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Development of Social Platforms and New Opportunities in Digital Marketing

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Abstract. The rapid development of information technology during the last decades has significantly influenced the evolution of digital marketing, changed the methods and models of marketing communications, and promoted the emergence of new digital marketing channels, promotion tools, and communication methods. The article examines the evolution of digital marketing from a historical and technological perspective to build the basis for further research in this area, especially in the context of SMEs in Latvia. Key factors in digital marketing transformation are highlighted: technological innovations, globalization of economic processes, and changes in consumer behavior. Modern information technology innovations are examined, analyzing their possibilities to use new tools in the promotion of product and service brands, developing communication with the target audience, and improving e-commerce methods by introducing artificial intelligence. The article discusses the development of digital marketing, respecting the latest technological innovations, and the concept of Marketing 5.0. The results are reached using content analysis of scientific publications, analytical and statistical reports of European organizations, graphical methods of presenting statistical data, and modeling of trends. The close interdependence of the processes of technological development and the evolution of marketing principles, adapting to changes in consumer behavior with the spread of innovations in wide circles of the public is traced, and modern trends in digital marketing and its tools and technologies are considered.
Keywords: Digital Marketing, Internet Marketing, Social Media Platforms, Technological Innovations.

1 Introduction

Modern technological achievements are rapidly changing the capabilities of companies worldwide (and also in Latvia) to adopt new trading technologies, automate business processes, and develop

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marketing communications. This is confirmed by the positive dynamics in the number of Internet users, including social media participants. According to statistics from the research group We Are Social at the beginning of 2024, out of the 8.08 billion global population, 66% were Internet users, and 62.3% were active participants in social media, according to [1]. The highest Internet penetration rates are observed in developed countries. According to [2], 91.43% of all EU residents aged 16 to 74 had used the Internet at least once over three months, and 92.33% in Latvia. This was primarily facilitated by the development of Internet access for households. For instance, in Norway, it was 99.0%, while in Latvia, it increased from 68.7% in 2012 to 93.0% in 2023 [2].

Today, digital marketing is transforming how companies interact with their audience. This transformation is driven by new channels and tools created through advancing technologies. These technologies are dynamic and continue to gain momentum.

Therefore, digital marketing faces new tasks and challenges that require the application of progressive concepts. The integration of artificial intelligence, augmented reality, voice search, blockchain, high-speed data transmission technologies, and cloud storage of information is changing the business landscape, offering companies a palette of new opportunities. However, it is necessary to consider that social Internet technologies (blogs, online communities, YouTube videos, online encyclopedias, etc.) can both facilitate business development and cause serious damage.

Modern technologies such as artificial intelligence (AI), augmented reality (AR), and blockchain are actively transforming digital marketing. The use of AI in commerce raises many scientific questions. Methods to evaluate its effectiveness in marketing are still underexplored. Ethical and legal concerns about processing personal data for targeted ads are also critical. This study proposes new approaches to analyzing the impact of these technologies on business processes and consumer behavior.

The article is structured as follows. The motivation, research purpose, and methods are presented in Section 2. Section 3 amalgamates the development trends of digital marketing based on parallels in the evolution of digital technologies and the development of marketing models and tools. Section 4 includes the trends forecast and a discussion of the obtained results. Section 5 concludes the article.

2   Motivation, Purpose, and Methods

The evolution of digital marketing demonstrates its ability to adapt to technological changes, but such adaptation requires the study of phenomena occurring in the Internet environment and the rethinking of marketing models to direct new opportunities toward a channel that promotes sustainable business and societal development.

It should be noted that digital marketing involves the use of all possible forms of digital channels and tools for marketing communications and brand promotion. Internet marketing is intertwined with digital marketing because it uses the same communication channel (the Internet), but it is not the only one for digital marketing. Digital marketing has enriched and developed Internet marketing, expanding the range of communication channels, especially the use of mobile communications. As a result, additional opportunities for expanding the audience and personalizing user service appeared [3].

According to [4], digital technologies are now imperative for markets and society, and digital transformation is becoming a key area of business innovation. Expanding on this viewpoint, it is suggested that researching and forecasting trends in the ongoing development of digital technologies within the marketing field provides businesses with the opportunity to modify their marketing strategies in a timely manner. Understanding the scale of the impact of information technology innovations on consumer behavior, and consequently on marketing models and strategies, is of high importance. Conducting a retrospective analysis of the development of digital marketing with projections into the future proves useful.

Since a revolutionary milestone in the development of digital marketing was the advent and widespread dissemination of the Internet, it is relevant to trace the evolution of digital marketing tools from the invention of the Internet to contemporary digital technologies. This focus defines the subject of research for this article.

Emerging trends demand marketing theory to examine their impact on markets, competition, consumer behavior, and needs. This is essential for developing new marketing concepts that align with current and future challenges. Such research is particularly important for creating strategies tailored to small and medium-sized enterprises (SMEs). In the context of globalization and increasing competition, SMEs, with limited financial resources can successfully compete by rapidly adopting marketing innovations.

To achieve this, marketing theory must develop and substantiate modern concepts, tools, and trends that reflect market changes. However, existing studies on this topic remain fragmented and contradictory. They often fail to account for the latest technological developments, and studies on Internet marketing do not always provide a comprehensive understanding of effective tools. This highlights the need for further research on the impact of technological innovations on markets. Such studies could serve as the foundation for creating effective marketing strategies in the online environment, which is particularly critical for SMEs.

This article aims to examine the evolution of digital marketing and its tools from 1989 to the present, the transformation of marketing principles and models under the influence of digitalization and globalization, as well as the prospects and challenges of its further development.

A new milestone in this development is the implementation of artificial intelligence (AI) in the technology of marketing communications and brand promotion. In general, AI refers to the ability of machines to perform functions that are related to human intelligence, such as learning, information processing, decision-making, etc. [5]. Companies use different variants of such applications: customer service, marketing automation, personalized communications, predictive analytics, etc. The effectiveness of such methods and the prospects for their application require attention.

The purpose of this article is to identify the modern development trends of digital marketing based on parallels in the evolution of digital technologies and the development of marketing models and tools.

