automated systems into brand management, complicate the adaptation of companies to the challenges of digital transformation, changing consumer expectations and increasing the role of socio-ethical aspects of branding. This necessitates both the theoretical justification of intellectualized brand management and the analysis of practical challenges that brands face in the process of intellectualization.

The aim of the research is to substantiate the formation of the concept of Branding 3.0 in the process of intellectualization of brand management.

To achieve the aim, the following tasks are envisaged such as:

- to determine the prerequisites for the intellectualization of brand management and to clarify the periodization of its evolution;

- to reveal the content of the intellectualization of brand management and its features;
- to develop the theoretical and methodological support of modern brand management.

The hypothesis is that the intelligence of the economy and management has led to the emergence of the Branding 3.0 concept as a key element of modern brand management. This updates approaches to the formation, positioning and development of brands, and also radically changes the labor market.

The hypothesis was tested on the basis of theoretical provisions of behavioral economics, generation theory, marketing theory, and the results of scientific research on brand management, set forth in the works of domestic and foreign scientists. In the process of work, theoretical research methods and general methods were used, in particular, historical and logical, analysis and synthesis – for periodization of the stages of brand management development, substantiation of the terminological apparatus of brand management, formation of a brand management roadmap; conceptualization and structural modeling – for substantiation of the conceptual provisions and components of Branding 3.0; systematization – for brand management tools at its various stages, as well as graphical and tabular methods.

The main part of the research consists of two subsections divided into paragraphs. The first subsection is devoted to research of the features of the evolution of brand management under the influence of technological development and changes in consumer behavior. The second part reveals the content of the Branding 3.0 concept and the process of brand management in the context of the intellectualization of society.

1. The evolution of brand management through the prism of behavioral economics

1.1. Prerequisites for intellectualizing brand management

The evolution of brand management is traced in the transformation of its concepts under the influence of market oversaturation with product groups and brands, information overload of society and the decline of traditional marketing. Changes in consumer activity of the population, the transformation of physical satisfaction from purchase to emotional satisfaction, awareness of social, economic and civil position over time changed the classical concept of brand management, adding strategic features to it.

Attempts by scholars to detail the evolutionary milestones of brand management have led to various periodization options, presented in Kasych and Rafalska (2021); Plysenko (2016); Golovashchenko (2014); Veloutsou and Guzman (2017); Yahelska and Koshel (2022) and other works. The most common and generalized approach is to distinguish three stages: pre-industrial, industrial and informational (Kasych & Rafalska, 2021), which demonstrate changes in the understanding of the brand, its goals, object of

influence and in the methods of formation. The last stage is characterized by the formation of an information society, the diverse needs of which the brand tries to satisfy in various ways.

According to various sources, the modern stage began in the 1980s (Kasych & Rafalska, 2021) or 1990s (Plysenko, 2016) and continues today and is characterized by brand equity management. The brand itself is considered as a strategic tool for generating company profits. According to various sources, the modern stage began in the 1980s (Kasych & Rafalska, 2021) or 1990s (Plysenko, 2016) and continues today and is characterized by brand equity management. The brand itself is considered as a strategic tool for generating company profits.

The fact that the evolution of brand management is conditioned by scientific and technological progress and the development of society, which changes its vision and values, allows us to talk about the beginning of a new stage in the development of brand management. In our opinion, it is time to talk about intelligence in brand management, which has become the driver of the transformation of the knowledge society into an intellectual society (for details, see Naumov, 2008; Stashkevych, 2023).

