

DIMENSIONS OF AI INFLUENCE IN DIGITAL MARKETING OF BANKING SERVICES AMONG THE PRIVATE SECTOR BANKS

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ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative force in the banking industry, particularly in the domain of digital marketing. Private sector banks have increasingly adopted AI technologies to enhance customer engagement, personalize financial services, optimize marketing campaigns, and improve operational efficiency. AI-driven tools such as predictive analytics, chatbots, recommendation systems, and automated marketing platforms enable banks to analyze large volumes of customer data and deliver targeted marketing strategies. The study adopts a quantitative research approach to examine the influence of artificial intelligence and digital marketing strategies in private sector banks. Primary data were collected through a structured questionnaire from bank customers. A sample size of 200 respondents was selected for the study using the convenience sampling technique, as it allows easy access to respondents and facilitates efficient data collection within the given time frame. The article examines the key dimensions of AI influence in digital marketing of banking services among private sector banks. It explores areas such as customer personalization, predictive analytics, chatbots and conversational marketing, targeted advertising, data-driven decision making, customer experience enhancement, fraud detection, and ethical considerations. The study highlights how AI-driven digital marketing helps private banks improve customer satisfaction, loyalty, and profitability while maintaining competitiveness in an increasingly digital financial ecosystem.

Keywords: Customer personalization, predictive analytics, conversational marketing, data-driven decision making, targeted advertising and customer experience

INTRODUCTION

The banking industry has been radically transformed by the blistering development of digital technologies. Over the last few years, Artificial Intelligence (AI) emerged as one of the most powerful technologies that transform the operations of banks, services, and marketing policies offered to customers. The innovation and adoption of technologies in the private sector banks have also included AI in their digital marketing strategy, with the aim of understanding customer behavior and providing them with customized financial services. Digital marketing banking Digital marketing of financial products like savings banks, loans, credit cards, insurance and investment services using online platforms like mobile apps, websites, social media and email campaigns. With the help of AI, banks are able to handle thousands of customer data, observe behavioral patterns, and develop specific marketing strategies that enhance engagement and conversion rates. AI-powered systems enable banks to offer highly customized financial advice, autonomous customer support and foreseeable insights that enable banks to foresee the customer need. The technologies help banks to abandon the outdated mass marketing approach in favor of the personalized and data-driven marketing strategies. Researchers state that the AI-based analytics and recommendation

systems can enable banks to process information about customers and provide them with sophisticated financial solutions, depending on personal preferences and behavior. Generative artificial intelligence is already changing the marketing processes by enhancing the personalization, predictive accuracy, and campaign performance. Research indicates that over 80 percent of marketing teams are actively adopting AI tools in an attempt to improve the effectiveness of marketing. With the ongoing development of digital banking, AI will become the core of the innovative marketing approaches and the enhancement of customer interactions. ICICI Bank, HDFC Bank and Axis Bank are the examples of the private sector banks that widely use AI-powered chatbots, predictive analytics, and automated marketing tools to enhance customer engagement and marketing performance. The technologies enable the banks to improve the customer experiences, improve marketing expenses, and build brand loyalty.

ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING OF BANKING SERVICES

Artificial Intelligence is the computer systems which are able to perform the functions that are usually performed by human intelligence and they include learning, reasoning, recognizing patterns and making decisions. Applying to the framework of digital marketing, AI allows banks to process customer data, automate marketing campaigns, and offer personalized services using sophisticated algorithms and machine learning models. Artificial Intelligence has greatly reshaped digital marketing in the banking industry and especially the banks in the private sector. With the help of AI technologies the banks can make use of predictive analytics, chatbots, recommendation systems and marketing automation tools to provide personal services and targeted marketing campaigns. The significant aspects of AI in digital marketing are customer personalization, predictive analytics, conversational marketing, data-driven decision making, targeted advertising, customer experience enhancement, cross-selling strategies, fraud detection and marketing automation. The digital marketing driven by AI can increase customer satisfaction, loyalty, and trust in addition to improving the operational efficiency. Nevertheless, banks should overcome the problems of data privacy, biased algorithms, and compliance as a form of responsibility in the implementation of AI. AI will only keep transforming marketing in the banking industry by introducing hyper-personalization, sophisticated analytics, and smart customer interaction in the future. Banks operating within the private sector that successfully incorporate AI into their digital marketing strategies will have a competitive edge in the fast changing digital financial sector environment.