To achieve the purpose of the study, a hypothesis was proposed: digital marketing concepts evolve alongside technological innovations, leading to the personalization of services and communications, and this helps companies attract target customers more effectively and boost loyalty. To test this hypothesis, general scientific methods are applied: analysis and synthesis, system-structural analysis, comparison (to classify digital marketing tools), as well as statistical and graphical methods (to study social media trends). Logical generalization is used to formulate the research conclusions. The analysis of the development of digital marketing technologies covers the period from 1989 to the present. The sources include materials on the emergence and evolution of the Internet [6], search engines, social media, and digital marketing tools from works of authors [7], [8], [9], and [10], statistical data from [11]. Different social platforms are analyzed as communication channels. Official statistical reports were used to support the findings with factual data.

The structurally conducted analysis includes a retrospective analysis of the development of the Internet and search engines as platforms for the evolution of digital marketing tools, the evolution and trends of social networks, and the transformation of marketing models in their development. The background for the analysis and obtained insights are provided in the next section.

3   Retrospective Analysis of the Domain and Future Trends

Based on the motivation discussed in the previous section, digital marketing is analyzed from different perspectives, pinpointing the relationships between influencing factors.

3.1 The Development of the Internet and Search Systems as a Basis for the Evolution of Digital Marketing Tools

The birth of the Internet is attributed to the year 1969 when a connection was successfully established between two computers of two academic organizations using the ARPANET network [6]. The ARPANET, a precursor to the Internet, utilized the groundbreaking technology of packet switching, a concept independently developed by American engineer Paul Baran in 1960 and British scientist Donald Davies in 1965. This technology involves breaking data into packets for effective transmission, reducing the risk of loss, and ensuring high reliability of communication. This technology laid the foundation for the decentralized data exchange network known as the Internet.

However, it was the invention of the World Wide Web by Sir T. Berners-Lee in 1989 [6] that revolutionized access to information on the Internet. Berners-Lee's creation of HTML, URL addresses, and the HTTP protocol transformed the Internet from a network used by scientists and researchers into a convenient platform accessible to a broad audience worldwide [12].

Following this invention, the 1990s became a period of Internet commercialization, marked by the growth of electronic commerce and an increase in the number of Internet providers and users. The emergence of web browsers such as Netscape Navigator and Internet Explorer made the Internet more accessible to the general public, and companies were quick to establish a presence online.

The initial marketing tools on the Internet were rudimentary, reflecting the experimental nature of this emerging field. One of the earliest tools was email marketing, which harnessed the capabilities of electronic mail. Simple text emails were used to communicate with potential clients, providing a direct and cost-effective way to reach a global audience. Although these marketing campaigns are considered basic by today's standards, they marked the dawn of personalized digital communication and continue to be used by companies up to this day. The main advantages of email marketing include ease of use, personalization, the ability to segment the database, and low cost. Other significant benefits are the large volume of text messages, the ability to add links, illustrations, infographics, and other graphical elements.

Another early tool was banner advertising and pop-up ads. They were pioneers of online advertising, providing companies with a visual medium to showcase their products or services. However, the intrusive nature of pop-up ads provoked mixed reactions from users, prompting digital marketing to seek more effective ways of promotion.

As the Internet developed, so did the range of marketing tools available. In the late 1990s and early 2000s, companies experimented with various strategies to attract an online audience, such as search engine optimization (SEO) and affiliate marketing [6]. Technological advances in search engine development facilitated these efforts.

The first search system for the Internet, "Archie," was proposed in 1990 by Canadian student Alan Emtage. It allowed users to search for specific files or types of content using a simple command-line interface. As the Internet's informational content continued to expand, the limited capabilities of Archie and its counterparts led to the development of more sophisticated search engines. The emergence of graphical user interfaces paved the way for search engines like WebCrawler and Lycos in 1994 and, ultimately, Google in 1998 [6].

These developments significantly influenced the digital marketing landscape, providing marketers with increasingly powerful tools to optimize their online presence and target specific audiences more effectively.

Advances in search engine technologies have led to the development of SEO (Search Engine Optimization) – optimizing website content to achieve higher search result rankings and increase online visibility. Initially, the approach was straightforward, involving keyword optimization and link building. By the late 1990s, affiliate marketing emerged – companies collaborated with partners who promoted their products on their websites in exchange for a commission from sales generated through referral links. This collaborative approach expanded the scope of marketing

efforts. Paid advertising on platforms like Google Ads became an integral part of digital marketing strategies, offering precise targeting and measurable results. Search Engine Marketing (SEM) emerged as a specialized tool in digital marketing aimed at maximizing user reach through search engines.

The 2010s marked a paradigm shift in Internet marketing tools. Advancements in technology and changes in consumer behavior transformed digital marketing. Content marketing emerged as a powerful tool, emphasizing valuable and relevant content like blogs, articles, videos, and infographics to boost brand authority and attract audiences. Data analytics integration changed the game rules: marketers gained access to tools that provided insights into user behavior, enabling the development of personalized marketing strategies. Automation tools simplify repetitive tasks, allowing marketers to focus on strategy. These solutions made email automation, customer relationship management (CRM), and personalized campaigns more efficient and less labor-intensive.

The advent of high-speed broadband, the development of wireless networks, and the widespread adoption of mobile devices in the 21st century further advanced the Internet. Technological innovations have enabled social media platforms, cloud computing, and the Internet of Things (IoT) to become integral parts of the Internet ecosystem, connecting people, devices, and data on an unprecedented scale.

3.2 The Evolution of Social Platforms: The Digital Communication Revolution

The history of social networks is a narrative of continual innovation, diversification, and a global impact that has altered social trends. The evolution of social networks is illustrated by examining the selected popular networks listed in Table 1.