Just as the industrial stage of brand management evolution was shaped by the emergence and growth of industry, the transition from simple access and exchange of information to intelligent processing, application and creation of new knowledge based on the intelligent integration of technologies may mark a new stage in the evolution of brand management. The increasing role of artificial intelligence in management processes does not bypass brand management, which is also becoming increasingly automated with centralized platforms that are easily scalable in accordance with brand changes, iterations and expectations. Today, there is a trend towards the formation of brand authenticity based on the analysis and prediction of future consumer behavior and market changes by artificial intelligence, the use of artificial intelligence tools to improve brand identity elements, support hyper-personalization, adaptive learning, automated management of marketing campaigns, optimization of business processes using neural networks for business, etc. Artificial intelligence tools are already challenging a number of professions in demand in brand management, for example, graphic designers. In recent years, more and more multifunctional digital agencies have appeared on the market, performing various orders: from analytics and generating advertising with a neural network to launching and supporting the development of brands. The labor market is changing, consumers are changing, and brand management is changing too. These changes may indicate the adaptation of brand management to new consumers of the second stage of the post-industrial society – the intellectual one.

So, since the consumer remains the key link in the brand management system at all stages of its development, we tried to look at the evolution of brand

management from the point of view of behavioral economics, because it is the consumer's behavior and psychology that play a significant role in shaping the brand concept, its identity, positioning and development strategies. As shown by the research of Peredalo et al. (2019), today influence techniques are actively used by modern organizations in many countries of the world. Consumer decision-making regarding brand choice can occur in different ways due to changes in expectations and values during the renewal of generations. Comparing the characteristics of consumers and their behavior in accordance with the theory of generations with changing features of brand management allowed us to distinguish six periods of its evolution (*Table 1*).

Table 1

The evolution of brand management in the process of generational transformation

Period	Consumer attitudes towards brands by generation	Characteristics
Fundamental era 1930–1950	The Silent Generation (born 1928–1945) valued stability, trust, and consistency in brands. Consumers embraced simple, one-size-fits-all advertising that often reflected traditional values	Early brand management was based on classical economics, focusing on rational consumer behavior and the functional benefits of products. Brand strategies were simple, emphasizing product features and reliability
The era of Emotional Connection 1950–1980	Baby Boomers (born 1946–1964) and Generation X (born 1965–1980) sought brands that represented personal identity, status, and lifestyle. Brands like Coca-Cola and Nike became cultural icons by tapping into these emotional and psychological triggers	Brands have begun to recognize the importance of emotional appeals, cognitive biases, and irrational aspects of consumer decision-making. Emotional branding and storytelling have become central
The era of social brand management 1980–1990	Millennials (born 1981–1996), who value experiences over possessions and expect brands to engage with them on social media, offer personalized experiences, and align with their social values. This generation's brand loyalty is shaped by shared experiences and community involvement	The focus of brand management has shifted to the overall consumer experience, with brands leveraging social proof, peer influence, and the desire for social belonging. Behavioral incentives and choice architecture have begun to influence brand strategies
The era of Ethical Brand Management 1990–2010	The stage is associated with Generation Z (born 1997–2012), which is very skeptical of traditional advertising and demands authenticity, ethical behavior, and social responsibility from brands. They are influenced by brands that align with their values and contribute to the positive development of society	As consumers have begun to prioritize ethical considerations, sustainability, and corporate social responsibility in their purchasing decisions, brands have responded by emphasizing purpose, transparency, and ethical principles
The era of digital technologies and artificial intelligence 2010 – present	The stage is aimed at the future Alpha generation (born since 2013), which is growing up in a completely digital world. Interested in hyper-personalization	Brands must anticipate their preferences through AI-powered personalization, seamless digital experiences, and the integration of virtual and augmented reality into brand interactions

Source: compiled by the author based on (Strauss & Howe, 1991; Verlinden, 2022).

This approach demonstrates how brand management has evolved in response to changes in consumer psychology, expectations, and values across different generational cohorts. The evolution reflects a movement from simple product-centric branding to complex data-driven strategies that require a deep understanding of human behavior and the unique characteristics of each generation. The periodization also highlights the end of the previous evolutionary period, "1980–2010", and the beginning of a new one, "2010–present", as it was in business that the application of artificial intelligence began to gain momentum in the 2010s. The integration of artificial intelligence into consumer products, such as Apple's Siri (released in 2011), Google Now (2012), and Amazon's Alexa (2014), can be said to have ushered in the mainstream of artificial intelligence. These applications introduced the public to artificial intelligence and demonstrated its potential for business applications. The rise of cloud computing in the 2010s allowed companies of all sizes to access AI tools and services without the need for a large upfront investment in hardware. AI has increasingly been used to make more strategic business decisions, including market analysis, customer segmentation, and personalized marketing. What we see now in the brand-consumer relationship is no longer the brand management of forty years ago. The intelligent society has fundamentally changed it.