Dimensions of AI Impact to Digital Marketing of Banking Services

Artificial intelligence has a number of dimensions through which it affects digital marketing in the banking sector. The dimensions can be perceived as various spheres that AI can help enhance the marketing approach and customer relationship.

1. **Customer Personalization and Segmentation:** The AI algorithms process huge amounts of customer data including transaction history, online behavior, financial goals, and demographic data. With this information, banks will be able to develop customized marketing campaigns based on the needs of individual customers. Indicatively, AI systems can suggest credit cards, personal loans, or investment plans depending on the financial profile of a client. Personalization increases customer satisfaction since they do not get an average advertisement but get customized financial information. Research indicates that personalization on AI allows banks to provide customers with customized financial services and product offerings in

accordance with their preferences. Besides, AI can assist banks in dividing its customers into various cohorts based on the behavioral patterns, level of income, spending behaviour, and financial objectives. This classification allows banks to develop specific marketing programs that raise the level of conversion and interaction with customers.

2. **Predictive Analytics:** The AI algorithms are used to analyze the past customer behaviour to make projections about their future behaviour and financial requirements. Predictive models are able to determine customers with high likelihood to take loans, invest in mutual funds, or change bank. The banks can then formulate marketing campaigns to these prospective customers.
3. **Conversational Marketing and AI-Powered Chatbots.:** AI-based chatbots are automated customer support and engage customers via websites, mobile applications, and messaging applications. Chatbots enable the banks to offer 24/7 customer care and react immediately to the customer inquiries regarding banking products. It has been found that customer satisfaction and engagement greatly rise due to the responsiveness and availability of chatbots. The AI chatbots can also be used to market products as financial products are suggested by the customer's inquiries. As an example, in case a customer inquires about credit cards, the chatbot can propose appropriate credit card services or promotions. Also, chatbots may lower the cost of customer service and enhance the efficiency of the operations by processing common customer inquiries. Many of the interactions with customers can be automated with the assistance of AI-driven chatbots, and this can assist banks with the aim of becoming more productive and lowering the cost of their services.
4. **Data-Driven Decision Making:** AI enables banks to make data-driven marketing decisions by analyzing large datasets in real time. Traditional marketing strategies often rely on assumptions and limited customer insights. In contrast, AI systems can analyze millions of data points to identify trends and patterns. AI-powered analytics tools also provide insights into customer journey mapping, enabling banks to understand how customers interact with digital platforms. These insights allow banks to continuously refine their marketing strategies and deliver better customer experiences.
5. **Customer Experience Enhancement:** Customer experience has become a key competitive factor in the banking industry. AI plays a crucial role in enhancing customer experience through personalized services, faster responses, and convenient digital interactions. AI-powered systems provide customers with personalized financial advice, automated assistance, and quick access to banking services. This creates a seamless and convenient banking experience. Chatbots, recommendation engines, and AI-driven mobile banking platforms help customers manage their finances efficiently. AI-driven personalization also strengthens the relationship between banks and customers by making customers feel valued and understood.
6. **Fraud Detection and Security Marketing:** Security is a major concern in digital banking. AI helps banks detect fraudulent activities and improve cybersecurity. AI systems analyze transaction patterns and identify suspicious activities in real time. These systems can detect anomalies in customer behavior and alert banks to potential fraud. Studies indicate that AI-based fraud detection systems significantly reduce financial fraud losses and improve banking security. By promoting advanced security

features in digital marketing campaigns, banks can build customer trust and encourage more customers to adopt digital banking services.