Table 1. Evolution of Social Platforms worldwide and in Latvia*

Year	Name	Innovation	Peculiarities
2002	Friendster	Pioneering idea, first of its kind	Socializing with friends and profile creation, but faced technical and scalability issues
2002	LinkedIn	Professional networking	A platform for professionals with job postings, content publishing, and educational resources
2003	MySpace	Growth in personalization	Persorofiles with music, backgrounds, themes, and photos
2004	Facebook	Integration of various media formats	Comprehensive social network encompassing different media formats
2004	Draugiem.lv*	Social network for Latvians	Predominant social network in Latvia, featuring profiles, messaging, and community engagement focused on Latvian users
2005	One.lv*	Multimedia social platform	Offered email services, news, and a social networking platform for connecting with friends
2005	YouTube	Video sharing revolution	A platform empowering video creators, nurturing influencers, and democratizing content creation.
2006	X (Twitter)	Introduction of microblogging	Tool for public discussion and news, dynamic space for discussions and trending topics
2010	Instagram	Visual storytelling	User-friendly interface focusing on aesthetics, introduced Stories, IGTV, and shopping features
2010	Ask.fm*	Social Q&A	Originated in Latvia, it is a platform for asking questions and receiving personal answers from other users globally
2011	Snapchat	Ephemeral content	Innovative features, including "Stories" and augmented reality filters
2012	Pinterest	Focus on user interests	Visual discovery through images linked to user interests
2016	TikTok	Focus on short videos set to music	Popularized short video content, emphasizing user engagement.

Table 1 is created based on publicly available and further referenced sources. It includes the worldwide known platforms and also the platforms popular on the national level in Latvia. Platforms created in Latvia (denoted by "*") are included as the information about the platforms was searched from the computers located in this country and to illustrate the situation from the point of view of a single country.

hypothesisThe origins of social networks can be traced back to the early 2000s, marking a paradigm shift in communication as people began to meet, interact, and share information online. The foundation for this digital communicative revolution was laid by visionary entrepreneurs who aimed to create virtual spaces where people could engage in social interactions on a global scale. The evolution of social networks has led to their effective utilization in various e-business and e-marketing activities today. As noted by [13], these platforms facilitate operations in sales, advertising, public relations, human resources, customer segmentation, etc.

As the mid-2000s approached, social networks rapidly expanded, and new platforms emerged, each adding unique features and capabilities. Below, the authors describe several social networks.

Friendster is an online dating site utilizing social networks to encourage friend-of-friend connections [14]. Friendster is one of the first social networks that was launched in 2002 and allowed users to connect with friends, share updates, and create profiles. The concept of an online social network was a groundbreaking idea, setting the foundation for future social networks. Despite technical issues and scalability problems, Friendster demonstrated the immense potential for connecting people in a virtual environment. Its significance lies in being a pioneer that paved the way for subsequent social platforms [15].

LinkedIn, founded in 2002, carved out its niche as a professional networking platform focused on connecting people for career advancement, networking, and sharing knowledge in a business context. LinkedIn has evolved into a comprehensive platform, incorporating features such as content publishing, job searching, and educational resources. It remains a vital tool for professionals, emphasizing a more formal and business-oriented approach to social networking. LinkedIn has 1 billion registered users (as of November 2023), representing 150 industries in 200 countries [16]. Data sourced from LinkedIn's advertising tools reveals that the potential advertising reach, e.g., in Latvia, experienced notable growth, adding 60,000 users – a 13.6 percent increase – from the beginning of 2023 to early 2024. Additional figures from LinkedIn's advertising resources indicate that by early 2024, LinkedIn had 500,000 registered members in Latvia (a country with a population of less than 2 million). These statistics highlight the expanding influence of LinkedIn in the Latvian market, marked by an advertising reach of 29.6 percent [11].

MySpace appeared in 2003, offering a platform that combined social networking with user customization – users could personalize their profiles by adding music, backgrounds, and themes [17]. According to [18], MySpace became more popular than its competitors in part because it integrated many of the mentioned online activities that other sites had popularized. MySpace became a cultural phenomenon, particularly in the music industry, as artists used the platform to share their work. MySpace's emphasis on user customization contributed to its initial success and also anticipated the importance of user-generated content and personalization in the evolution of social platforms.

Facebook, launched by Mark Zuckerberg and his college peers in 2004, was initially available only to Harvard students but quickly spread to other universities and eventually to the general public in 2006 [10]. Facebook's success lies in its ability to create a global network that connects people across geographic boundaries. The platform introduced the concept of the "News Feed" and has transformed into a comprehensive social network that encompasses various media formats. According to data from Meta's advertising tools, Facebook had approximately 825.3 thousand users in Latvia. Furthermore, at the beginning of 2024, Facebook's advertising reach in Latvia constituted 45.3 percent of the country's total population, highlighting its significant penetration and influence in the market [11].

Draugiem.lv assumed the role of the leading social networking website in Latvia, established in 2004, slightly later than Facebook. Despite offering similar services such as profile creation, photo

sharing, and user groups, it has grown to become a key player in the Latvian social media landscape, primarily distinguished by its focus on Latvian language users. Unlike global platforms, Draugiem.lv specifically caters to Latvian cultural and social needs, fostering a community-oriented environment. This localization strategy has enabled Draugiem.lv to remain the largest social network in Latvia for a long time, fostering a sense of national community online [19].

One.lv emerged as a significant Internet service in Latvia, initially launching in 2000 as a portal for sending free SMS messages across Latvia, Lithuania, and Estonia. By December 2001, it began offering mobile content services, quickly becoming the sole provider in the Latvian market for about one and a half years. This early start in mobile entertainment allowed One.lv to establish a substantial user base, which became instrumental when the platform shifted its focus towards becoming a social networking site in December 2004. One distinct advantage One.lv held was its linguistic accessibility. Unlike Draugiem.lv, which initially focused only on the Latvian-speaking audience, One.lv catered to both the Latvian and Russian-speaking populations, capturing a broader market segment. This inclusive approach allowed One.lv to compete effectively, rapidly gaining traction and achieving parity in user numbers with Draugiem.lv [20].

YouTube, founded in 2005, revolutionized how people consume and share video content. It provided users with a platform for uploading, sharing, and discovering videos on an unprecedented scale. YouTube became a powerhouse for content creators, spawning a new generation of influencers and facilitating the democratization of content production. The evolution of the platform includes the introduction of monetization for creators and the expansion of streaming services. In early 2024, YouTube had 1.46 million users in Latvia, achieving an advertising reach that covered 80 percent of the nation's total population at the start of the year. Over the past year, YouTube's potential advertising reach in Latvia fell by 20,000 users, a decline of 1.4 percent. The article's author points out that concurrently, Latvia's population saw a decrease of 20,000, or 1.1 percent [11]. These simultaneous trends indicate that YouTube's popularity in Latvia is relatively stable and approaching saturation.