1.2. Development of brand management terminology

The widespread use of information and computer technologies, the transition to a knowledge economy, as well as changes in consumer behavior have led to the intellectualization of management processes, in particular, brand management. The term "intellectualization" itself has become the starting point and served as the basis for such concepts as "intellectual capital", "intellectual assets", "intellectual resources", "intellectual systems" and others, which emphasize a higher level, qualitative changes in the context of new requirements associated with the growth of intellectual activity. In general, intellectualization means the acquisition of new qualities by an economic system through the intensive use of knowledge, generation (or acquisition) of knowledge and information exchange. Generation is possible if there is the necessary potential (research, information and technological, human, material and technical, etc.), the formation and development of which also become part of the intellectualization of the economy (Polyakov, 2016).

The study of intellectualization has allowed us to distinguish two approaches to its content (Bryukhovetska & Bogutska, 2020):

- on the one hand, the result of intellectualization is an increase in the intellectual level of society, economy, enterprise, production, etc. by increasing the share of mental labor in their structure;
- on the other hand, an increase in the intellectual level occurs due to an increase in the share of artificial intelligence in social and economic processes.

Based on the above and the content of the concepts of "intellectualization of the economy", "intellectualization of the enterprise", "intellectualization" (in marketing) (Polyakov, 2016; Popova, 2020; Telnov & Karaulna, 2022; Qualtrics.com, n. d.), *intelligence of brand management can be defined as the process of increasing the share of intelligence in brand management by integrating advanced cognitive and analytical methods of creating, supporting and developing a brand*. This process goes beyond traditional brand management, combining knowledge from marketing, economics, psychology, sociology, and cultural studies, and involves a simultaneous increase in the share of mental labor and the share of artificial intelligence in the process of analytical, generative and managerial activities, ensuring the adaptation of the brand to complex market dynamics. Brand management is increasingly using artificial intelligence to optimize processes, and branding, as its key component, is used to develop and grow a brand, in particular, to create text, visual, and video creatives.

It is fair to say that intelligence has led to a number of conceptual changes in brand management. *First*, it requires a high level of data analysis and interpretation to predict market trends, consumer behavior, and make data-driven decisions that improve brand strategy. This requires skills in statistical analysis, machine learning, and data visualization. In this regard, brand management is beginning to operate with the CDP concept. These are software systems that centralize and manage customer data from various sources. In brand management, CDPs are used to create a single customer profile that helps brands provide a more personalized and consistent experience across channels (Martech.org, 2024).

Second, artificial intelligence and machine learning are central to the intellectualization of brand management. These technologies allow you to automate brand management tasks, create personalized consumer experiences, and optimize marketing strategies in real time. However, even as the field becomes more intellectualized, creativity still remains the basis of branding, so it is the ability to integrate technological capabilities with human creativity and intuition that guarantees the effectiveness of brand management. In this regard, the NLP concept is introduced into brand management, a branch of artificial intelligence that deals with the interaction between computers and people using natural language. Directly in brand management, NLP is used for sentiment analysis, customer service chatbots, and content creation, which allows brands to better understand and respond to consumer emotions and preferences (Sison, 2024).

We have to summarize that the intelligence of brand management lays the foundation for Branding 3.0, where artificial intelligence not only assists but also drives key brand decisions. This new era of brand management represents a symbiotic relationship between human creativity and artificial intelligence, implementing new tools in brand management.

2. Branding 3.0

2.1. System-forming characteristics of the Branding 3.0 concept

If traditional branding focused on static elements such as logos, slogans and advertising, and Branding 2.0 focused on real-time interaction with consumers through digital platforms, then it can be argued that the delegation of part of the brand manager's powers to artificial intelligence and the prospects for the latter's further collaboration with the Internet of Things fully indicate the emergence of Branding 3.0 (*Figure 1*).