RESEARCH GAP

Despite the fact that digital marketing and artificial intelligence (AI) have greatly influenced the banking industry, the current literature has extensively addressed the overall use of digital technologies in banking services and not as part of the digital marketing strategy. Numerous studies have been conducted to identify the effect of digital banking, mobile banking, and fintech innovations on customer satisfaction and service efficiency but limited research has focused on understanding how AI-driven digital marketing tools have an effect on customer engagement and marketing efficacy within the private sector banks. Specifically, there are insufficient studies that examine the interactive effects of AI technologies including hyper-personalized banking services, AI-powered financial advisors, predictive financial planning, voice-based banking assistants, and emotion-based marketing analytics in the process of forming digital marketing practices. Also earlier studies have tended to focus on the developed countries as the empirical studies in the emergent economies such as India are still a relative rarity. The banking market in India is changing very fast with adoption of modern digital systems, but the role of the technologies in marketing strategies is under-researched. Secondly, empirical evidence on the perceptions of customers and the relative relevance of various digital marketing platforms, including social media, search engines, mobile banking software, and email marketing campaign, is lacking. Thus, the research aims to fill these gaps by evaluating the opportunities offered by AI and digital marketing tools to improve the marketing strategies and customer interactions in banks in the private sector.

IMPORTANCE OF THE STUDY

The high rate of digital technologies development has transformed the manner in which banks deal with consumers dramatically. In the current competitive banking world, banks in the private sector need to implement new marketing tactics to win and keep their customers. The significance of this study is that it looks to understand how the artificial intelligence (AI) and digital marketing tools can enhance effectiveness of marketing practices in the private sector banks. The study also gives information on ways through which the banks can use these media to improve their customer communication and customer interaction. Another importance of the study in the context of the contribution of AI-powered technologies to the personalization of banking experience and data-driven marketing is also noteworthy. Predictive analytics, AI-based financial advisors, and emotion-based marketing analytics can help the bank to learn the preferences of their customers and provide them with a unique financial solution. This study can assist the bank managers and marketing experts to create better digital marketing plans, which will respond to the customer expectation. Moreover, the research adds to the body of scholarly literature with the empirical data on the use of AI and digital marketing in banking. It also provides a practical implication to policy makers and financial institutions to develop innovative marketing strategies, which lead to customer satisfaction, and better service delivery and competitive advantage of the banks in the private sector.

STATEMENT OF THE PROBLEM

Over the past few years, there have been high levels of technological progress in the banking industry, especially with the establishment of online marketing platforms and artificial intelligence (AI). Banks in the private sector are finding it easy to embrace these technologies with an effort to engage customers, market financial products and, in general, increase the effectiveness of marketing efforts. Nevertheless, in spite of increased use of digital tools and

AI applications, most banks are struggling to appropriately use these technologies to reach and impact on their target customers. There are various digital platforms, such as social media, search engines, mobile banking applications and email communication, which are accessible to customers nowadays and have radically altered their expectations and preferences. Due to this, banks need to constantly change their marketing approaches in order to keep themselves relevant and competitive in the online world. Nonetheless, not much is known regarding the effects of various digital marketing platforms and AI-based tools on customers and perceptions of the banking industry. Moreover, even though the majority of banks in the private sector invest much in the digital transformation, the usefulness of AI-driven marketing technologies, including hyper-personalization, predictive financial planning, and AI-based customer support, are questionable. Banks probably will not be able to allocate their resources effectively and create an effective marketing strategy without a clear understanding of the relative significance and influence of these technologies. Thus, the research proposed aims at studying how AI and digital marketing tools can be utilized in promoting marketing efficiency and customer interactions in the private sector banks.

Objective of the Study: To analyse various dimensions of AI influence in Digital marketing of Banking services among the private sector banks

METHODOLOGY

The study adopts a quantitative research approach to examine the influence of artificial intelligence and digital marketing strategies in private sector banks. Primary data were collected through a structured questionnaire from bank customers. A **sample size of 200 respondents** was selected for the study using the **convenience sampling technique**, as it allows easy access to respondents and facilitates efficient data collection within the given time frame. The collected data were analyzed using appropriate statistical tools such as descriptive statistics and non-parametric tests to understand customer perceptions regarding different digital marketing platforms and AI-driven banking services. This methodology helps in identifying the relative importance and effectiveness of various digital marketing factors used by private sector banks.