X (Twitter), launched in 2006, introduced the concept of microblogging, initially limiting messages to 140 characters. This network became a platform for real-time information exchange, popularizing hashtags and changing the ways in which news and events are disseminated. X (Twitter's) influence extended beyond mere communication, becoming an influential tool for public discourse, activism, and breaking news. The platform expanded its character limit, introduced multimedia functions, and transformed into a dynamic space for conversations and trends. In early 2024, X (Twitter) had approximately 544,000 users in Latvia. This number corresponds to an advertising reach of 29.9 percent of the total population at that time. As [11] emphasized, these advertising reach figures do not equate to monthly active user statistics. Consequently, there may be significant differences between the size of X's advertising audience and its total active user base.

As social networks evolved, platforms began to diversify their functions, specializing to meet the interests of specific user segments.

Instagram, launched in 2010, focused on visual content, allowing users to share photos and short videos. Its user-friendly interface and emphasis on aesthetics contributed to its rapid growth. Instagram became a hub for visual storytelling and influencer marketing. The introduction of features such as Stories, IGTV, and shopping options expanded its functionality, making it a versatile platform for both personal and business use. According to data from Meta's advertising tools, Instagram registered 618,200 users in Latvia as of early 2024. This user base represented an advertising reach of 34.0 percent of Latvia's total population at the beginning of the year 2024. Additionally, the platform's potential advertising reach in Latvia saw an increase of 5,400 users, a growth of 0.9 percent, from January 2023 to January 2024 [11].

Ask.fm is a social networking site where users can ask and answer questions either anonymously or openly. Launched in June 2010 in Latvia, the platform was designed to facilitate open conversation and exchange of ideas among users globally. The site gained rapid popularity,

especially among teenagers. As of its latest updates, Ask.fm has millions of users worldwide, reflecting its continued appeal as a space for social interaction and personal expression [21].

Snapchat, founded in 2011, pioneered the concept of ephemeral content with disappearing photos and videos. This resonated particularly with a younger audience seeking more authentic and fleeting interactions. Snapchat's innovative features, including "Stories" and augmented reality filters, influenced the broader landscape of social media. The platform's commitment to innovation continues with ongoing developments in augmented reality (AR) technology and multimedia content [22].

Pinterest is a social Internet service, a photo hosting service that allows users to add images online, place them in thematic collections, and share them with other users. Images can be "pinned" to collections called "boards". The service was launched in beta in March 2010 with closed registration. In August 2012, Pinterest opened free registration for anyone using a Facebook or Twitter account, as well as an email address [23].

TikTok. In addition to the social platforms described above, TikTok is worth mentioning. TikTok serves as the international counterpart to app Douyin; both are owned by the tech company ByteDance: Douyin was launched in 2016, followed by TikTok in 2017 [9]. TikTok took the world by storm with its focus on short videos set to music and quickly became a cultural phenomenon, particularly popular among young people. TikTok's explosive growth has demonstrated the appeal of short, creative video content. The platform's algorithm-driven "For You" page and duet features set new standards for user engagement. The rising popularity of TikTok reflects the ongoing evolution of social network preferences towards video content. At the start of 2024, ByteDance reported that TikTok advertisements reached 50.1 percent of all adults aged 18 and older in Latvia, with the platform having 741,500 users within this demographic [9].

In the 2020s, social networks became an integral part of daily life, influencing culture, communication, and commerce on a global scale. Although initial platforms like Friendster and MySpace were not initially recognized as marketing channels, they laid the groundwork for the future. Marketers began to experiment with social media platforms to promote brands, mastering modern marketing tools. This led to the emergence of marketing disciplines such as Social Media Marketing (SMM) and Social Media Optimization (SMO).

SMO (Social Media Optimization), or optimization for social media, is an element of internal optimization of a company's website for users attracted from different social networks. This often involves working with content. The goal of SMO is to make the site interesting and user-friendly for visitors from various social networks, to turn casual visitors into regular ones, and to encourage them to share the site with acquaintances and spread links.

SMM is an external block for a company's website, based on working with social networks, forums, blogs, and communities. SMM also encompasses various instant messaging services like Telegram, Skype, Viber, ICQ, etc. The goal of SMM is to introduce users unobtrusively to products and services, thereby expanding the overall volume of the target audience [3].

3.3 Technological Innovations and Their Prospects for Influencing the Evolution of Internet Marketing

The digital marketing landscape is poised for transformation, driven by advanced technologies and changing human needs toward digitization in all areas of activity. Technological innovations, as with the previous stages of digital marketing development we have examined, can alter the methods and models of business interaction with its audience. Further, the major recent technological innovations that are already beginning to transform the modern Internet landscape are considered.

Artificial Intelligence (AI) and Machine Learning (ML). These innovations have already made a significant contribution to Internet marketing. From predictive analytics to personalized recommendations – these technologies enhance user service quality and optimize marketing efforts by automating many business processes in marketing. For instance, platforms like Amazon,

Alibaba, Netflix leverage machine learning algorithms to analyze user data (preferences, purchase behavior, or viewing history) and provide personalized recommendations. Combining traditional recommendation models, such as collaborative filtering, with advanced behavioral pattern mining methods has demonstrated the potential to enhance the accuracy and dynamic adaptability of recommendation systems. Their research illustrates how hybrid systems can extract sequential patterns from user behavior data, thereby enabling such platforms to predict user needs more effectively and improve engagement and sales [24].

AI-based chatbots provide real-time customer interaction 24/7, and AI algorithms optimize ad targeting based on big data processing. Thus, Sephora leverages the Virtual Artist app, powered by facial recognition technology, to allow customers to virtually "try on" a wide range of cosmetics, including eyeshadows, lip colors, and false lashes. This app enables users to experiment with different products, compare colors and finishes, and even receive step-by-step tutorials tailored to their facial features. Such innovative features have significantly enhanced customer engagement and boosted sales volumes [25].