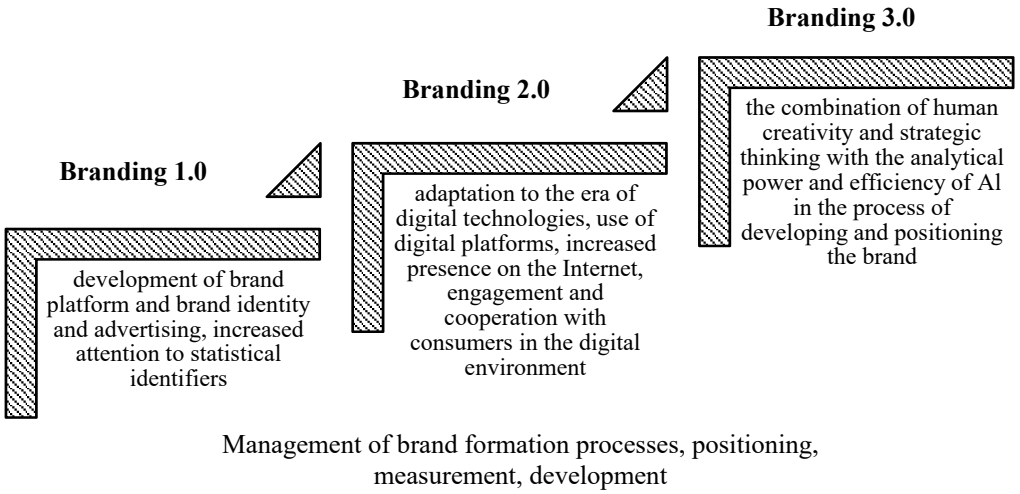

Figure 1. The evolution of branding as part of brand management

Source: compiled by the authors.

Adapting traditional branding strategies to the digital age through the mandatory presence on the Internet and the involvement of users and social networks is no longer enough. The competitive struggle has simply changed its arena, and the blue ocean has gone beyond the shores of the traditional environment. Instead, Branding 3.0 demonstrates the battle of intellects: who will analyze data sets better and faster, more accurately predict consumer behavior, create unique highly personalized experiences, develop more flexible and more efficient strategies, etc. Intellectualization of brand management with the help of artificial intelligence is literally changing every aspect of branding and updating its structure (*Figure 2*).

The Data Analytics building block involves making decisions based on analyzing vast amounts of data from multiple sources (social media, customer behavior, market trends), and using AI to predict future consumer behavior and market changes, allowing brands to anticipate needs and stay ahead of their competitors.

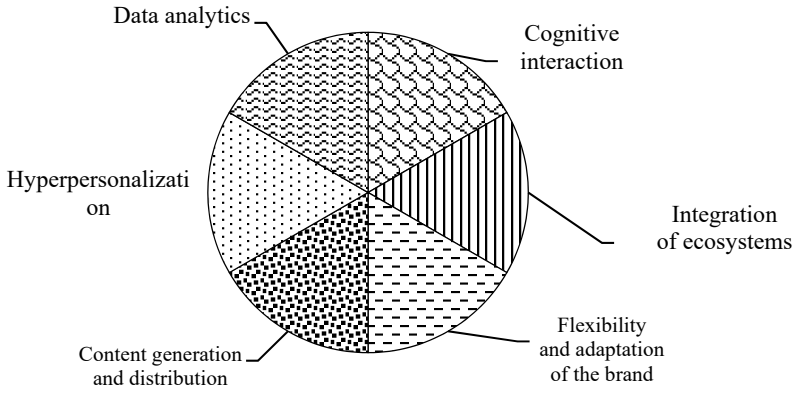

Figure 2. Structural components of Branding 3.0

Source: compiled by the authors.