ANALYSIS AND RESULTS

AI in Digital Marketing for Private Sector Banks

Artificial Intelligence (AI) has emerged as a transformative technology in the banking sector, particularly in the area of digital marketing. Private sector banks are increasingly integrating AI-driven tools and applications to enhance customer engagement, improve service delivery, and create personalized banking experiences. With the rapid growth of digital platforms, banks are leveraging AI to analyze large volumes of customer data, understand consumer behavior, and develop targeted marketing strategies that meet the evolving expectations of customers. AI technologies such as hyper-personalized banking services, voice-based banking assistants, AI-powered financial advisors, predictive financial planning, and emotion-based marketing analytics are becoming essential components of modern digital marketing strategies in banks. These technologies enable financial institutions to provide customized product recommendations, real-time customer support, and predictive insights that help customers make informed financial decisions. As a result, AI not only enhances marketing efficiency but also strengthens the relationship between banks and their customers. Moreover, the use of AI in digital marketing allows private sector banks to remain competitive in a rapidly changing financial environment. By adopting advanced analytical tools and intelligent systems, banks can identify customer preferences, forecast future financial needs, and deliver relevant marketing messages through digital channels. Therefore,

the integration of AI technologies plays a significant role in shaping innovative marketing practices and improving overall customer experience in the banking industry.

Table: 1: AI in Digital Marketing for Private Sector Banks

Constructs	Mean	SD	F	P
Hyper-personalized banking services	20.1852	2.51576	0.220	0.784
Voice-based banking assistants	19.1165	2.20240		
AI-powered financial advisors	20.3128	2.68752		
Predictive financial planning	20.0061	2.12009		
Emotion-based marketing analytics	20.4237	2.41387		

The table presents the mean scores and standard deviations for different AI applications in digital marketing adopted by private sector banks, along with the results of the ANOVA test. The F value obtained is 0.220 and the p-value is 0.784, which is greater than the standard significance level of 0.05. This indicates that there is no statistically significant difference among the respondents' perceptions regarding the various AI applications used in digital marketing by private sector banks.

Among the different AI applications, emotion-based marketing analytics has the highest mean score (M = 20.4237, SD = 2.41387), indicating that respondents slightly perceive it as the most influential AI tool in enhancing digital marketing strategies. This is followed by AI-powered financial advisors (M = 20.3128, SD = 2.68752) and hyper-personalized banking services (M = 20.1852, SD = 2.51576), suggesting that these technologies are also considered important in improving customer engagement and marketing effectiveness.

Similarly, predictive financial planning shows a mean value of 20.0061 (SD = 2.12009), indicating moderate agreement among respondents regarding its role in AI-driven marketing strategies. In contrast, voice-based banking assistants record the lowest mean score (M = 19.1165, SD = 2.20240), suggesting comparatively lower perceived influence, though still within a similar range.

Overall, the results reveal that respondents have relatively similar perceptions toward different AI technologies used in digital marketing, as evidenced by the non-significant ANOVA result. This implies that all these AI-driven tools are considered equally important in enhancing digital marketing practices in private sector banks.

FACTORS INFLUENCING DIGITAL MARKETING

Digital marketing has become an essential strategy for banks to reach and engage customers in the modern financial environment. With the rapid growth of digital technologies and internet usage, private sector banks increasingly rely on various online platforms and tools to promote their products and services. Digital marketing enables banks to communicate effectively with customers, enhance brand visibility, and provide timely information about financial services.

Several digital channels such as social media platforms, search engines, mobile banking applications, and email marketing campaigns play a significant role in strengthening customer relationships and improving marketing effectiveness. These platforms allow banks to interact with customers in real time, share promotional content, and deliver banking services conveniently through digital devices.

In addition, customer personalization and segmentation have become important aspects of digital marketing strategies in the banking sector. By analyzing customer data and preferences, banks can develop targeted marketing campaigns that address the specific needs and expectations of different customer groups. This personalized approach helps banks enhance customer satisfaction, loyalty, and overall banking experience. Therefore, understanding the role and effectiveness of various digital marketing factors is important for evaluating how private sector banks utilize digital platforms to attract and retain customers in a competitive financial market.

Table 2: Digital marketing factors; Descriptive Statistics

Factors	Mean	Std. Deviation	Mean Rank
Social media platforms	3.19	1.240	3.74
Search engines	3.33	1.365	3.78
Mobile banking apps	3.56	1.158	3.92
Email marketing campaigns	3.92	1.261	4.26
Customer Personalization and Segmentation	3.60	1.376	4.11

The descriptive statistics present the respondents' perceptions regarding different digital marketing factors used by private sector banks. The analysis includes the mean, standard deviation, and means rank values for each factor.