In the near future, AI will play an even more important role, as advancements in natural language processing (NLP) allow for the creation of more complex chatbots and voice search [26]. Machine learning algorithms will improve predictive analytics, offering marketers a deeper understanding of consumer behavior. AI-based content creation and personalization are becoming the standard, elevating the level of customization in marketing strategies. For instance, Spotify leverages algorithmically filtered playlists, such as "Discover Weekly", to deliver personalized music recommendations. This approach enhances user retention and strengthens brand loyalty [27]. Platforms like Google Ads and Facebook Ads utilize AI to analyze user data (interests, behavior, geolocation) and deliver targeted advertisements tailored to audience needs [28]. These platforms not only enable companies to optimize their advertising budgets and achieve higher returns on investment but also make advanced AI-driven advertising technologies accessible to SMEs, empowering them to compete effectively in digital markets.

Augmented Reality (AR) and Virtual Reality (VR). These technologies have found application in experiential marketing: brands use augmented reality for interactive advertising, while virtual reality can immerse users in a virtual environment for a comprehensive introduction to a product. Thus, IKEA utilizes the IKEA Place app, which enables users to visualize how furniture will look in their homes using augmented reality. This enhances customer engagement and improves the shopping experience [29]. The Shopify platform provides merchants with the ability to integrate AR content into their online stores, making these technologies relatively more accessible to SMEs. With Shopify AR, sellers can upload 3D models of their products, allowing customers to view items in their real environment [30].

Social networks, such as Facebook, plan revolutionary changes by incorporating VR on their platform. In the future, an improved integration of AR and VR is envisioned, which will allow consumers to test products in a virtual store or explore a hotel along with its surroundings and attractions before making a travel decision. AR glasses could become commonplace, opening up new opportunities for contextual advertising. The merger of these technologies with e-commerce will change the concept of online shopping, offering customers the opportunity to visit virtual stores with a range of services similar to those of offline retail. At the same time, online shoppers will still enjoy all the advantages of online purchases – flexibility in time and location, a wide selection of goods from various sellers, comprehensive information about the brand and product, assistance from AI consultants in choosing products, etc. [31].

Voice Search and Smart Speakers. The emergence of voice-controlled virtual assistants like Siri, Alexa, and Google Assistant has changed the methods of searching for information on the Internet. Oberlo reports that 50% of the U.S. population utilizes voice search tools on a daily basis, and 71% of consumers prefer to conduct queries by voice instead of typing [32]. Statista predicts that 8 billion voice assistants will be in use by 2024 [33]. Voice search optimization has become critical for businesses that want to remain visible in a rapidly evolving environment. With the increasing prevalence of these technologies, marketers must adapt their strategies to voice search, taking into

account the differences between voice queries and those typed on a keyboard. Conversational marketing has received a new technological impetus for development, so brands will need to create content that matches natural language queries and focuses more on voice-driven conversational content. Voice commerce (v-commerce) is expected to become a significant trend, creating new opportunities for businesses to interact with customers.

Voice search technology intertwines with the capabilities of AI consultants and virtual reality. Through the synergy of these technologies, it can be envisioned that the future shopper will essentially be engaging virtually in natural language with a virtual sales consultant, receiving advice and recommendations, exploring the product lines offered, and making their choices. Digital marketing thus faces a new challenge of adapting to changing technological realities, developing Internet strategies for different types of users based on behavioral characteristics and purchasing processes.

For instance, busy shoppers who value their time may be prepared to delegate routine purchases to their personal AI assistant. By programming it to plan family needs and necessary purchases within a specified budget, these shoppers illustrate a new market segment. Marketers must, therefore, adapt their strategies to influence the AI assistant's selections. This presents a novel challenge, requiring a distinct marketing approach to ensure inclusion on the AI-optimized shopping list.

Another type of shopper – the aficionado e-shoppers – enjoys the shopping process deeply [34]. They are eager to explore the market, learn extensively about products, try them on, compare prices across different sellers, leave reviews, and engage deeply with well-known brands. For these shoppers, it is advisable to develop virtual reality technologies, integrate virtual consultants, and foster conversational marketing. Additionally, enabling customers to create audio and video reviews can further enhance their shopping experience.

Blockchain Technology. Blockchain technology has garnered increasing attention from both academic and industry sectors in recent years. However, concerns about security and privacy remain at the forefront of discussions about its implementation across different applications [35]. Looking ahead, blockchain has the potential to transform the digital advertising landscape. Smart contracts could simplify transactions, and blockchain transparency could help combat advertising fraud. Consumers might gain greater control over their data, leading to a more secure and accountable advertising ecosystem.

5G and 6G Technology. The implementation of 5G technology is already enhancing Internet speed and connectivity capabilities, facilitating more efficient online operations. This impacts mobile marketing, streaming video, and real-time interactions, creating a technological foundation for the development of virtual reality and cloud storage technologies. As 5G spreads, marketers will be able to use higher connection speeds for more sophisticated content. Live streaming, augmented reality applications, and high-quality video content will become more widespread. The low latency of 5G opens the door for real-time interaction strategies, offering marketers unprecedented opportunities for interactive campaigns. By around 2030, experts predict the implementation of 6G or even faster communications managed by artificial intelligence [36]. This advancement is expected to broaden opportunities significantly for big data processing, volumetric video, and virtual reality.

The rapid integration of artificial intelligence, big data analytics, and advanced algorithms is marking a new era in digital marketing – hyper-personalization. These technologies equip marketers with the capabilities to tailor highly individualized strategies that cater to each customer's unique preferences. However, this personalization comes with the challenge of avoiding overly intrusive methods that may infringe on consumer privacy. As the industry strives to find a balance, the importance of ethical considerations grows. Recognizing this, the European Parliament passed the Artificial Intelligence Act in 2023, reinforcing the commitment to safe and ethical AI practices, which are set to shape the future of marketing and digital engagement across advanced communication technologies [37].