Hyper-personalization means customizing brand interactions at an individual level using AI. This includes personalized marketing messages, product recommendations, and user interactions tailored to specific consumer profiles. AI's ability to dynamically adjust brand messages and experiences in response to real-time data ensures they are relevant.

Automated content creation and distribution unlocks the power of AI tools to create and control content, including social media posts, blogs, ads, and visual assets, ensuring consistency and scalability across platforms.

The use of chatbots, virtual assistants, and other AI tools to engage with customers, providing personalized responses and contextual support, and conversational interfaces that allow brands to engage in meaningful human conversations with consumers, improving user experience, all reveal the meaning of the Branding 3.0 building block – "Cognitive Brand Engagement".

An equally important component is the integration of brand technologies across multiple digital platforms, supported by AI, to create a unified brand and improve brand strategies.

The ability of brands to quickly adapt to changing market conditions, consumer preferences and technological advances through artificial intelligence allows for changing brand strategies and rapid innovation, while the continuous learning of artificial intelligence systems allows brands to improve their brand strategies over time to improve performance and consumer satisfaction. Branding 3.0 therefore ensures the intelligent use of technology and ensuring that it is aligned with brand values and consumer expectations.

2.2. Road map of intellectualized brand management

The process of intelligent brand management, which includes Branding 3.0, is a complex and dynamic approach that combines human expertise with

AI-driven technologies to create a more adaptive, personalized, and effective brand experience. This process includes several interconnected stages, each of which uses AI capabilities to improve the decision-making process, brand creation, and development. To better understand the structuring of brand management processes and the selection of appropriate tools for each stage, we consider it advisable to form a detailed brand roadmap, where you can indicate the path of its development, key milestones, tools, and results, as well as how they align with the business strategy and budget. A brand roadmap is a strategic plan that outlines the vision, goals, and actions of a brand for a specific period of time. Such a map can describe the brand's tactics, channels, and resources, as well as how they optimize brand reach and engagement. This helps align the brand's identity, values, and promises with its target audience, market, and competitors (FasterCapital.com, n. d.). The main stages of a brand roadmap can be summarized in a few steps (*Figure 3*).

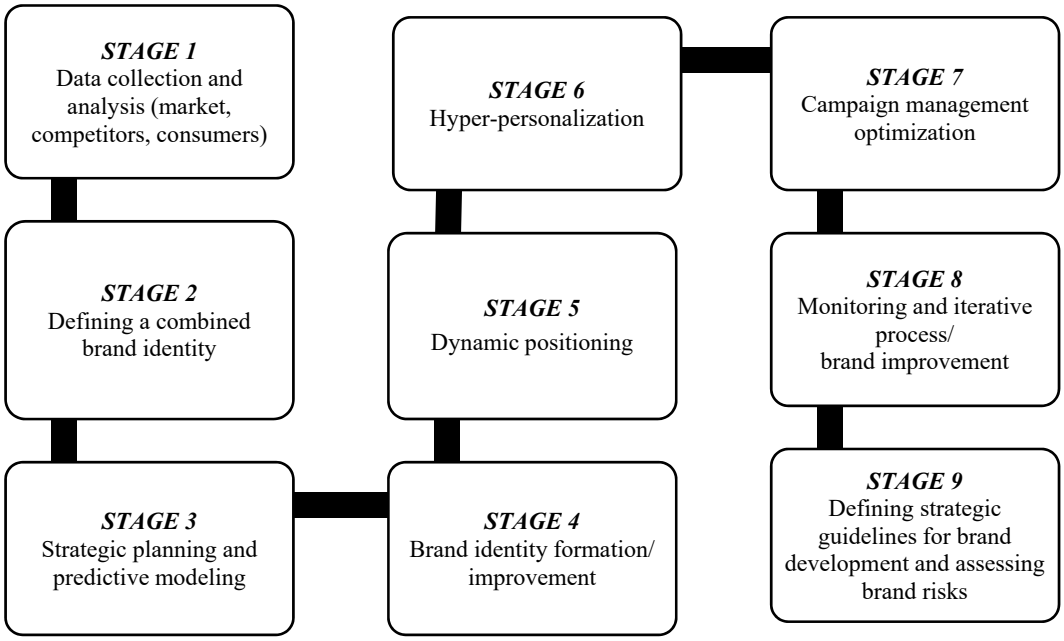

Figure 3. Brand management roadmap diagram

Source: compiled by the authors.

