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## DIGITAL ADVERTISING IN SOCIAL NETWORKS: CHALLENGES AND OPPORTUNITIES FOR MODERN BUSINESS

Social media has become an essential tool for modern businesses, significantly influencing marketing strategies and customer interaction. As digital platforms continue to evolve, companies increasingly rely on social media advertising to expand their audience reach and enhance customer engagement. This article explores the impact of social media advertising on business growth, with a focus on algorithms, artificial intelligence (AI), and data-driven strategies. Additionally, it examines key challenges such as the filter bubble effect and the changes brought about by the COVID-19 pandemic. The goal of this research is to assess the effectiveness of social media advertising and highlight its limitations, providing insights for businesses to refine their digital marketing approaches. The findings emphasize the role of AI in personalization, the need to mitigate the filter bubble effect, and the pandemic's lasting influence on online consumer behavior.

Social media platforms such as Facebook, Instagram, and LinkedIn have changed the dynamics of traditional marketing. These platforms provide companies with the ability to engage with their target audience in a precise and personalized manner. Algorithms and artificial intelligence allow ads to be customized based on user preferences, behavior, and demographics. This has made advertising more effective and cost-effective [Ошибка! Источник ссылки не найден.]. For example, Facebook's algorithms use users' historical data to predict which ads they are most likely to see. This allows for personalized ads that increase customer engagement and sales [Ошибка! Источник ссылки не найден.]. Research shows that targeted ads are 2.5 times more effective than non-targeted ads [Ошибка! Источник ссылки не найден.].

Artificial intelligence and machine learning play a vital role in optimizing social media advertising. These technologies process vast amounts of user data, including likes, shares, and browsing habits, to refine ad targeting. This not only maximizes the impact of marketing campaigns but also allows companies to adjust their strategies in real time [4]. For instance, Google AdWords leverages AI to optimize ad placements and bidding strategies, ensuring the best possible results. Additionally, AI-powered chatbots improve customer service by providing instant, high-quality responses, ultimately enhancing user satisfaction and boosting sales [2].

Data analytics is a fundamental component of social media marketing. Businesses collect and analyze user data to create highly targeted ad campaigns. This information helps them evaluate campaign performance and adjust their strategies accordingly [4]. Platforms like Google Analytics, for example, track website interactions, allowing businesses to assess customer behavior and optimize their conversion rates [2].

Despite its benefits, social media advertising faces several challenges. One of the significant issues is the filter bubble phenomenon. This occurs when users are predominantly exposed to content that aligns with their existing preferences and viewpoints, limiting their exposure to diverse perspectives. This effect can make it difficult for businesses to reach new audiences and may even reduce ad effectiveness. Research indicates that 62% of social media users frequently encounter content that reinforces their pre-existing beliefs [5]. To counteract this issue, businesses must develop more diverse content strategies and encourage broader engagement across different user demographics.

Another major challenge emerged during the COVID-19 pandemic, which significantly altered digital advertising trends. With more people spending time online, businesses shifted their marketing efforts from traditional advertising to digital platforms. Consumer behavior changed dramatically, with online shopping becoming more prevalent. Reports show that in 2020, e-commerce sales increased by 24%, compared to an average annual growth rate of 15% in previous years. In the United States alone, approximately 30% of consumers reported making more online purchases during the pandemic than before [6]. These changes have forced businesses to adapt their digital marketing strategies to remain competitive in an increasingly digital world.

Looking ahead, social media advertising will continue to evolve, becoming even more data-driven and consumer-focused. AI will further refine ad targeting and enhance user experiences. However, businesses must also consider ethical concerns, particularly regarding data privacy and consumer trust. Ensuring compliance with regulations such as the General Data Protection Regulation (GDPR) will be crucial for maintaining customer confidence. For instance, AI-driven analytics tools will provide deeper insights into consumer behavior, allowing businesses to craft more effective and personalized campaigns while ensuring responsible data usage [2].

Social media advertising has become a transformative force in modern business. The integration of AI, data analytics, and machine learning has made marketing campaigns more efficient and consumer-focused. However, businesses must address ongoing challenges such as the filter bubble effect and privacy concerns. The findings of this research confirm that while social media advertising presents vast opportunities, it also requires continuous adaptation to technological advancements and ethical considerations.

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## VOICE ASSISTANTS AS A TOOL FOR PERSONALIZED CUSTOMER EXPERIENCE IN MARKETING

The rapid development of artificial intelligence has led to the widespread adoption of voice assistants such as Yandex Alice, Amazon Alexa, Apple Siri, and Google Assistant [1]. These technologies are transforming marketing communications by providing personalized interactions between brands and consumers. The aim of this research is to analyze the role of voice assistants in enhancing customer engagement and to evaluate their impact on consumer decision-making.

With the growing expectations for individualized marketing approaches, traditional strategies such as email campaigns and targeted advertisements are becoming less effective due to content saturation [2]. Voice assistants offer a more interactive and natural way of communication, improving customer satisfaction and brand loyalty. They collect user data, process natural language inputs, and provide tailored recommendations, thereby reshaping consumer behavior [3].

A survey was conducted among 45 students from different specializations at the School of Business of Belarusian State University (1<sup>st</sup> to 3<sup>rd</sup>-year students). The survey aimed to assess the use of voice assistants in marketing and their effectiveness in improving customer experience. The results revealed that only 15% of respondents use voice assistants daily, while 15% use them several times a week. The majority (70%) either rarely or never use them. The most frequently used assistants were Siri (48.9%)