The future will require seamless integration of various marketing channels. Unified strategies that cover social media, email, search, and new platforms will become necessary for conducting effective marketing campaigns. As technology develops, diverse content formats will become increasingly important. Brands will need to adapt to new environments such as interactive content, virtual reality, and engaging storytelling to capture audience attention effectively [4].

3.4 Evolution of Marketing Principles Under the Influence of Technological Innovations

The traditional 4P marketing mix, proposed in 1064 by [38], encompasses the four elements of Product, Price, Place, and Promotion. This model is product-oriented, focusing on product development and life cycle management, as well as the creation of competitive 4P components. In those times, companies adhering to the 4P model aimed at minimizing prices, leading to mass production, which required encouraging consumers to purchase unnecessary items, thereby cultivating consumerism [39].

Lauterborn (1990) [40] introduced the 4C marketing concept instead of 4 Ps, shifting the core of marketing activities from the product to the consumer, mainly used for Niche Marketing. The elements of the customer-oriented 4C model include Customer needs and wants (customer value), Cost (price, cost, consumer expenses), Convenience (consumer convenience, quality of service), and Communication (communication with the consumer).

As business and service sectors evolved, where human factors are significant, the traditional 4P model was expanded to include "People" (5P model), encompassing company staff, influencers, partners, and directly the consumers. Over the years, this concept expanded to 7P [41], adding Processes and Physical evidence. With the advent of digital technologies and the growth of online platforms, an additional component of "Participation" was introduced, forming an "8P" model to address unique aspects of digital marketing, as shown in Table 2 constructed based on information available in [42].

Table 2. The impact of Internet Marketing on the "8P" Marketing Model, based on [42]

Component of the "8P" Model	Traditional Approach	Impact of Internet Marketing
Product	Characteristics, quality, and product differentiation.	Product information: interactive content, reviews, and user-generated content; direct transactions.
Price	Production costs, competitor prices, perceived value.	Comparison websites and search engines; discounts and personalized pricing.
Place	Distribution channels and physical presence.	Elimination of intermediaries, geotargeting, and personalized advertising.
Promotion	Advertising through traditional media channels.	Social networks, search engine marketing, influencer collaborations, and content marketing; no geographical restrictions.
People	Customer service, staff interaction.	Online communities, social network interactions, and customer reviews influence brand perception. Chatbots and AI-based customer support, influencer marketing.
Processes	Operational efficiency and internal processes.	Integration of Customer Relationship Management (CRM) systems. Automation tools streamline marketing processes from lead generation to customer retention. Data-driven analytics and decision-making refine marketing strategies.
Physical Evidence	Tangible cues that enhance brand perception.	Website design and user interface improve customer service quality. Online reviews and social proof serve as digital forms of evidence. Augmented reality and virtual try-ons provide virtual product interactions.
Participation	Customer involvement in events, surveys, or loyalty programs.	Social media campaigns encourage content creation and user engagement. Crowdsourcing of ideas and feedback through online platforms. Gamification strategies enhance user engagement with the brand.

It should be noted that some specialists have expanded the traditional model to 12P, and the content of these models can vary significantly depending on the company's activities and business needs, as well as the marketer's vision. The traditional 4P marketing mix has been augmented by such directions as People, Partners, Process, Physical Evidence, Participation, Performance, Positioning, Public Relations, Proof Points, Pocketing, etc. [43].

Innovative technologies, widely adopted by a broad audience, lead to changes in consumer behavior, necessitating new marketing approaches. Digital marketing has profoundly impacted each of the principles of the "8P" model, significantly altering strategies and increasing consumer engagement

It can be concluded that the evolution of marketing principles has been influenced by several key factors, all derivatives of the primary factor—technological advancements. The rapid development of digital technologies has been the main catalyst for the evolution of Internet marketing principles. From the advent of the World Wide Web to developments in AI and AR, each technological leap has opened new horizons and possibilities for marketers. These include:

- Globalization and Interconnectivity: This has ushered in a new era of global marketing. Internet marketing principles have evolved to include multiculturalism, localization, and global reach, providing opportunities to interact with diverse audiences regardless of geographical boundaries.
- Emergence of New Platforms and Channels: The development of social media platforms, mobile applications, and e-commerce markets has required marketers to constantly adapt their strategies to utilize new opportunities and effectively engage audiences.
- Integration of Artificial Intelligence, Machine Learning, and Automation Technologies: This has transformed Internet marketing principles. Marketers now use Artificial Intelligence-based tools for personalization, predictive analytics, chatbots, and marketing automation, enhancing efficiency and improving user service quality.
- Proliferation of Data Analytics and Big Data: This has revolutionized digital marketing principles. Marketers now have access to unprecedented consumer behavior information, allowing them to personalize experiences, optimize campaigns, and measure effectiveness with unprecedented precision in minimal time. The use of Artificial Intelligence for data processing enables the automation of personalized advertising messages and activities.
- Ethical Considerations and Transparency: With growing attention to data privacy and ethical marketing practices, digital marketing principles have prioritized transparency, honesty, and respect for consumer rights. Ethical considerations are now woven into the fabric of digital marketing strategies, building trust and brand reputation.
- Consumer Behavior Shifts Due to Technological Innovations: The popularity of mobile devices and the proliferation of social networks require understanding and adapting to changing consumer trends for effective marketing strategies.
- Shift Towards User Interests and Preferences: The principles of Internet marketing have fundamentally shifted toward a client-centric approach. The focus is increasingly on not just selling products or services but on creating valuable experiences, meeting individual consumer needs, building relationships, and exploring their interests. Companies that invest in an integrated perspective tend to be more successful [8].

These factors collectively reflect how deeply technology has reshaped the marketing landscape, making it imperative for marketers to continuously innovate and adapt to remain relevant and effective in their strategies while considering ethical aspects. The role of ethical aspects is increasing in modern digital marketing. As AI and Big Data continue to grow, data privacy is becoming more important. A lack of transparency in data usage can harm consumer trust, while unclear processing methods raise concerns and reduce confidence in digital platforms [44].