Depending on the aims and initial parameters of a particular brand, in particular, the stage of its life cycle, the roadmap is detailed with tasks, time periods, and responsible parties. It is expected that in addition to ready-made roadmap templates provided by various online services, artificial intelligence can help in its development. If necessary, the roadmap can be supplemented with tools necessary for solving tasks at different stages (*Table* 2), which seems appropriate when at first glance the tools are interchangeable, but the result may not fully solve a specific marketing problem.

Table 2

Brand roadmap stages and tools

Key intermediate steps in brand roadmap	Means of implementing sub-stage tasks
Stage 1	
Sub stages	Tools
1	2
Comprehensive data collection from various sources, including market monitoring, customer interaction, surveys, social media, etc.	*Market Monitoring Tools*: Google Trends, Statista, Mintel, Similar Web, Serpstat, Ahrefs, Google Cloud AI, DataLab, Julius AI, TensorFlow; *Customer Interaction Tools*: HubSpot, Salesforce, Zendesk; Survey Tools: Google Forms, SurveyMonkey, Qualtrics, Typeform; Social Media *Monitoring Tools*: Hootsuite, Amplitude, Sprout Social, Brandwatch; Web Analytics Tools: Google Analytics, Adobe Analytics, Hotjar; Big Data and AI Tools: Tableau, IBM Watson, Google Cloud BigQuery; Customer Data Platforms: Segment, Tealium, Treasure Data; Feature and Attribute *Analysis Tools*: Qualtrics, SpyFu; Str*engths and Weaknesses Analysis Tools*: SWOT Analysis Tools (e.g., Creately, Lucidchart), Socialbakers, etc.
Analysis of market trends, competing brands, formation of a competitive profile of brands in the industry, identification of their features, strengths and weaknesses	
Segmentation and selection of the optimal number of segments; analysis of psychology and behavior of key consumer segments; formation of a consumer portrait, empathy maps, CJM	CDP, Salesforce Customer 360, Tealium AudienceStream, Xtensio, Marketo, etc.
Stage 2	
Constructing a connected brand identity by selecting DNA and brand code elements that match the consumer's identity elements	Clarabridge, Crimson Hexagon, Adobe Sensei, Frontify, Personify XP, CDP, Salesforce Customer 360, Tealium AudienceStream, etc.
Brand platform outline	Canva, Jira kanban boards, Confluence whiteboards, Loom, Atlas, Visme
Stage 3	
Developing strategic plans that align with the brand's goals, values, and market opportunities	Miro, Trello, Asana, Notion, Aha!, ProductPlan, Strategic Planner by Cascade, etc.
Predictive analytics to model the outcomes of different strategic options	Salesforce Einstein, IBM Watson
Stage 4	
Developing/refining brand identity elements, including logos, slogans, mascot, Tone of Voice, visual aesthetics, guarantees, etc., that resonate with the target audience and reflect the brand's core values	Renderforest, OpenArt Al, Midjourney, Copilot, Leonardo, Designstripe, Inkscape, Sketch, Businessnamegenerator, Shopify, Grammarly Business, CoSchedule Headline Analyzer, BuzzSumo, Adobe Illustrator, Krita, Sai paint tool, Genlogo, Logomaster, Google Cloud Vision, AAA logo Synthesia, Elevenlabels, Leonardo, Krea AI, Runway, Sora, etc.
Stage 5	
Tracking changes in the market, consumer behavior and perception, adjusting the positioning strategy	Amazon SageMaker, Google Trends and the rest of the tools from Stage 1
Stage 6	
Selecting marketing communications that best align with the consumer's identity at different stages of CJM / tailoring brand messaging, product recommendations, and experiences for individual consumers based on their preferences, behaviors, and past interactions	Dynamic Yield, Optimizely, Monetate, IBM Watson, OpenAI GPT, Sprinklr, etc.
Automatically create content and deploy it across channels, ensuring consistency and engagement with consumers	Copy.ai / Jasper, Canva / Adobe Creative Cloud, Salesforce, HubSpot CRM, Zoho CRM, Buffer, Sprinklr, Brandwatch etc.