Among the factors, email marketing campaigns recorded the highest mean value (Mean = 3.92, SD = 1.261, Mean Rank = 4.26), indicating that respondents perceive email marketing as the most influential digital marketing tool used by private sector banks. This suggests that banks effectively utilize email campaigns to communicate promotional offers, financial updates, and personalized information to customers.

Customer personalization and segmentation also shows a relatively high mean score (Mean = 3.60, SD = 1.376, Mean Rank = 4.11), reflecting that respondents recognize the importance of tailored marketing strategies in improving customer engagement and satisfaction. This highlights the growing role of data-driven marketing in identifying customer needs and delivering relevant banking services.

Similarly, mobile banking apps obtained a mean value of 3.56 (SD = 1.158, Mean Rank = 3.92), indicating that mobile applications are an important digital platform through which banks interact with customers and promote their services.

On the other hand, search engines (Mean = 3.33, SD = 1.365, Mean Rank = 3.78) and social media platforms (Mean = 3.19, SD = 1.240, Mean Rank = 3.74) show comparatively lower mean scores, suggesting that although these channels are used for digital marketing, respondents perceive them as slightly less influential compared to email marketing and personalized strategies.

Overall, the results indicate that respondents consider email marketing and customer personalization strategies as the most effective digital marketing approaches, while social media and search engines play a supportive role in promoting banking services.

Table 3: Test Statistics

N	200
Kendall's W	0.091
Chi-Square	325.821
df	4
Asymp. Sig.	0.000

The analysis was conducted with a sample size of 200 respondents (N = 200). The Chi-square value is 325.821 with 4 degrees of freedom, and the Asymptotic Significance (p-value) is 0.000, which is less than the standard significance level of 0.05. This indicates that there is a statistically significant difference in the rankings assigned by respondents to the different digital marketing factors.

The Kendall's W value of 0.091 represents the level of agreement among respondents regarding the ranking of these factors. Although the agreement is relatively weak, it still suggests some level of consistency in respondents' perceptions about the effectiveness of different digital marketing tools used by private sector banks. Overall, the results indicate that respondents perceive certain digital marketing factors as more influential than others, demonstrating that banks may prioritize specific digital marketing strategies to enhance customer engagement and communication.

CONCLUSION

The study highlights the growing importance of digital marketing and artificial intelligence (AI) in enhancing the marketing strategies of private sector banks. The findings indicate that banks are increasingly adopting various digital platforms and AI-driven technologies to improve customer engagement, provide personalized services, and strengthen their competitive position in the banking industry.

The descriptive analysis shows that email marketing campaigns, customer personalization and segmentation, and mobile banking applications are perceived as highly influential digital marketing tools. These channels enable banks to communicate effectively with customers, deliver personalized content, and promote financial products and services in a timely manner. Although social media platforms and search engines are also used for marketing activities, respondents perceive them as relatively less influential compared to other digital channels.

The results of the Friedman test further reveal that there is a statistically significant difference in the ranking of digital marketing factors, indicating that some strategies are considered more effective than others by respondents. However, the Kendall's W value suggests a moderate to low level of agreement among respondents regarding the ranking of these factors.

In addition, the analysis of AI applications in digital marketing shows that technologies such as hyper-personalized banking services, AI-powered financial advisors, predictive financial planning, voice-based banking assistants, and emotion-based marketing analytics are recognized as important tools that can enhance marketing efficiency and customer experience. The findings suggest that respondents perceive these AI-driven technologies to be equally important in improving digital marketing practices in private sector banks.

Overall, the study concludes that the integration of AI technologies and digital marketing platforms plays a significant role in transforming the marketing landscape of private sector banks. By leveraging these technologies, banks can improve customer interaction, deliver

personalized services, and enhance the overall effectiveness of their marketing strategies. Therefore, private sector banks should continue to invest in advanced digital marketing tools and AI-based solutions to meet evolving customer expectations and maintain long-term competitiveness in the financial sector.

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