To address growing concerns about data privacy and ethical challenges in digital marketing, new regulations are being introduced. One example is the Artificial Intelligence Act (AI Act), signed by the European Union in June 2024 [45]. This law is the first global regulation of its kind,

creating rules for the use and supply of AI systems in the EU. The AI Act takes a risk-based approach to ensure that AI technologies are safe and transparent. It aims to prevent harm to consumer trust and promote the ethical use of AI, showing the need to balance innovation with responsibility.

4   The Forecast and Discussion

As was presented in the previous section, the activities of digital marketing are strongly interrelated with the use of social networks. So far, the development of specialized tools for working with social networks in digital marketing is driven by the growing number of their users. However, there are limits to the number of users. Therefore, to define digital marketing strategies, it is essential to understand the possible dynamics of the number of users in the future.

The year 2023 set a record with the number of social media users exceeding 5 billion, an increase of 266 million over the last year. The typical social media user spends 2 hours and 23 minutes per day on their chosen social platforms, engaging in a variety of activities from shopping and socializing to entertainment and seeking information about brands [1]. The dynamics of user engagement in social networks from their inception in 2000 to the present, based on data from [16], are shown in the bar chart in Figure 1, clearly illustrating the steady growth in the number of people engaged in social networks worldwide.

The statistical series of the number of users for the period from 2000 to 2023 can be described mathematically using, for instance, the Chart Wizard[†] tool in Microsoft Excel. Using the Add Trendline[‡] function, a model was obtained that describes the dynamics of the number of social network users with the greatest degree of approximation (1):

$$y = -0.0012x^5 + 0.0607x^4 - 1.075x^3 + 16.739x^2 - 32.543x + 53.038 \qquad (1)$$

A value of the coefficient of determination close to one ($R^2 = 0.9984$) for this model indicates its suitability for forecasting with a high probability of obtaining a reliable result.
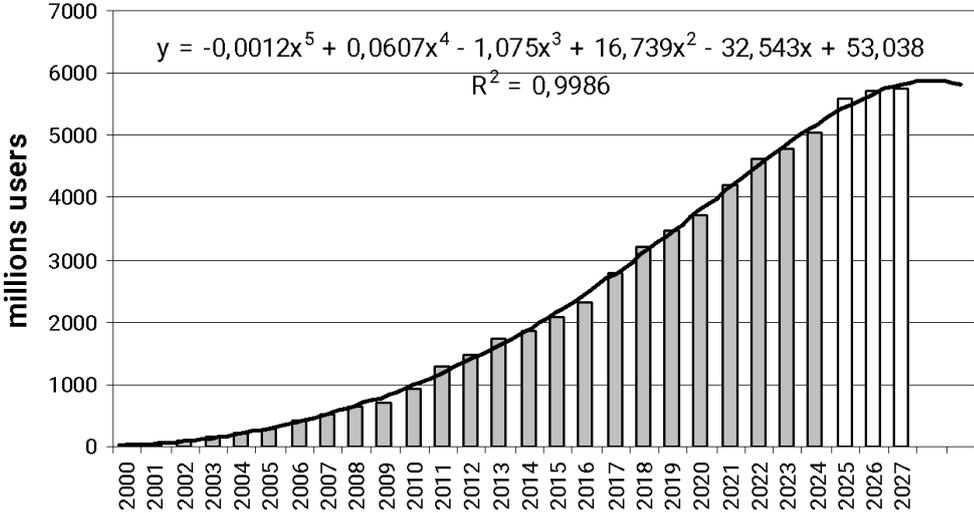
Figure 1. Dynamics of the number of users of social networks for the period 2000–2023 and the forecast for the future (based on data from [16])

The forecasted values of the number of social network users for 2025, 2026, 2027 calculated using model (1) are also presented in Figure 1. According to the forecast, the number of users will reach 5730 million by 2026, but the growth rate will significantly slow down in the following

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[†] https://learn.microsoft.com/en-us/dotnet/api/microsoft.office.tools.excel.chart.chartwizard?view=vsto-2022

[‡] https://learn.microsoft.com/en-us/office/vba/api/excel.trendlines.add

years, according to the model (1). The created model demonstrates still the overall trend of increasing social media users by 2027. In real-world conditions, the number of social media participants and their activity may vary in the coming years under the influence of technological, economic, environmental, or political factors. However, the scale of this phenomenon and the technological prerequisites for its further development highlight the potential of leveraging social media in Internet marketing strategies for companies, including SMEs.

Thus, the evolution of social networks from their early days to the current diverse landscape demonstrates not only technological advancements towards their differentiation but also changes in user preferences and behaviors, as users increasingly find their niches by interests and preferences on the Internet. As social networks continue to integrate into various aspects of life, their impact on communication, culture, and commerce remains significant and continues to deepen. As the analysis shows, platforms such as Facebook, Instagram, and Twitter have become major marketing channels. Their advanced targeting capabilities, detailed analytics, and the growing influence of digital marketing have fundamentally revolutionized the role of social networks in Internet marketing.

The main trends in the development of social networks include an emphasis on expanding video information, impressions, and emotions, the development of augmented and virtual reality, and the personalization of offers based on the processing of personal information obtained from various sources using big data tools.

The topic of the evolution of digital marketing and its tools, its influencing factors, and its prospects has been examined and continues to intrigue both academic researchers and practicing marketers.

R. E. Goldsmith [7] identified four main factors influencing the evolution of marketing and its principles: globalization, technology changes, personalization, and integration. However, as the conducted analysis shows, it was technology that enabled the processes of globalization in all spheres of human activity. Digital technologies have provided humanity with unprecedented communication opportunities, eliminating language and geographical barriers for business and enabling accessible logistics. In turn, the factors of personalization and integration have also become derivatives of technological development. The use of automated processing of large volumes of personal data for the personalization of marketing activities has been made possible by the development of modern technologies.

Philip Kotler and colleagues [39] consider five stages of marketing evolution linked to changes in consumer behavior from generation to generation:

- Product-oriented (Marketing 1.0); product-centric marketing; (1950s–1970s).
- Customer-oriented (Marketing 2.0); client-centric marketing; (1980s–1990s).
- Human-oriented (Marketing 3.0); human-centric marketing; (2000s–early 2010s).
- Digital transformation (Marketing 4.0); moving from traditional to digital; (2010s–early 2020s).
- Techno-humanistic (Marketing 5.0); technology for humanity; (2020s–2030s).