End of Table 2

Key intermediate steps in brand roadmap	Means of implementing sub-stage tasks
1	2
Creating chatbots / mini-landing editing / and virtual assistants based on artificial intelligence to provide personalized support and real-time interaction	Dialogflow, Amazon Lex, OpenAI GPT, etc.
Stage 7	
Run marketing campaigns across multiple platforms using AI, optimizing reach, engagement, and conversion in real time	Marketo, Mailchimp, Pardot, Zapier, Mulesoft, etc.
Adaptive learning; ethical review of AI applications and their performance	IBM Watson, Amazon SageMaker OneTrust, IBM AI Fairness 360, Amazon SageMaker, etc.
Stage 8	
Real-time AI tracking of brand health metrics, providing continuous feedback on the effectiveness of branding and consumer engagement strategies	Brandwatch Consumer Research, Sprinklr, Talkwalker, Medallia, Qualtrics XM, SurveyMonkey CX, Reputation.com, Meltwater, NetBase Quid, Hotjar, Google Analytics 4, Mixpanel, Zoho CRM, Clarabridge, Yext, etc.
Improving brand policies, strategies and programs based on monitoring results	Salesforce Einstein, Microsoft Azure AI, H2O.ai, etc.
Stage 9	
Defining strategic directions for brand development	Salesforce Einstein, Microsoft Azure AI, H2O.ai, and tools from previous stages.
Brand risk assessment and management	Crisp Thinking, Signal AI, Onclusive, Resolver, LogicManager, RiskWatch, MetricStream, NAVEX Global, Diligent, Darktrace, Riskified etc.

Source: compiled by the authors.

For example, images of an avatar (virtual face of a brand) or product for social networks generated by Midjourney look more realistic, like photographs, while Dall-e looks more like a drawing.

The choice of option or its refinement will depend on the task, the style of communication or advertising appeal, etc.

The variability and breadth of functionality of modern tools allows it to be applied at different substages. For example, Marketo is a marketing automation tool that simplifies and optimizes marketing campaigns, can use. AI for personalization, or can simply serve as a source of templates.

Although such tools and brand management automation significantly free up specialists' time to solve more important tasks, human control is still important. First of all, this is due to frequent cases of AI hallucinations and communication failures. For example, the scandal of the press service of the Verkhovna Rada of Ukraine due to the published article about the tragic shelling of Dnipro, where a photo of a child generated using artificial intelligence was used, which was condemned by society. "Novyi Kanal" used ChatGPT to prepare educational content about Oles Honchar for its own social networks, without taking into account the fact that this tool can very much resemble the truth and weave outright fakes among real facts (Msdetector.media, 2023*a*). Sometimes artificial intelligence does not quite correctly understand the query, so the result must be checked before distributing.

However, despite the possibility of failure and the need to master the process of communicating with artificial intelligence, which requires a certain level of specialist training, the benefits of such technologies are much greater. For example, previously an SMM specialist would spend half a day writing a content plan, but with the involvement of technology, the same work can be done in 15 minutes. In addition, ChatGPT, for example, makes mistakes only in 10% of cases (Msdetector.media, 2023*b*). In this regard, artificial intelligence is currently mostly used for routine processes: writing SEO articles, describing characteristics, analyzing files, auto-filling contracts, scraping tenders and their analysis, describing products, creating tables, writing niche descriptions of characteristics, verifying contracts, etc.