These stages are tied to specific time periods and to the main technological innovations introduced during these intervals. This framework highlights how each phase of marketing evolution corresponds to technological advancements and shifting market dynamics, reflecting deeper changes in society's values, consumer expectations, and business strategies. As digital technology advances, marketers must adapt not only to new tools but also to the increasingly complex consumer landscape that these tools create and continue to shape.

To better illustrate the evolution in digital marketing, the information in [39] was related to the issues discussed in Section 3 and amalgamated in Table 3. The table clearly demonstrates that it was technological changes, gaining widespread adoption during specific time intervals, that led to shifts in consumer behavior as they engaged with new information and communication technologies. This, in turn, necessitated the adaptation and evolution of marketing principles to align timely with new market conditions and consumer expectations.

In the context of Marketing 5.0 [39], due to technology, the focus is expected to be on predictive marketing, contextual marketing, and augmented marketing. This represents a flexible approach to marketing that is data-driven and focused on humanity, emotions, and impressions.

At the same time, the era of AI will undoubtedly lead to the mass use of AI-powered robots, which will take over many routine human duties, including search functions, selection, purchasing, and more. This transition highlights a key aspect of modern marketing evolution: as technologies become more sophisticated, they not only change how products and services are marketed but also fundamentally alter the role and activities of marketers and consumers alike.

Table 3. Evolution of Digital Marketing principles (based on [39] and Section 3)

Period	Marketing Evolutional Stages	Key Technological Innovations	Core Marketing Model Focus				
1980s	Marketing 2.0	Internet	Product				
1990s	Marketing 2.0	Search Engines	Product	Customer			
2000s	Marketing 3.0	Mobile Internet, Social Networks		Customer	Network User		
2010s	Marketing 4.0	Big Data			Network User	User Needs, Interests	
2020s	Marketing 5.0	Artificial Intelligence (AI), Machine Learning (ML)				User Needs, Interests	User Emotions, Impressions
2030s	Marketing 6.0	Virtual and Augmented Reality, 6G Technologies					User Emotions, Impressions

The rise of AI and automation poses new challenges and opportunities. Marketers need to adapt strategies to harness these advanced tools effectively while ensuring they maintain a human-centered approach that respects consumer privacy and promotes ethical interactions. This balance is essential as businesses strive to create meaningful and lasting connections with consumers in an increasingly automated world.

5   Conclusion

The analysis conducted in this article convincingly demonstrates the impact of technological progress on the evolution of marketing principles, which adapt to changes in consumer behavior as innovations become widespread among the public. Digital marketing operates bi-directionally within the Internet's informational environment: on one hand, it represents brands, products, and services through official websites or online marketplaces and conducts online promotional activities; on the other, it gathers information about potential customers for personalized and cluster-based initiatives aimed at drawing them to both virtual and physical sales resources. Thus, the hypothesis that digital marketing concepts evolve alongside technological innovations, leading to the personalization of services and communications, which helps companies attract target customers more effectively and boost loyalty, can be considered to be true.

The evolution of Digital Marketing principles demonstrates the dynamism and adaptability of the digital marketing landscape. From the early days of the Internet to the current era of artificial intelligence and data-driven marketing, these principles have consistently evolved to address the changing needs and expectations of consumers and businesses.

The scale of modern technological advancements and the broad range of capabilities provided by contemporary digital tools carry not only advantages but also threats associated with the ability of generative AI to produce misleading information of various kinds, potentially cluttering the information field with brand-damaging materials. The widespread implementation of automation in marketing using artificial intelligence necessitates a redefinition of existing marketing principles towards more human-centric qualities, such as emotion, which are still uniquely human.

AI-based Internet marketing strategies are already widely adopted by prominent companies, implementing applications for personalized advertising, product recommendations, virtual try-ons, and visualization of proposed products. These capabilities enhance customer interaction, enable data analysis, and improve the efficiency of marketing campaigns.

The article has amalgamated information on the current state and tendencies in digital marketing to provide a stable basis for further research regarding digital marketing tools for SMEs seeking to enhance their competitiveness in a rapidly evolving technological landscape. A promising area for further research lies in the practices of SMEs utilizing technological innovations. For these businesses, several strategies can provide a competitive advantage in the context of rapid technological progress. Firstly, integrating AI into marketing can significantly improve the personalization of advertising campaigns and enhance their efficiency. SMEs can utilize accessible automation tools such as Google Ads, Facebook Ads, or email marketing platforms to optimize customer interactions and increase conversion rates. Additionally, with the advancement of augmented reality (AR), SMEs can offer customers unique interactive experiences. For instance, AR-based virtual clothing try-ons or property tours can greatly increase consumer interest and boost sales. Finally, it is important to address data privacy and ethical considerations in AI usage to avoid potential legal and reputational risks.

By combining technological capabilities with creativity focused on humanity, emotion, and ethics, marketers can pave the way to a future where personalized, engaging, and responsible digital marketing occupies a central role and contributes to the sustainable development of both business and society. This approach will not only meet the technological trends but also address the growing consumer demand for more meaningful and ethically responsible interactions in the digital space. In addition to the ethical and operational implications discussed, it is essential to recognize broader uncertainties influencing the adoption of AI in digital marketing. These include economic challenges, regional disparities in access to technology, and the potential need for workforce adaptation to AI-driven processes. Although these factors lie beyond the scope of this study, they merit further investigation to provide a comprehensive understanding of the digital marketing landscape.

The data presented in this article provides a comprehensive overview of selected platforms, with the aim of narrating their evolution and highlighting some current key metrics relevant to SMEs. The extent of use of the platforms country-wide is illustrated by the example of Latvia (where further research is intended to be performed and where the country-specific information was easier available for the authors. Nevertheless, the methods applied in this study can be used to obtain comparative data for other countries. Also, further exploration into more detailed criteria and metrics of social networks could yield higher quality indicators for advertisers. Such metrics include the duration of time spent on the network, usage frequency, as well as demographic and financial characteristics of the users. This deeper analysis could enhance understanding and strategy development for effective social media marketing.

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