There are plenty of practical examples that demonstrate that creating ads with AI can significantly save resources. For example, RedBalloon, a company that sells gifts and experiences online, was spending USD 45000 a month on advertising agencies alone to run digital advertising for its brand. At the time, it was paying more than USD 50 to acquire a single customer. But Albert, an AI tool that analyzes ad campaigns, then manages targeting, testing, and budgets, tested 6500 variations of Google's text ads in just one day. The tool eventually proved so effective at learning from data to improve performance that it dramatically increased RedBalloon's return on advertising investment. At one point, the company was getting a whopping 3000% return on advertising investment (they made a profit of USD 30 for every USD 1 spent on ads.). They also reduced marketing costs by 25% due to increased efficiency (Kaputon, 2024).

Successful examples of the use of new technologies in brand management are Tesco and IKEA. For example, Tesco has installed facial scanning technology in its petrol stations to personalise advertising for individual customers (Theguardian.com, n. d.). This technology determines the gender and approximate age of the customer to show them individualised ads. IKEA has introduced an augmented reality app that allows customers to visualise 3D versions of furniture in their homes, making the shopping experience more immersive and convenient (Ikea.com, 2017). Similarly, L'Oréal has launched the "Makeup Genius" app, which uses augmented reality to allow users to virtually try on beauty products and purchase them directly through the app or in online stores (Lorealparisusa.com, n.d.). Another interesting example is the integration of digital into product design to engage consumers. So, Heineken has created interactive beer bottles equipped with LEDs and motion sensors that light up during a night out and sync with music to get the cool factor of club culture (Digitalsynopsis.com, n. d.).

In general, modern technologies can significantly simplify work in the field of brand management: even without having professional knowledge and skills of a designer, marketers and brand managers successfully generate images that correspond to the brand identity. These can be products from mascots and POS materials (*Figure 4*) to video advertising (LLLLITL, 2024, November 16).

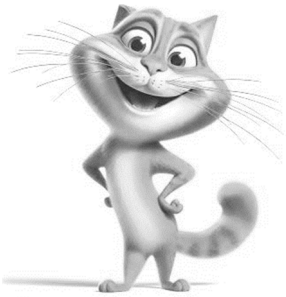

Figure 4. Generated images of a conditional poster and a mascot

Source: compiled by the authors with Copilot (n. d).

Therefore, modern brand management actively uses intelligent technologies and tools. Such technologies are broad basic concepts (for example, artificial intelligence, big data, NLP), which provide various functions. Tools are special applications and platforms created on the basis of these technologies, designed to perform certain tasks within the framework of the broader brand management process. The formation of interactive roadmaps ensures compliance with all intermediate stages, the selection of optimal techniques, visualization of tasks and procedures, brainstorming, thereby improving the brand management process.

Conclusions

Artificial intelligence is becoming a driving force behind the transformation in brand management, the application of which encompasses personalization, trend forecasting and automation of processes from content generation to customer experience management and creation of individual marketing strategies.

The hypothesis put forward is confirmed by the certain evolution of branding: from a focus on the functional value of products, when the goal was to inform consumers and create recognition (Branding 1.0) – to emotional attachment with an emphasis on consumer experience and creating long-term relationships. Currently, it can be observed that Branding 3.0 is a significant evolutionary step after the era of digital platforms, based on the intellectualization of branding strategies through the integration of artificial intelligence. As brands have moved from traditional approaches (Branding 1.0) to more interactive and digitally-focused strategies (Branding 2.0), Branding 3.0 is characterized by the sophisticated use of artificial intelligence to improve and automate branding processes, making them more efficient, personalized, and adaptive. In practical circles, people gradually start talking about Branding 5.0, but the driver of this concept still remains intellectualization.

Therefore, the intelligence of brand management is not just a trend, but a fundamental stage of evolution that will determine which brands will survive and which will disappear in the world of global competition and

digital transformation. At the same time, the implementation of intellectualization is accompanied by a number of challenges, such as ethical dilemmas of using consumer data, the need to rethink traditional approaches to branding, the need for new competencies of brand managers that should integrate creativity and technological expertise. Accordingly, in view of these challenges, the prospects for further research are seen in the ways and mechanisms of integrating artificial intelligence, machine learning and big data analytics in the creation, development and support of brands.

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