

The Role of AI in Predictive Analytics for Digital Marketing: A Study on Efficiency and Accuracy

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In current business practices, organizations cannot predict customer buying behaviour, which is essential to market planning. The marketing management finds it very difficult to develop timely, personalized advertisements.

The study evaluates the role of AI in predictive analysis in digital marketing, particularly in improving its effectiveness and accuracy. While businesses acknowledge the value of technology, challenges remain in predicting customer behavior and personalizing campaigns. Predictive analytics powered by AI enhances marketing efficiency, targeting accuracy, and ROI. The study also addresses challenges such as data privacy, costs, and skill gaps.

The research adopts a quantitative approach based on a descriptive survey perspective. Data collection involves using a survey questionnaire administered to digital marketers to assess how they feel about AI in campaign efficiency, target accuracy and, predictive analytics while the campaign is ongoing. The survey was conducted online using a standard 5-point Likert scale, other sections provided multiple choices for respondents aiming at facilitating statistical analysis of the key variables of interest towards AI in marketing.

The key factors will be identified after the data analysis. Such factors can be used in digital marketing to predict and analyze customer behavior. With predictive analytics, data-driven insights for real-time campaign adjustments can be done. Predictive analytics can also enhance the smart marketing processes of advertisement targeting and budget allocation, which are well reflected in increased user engagement and conversion rates.

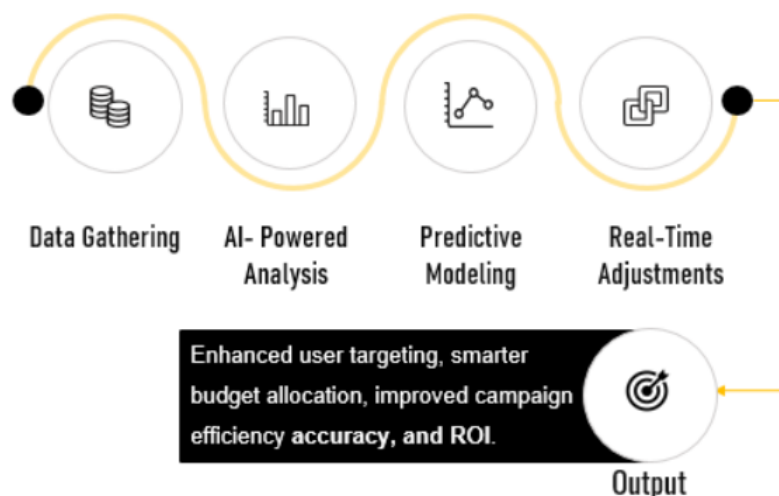


Figure 1: Proposed Framework

The proposed framework in fig 1 displays how AI-powered predictive analytics can be done for optimizing the digital marketing campaigns. It involves gathering data from various sources, for machine learning and Natural Language Processing application in doing the analyses; prediction modelling is done by combining regression and clustering techniques; further real-time adjustments can be made to optimize campaigns. This increases targeting, budget allocation, efficiency, and ROI.

The discussion of the findings includes consideration of some of the key aspects such as impact on targeting accuracy, increase in ROI, and improvement in Campaign Efficiency. Analysing the data showed significant improvements in customer engagement and conversion rates when AI-powered predictive analytics were employed.

The introduction of AI-powered tools changes how businesses can deal with digital marketing. Using such tools can make use of customer segmentation and customer churning.

To summarize, AI is a great asset in the predictive analysis of digital marketing, improving both efficiency in operations and targeting accuracy. However, organizations need to overcome some challenges, such as ethical issues, investment costs and skills, to better harness the power of AI. The findings of this study suggest that organizations should consider incorporating predictive analytics powered by AI to enhance marketing efficiency, targeting accuracy, and ROI while also assessing the practicality of AI options in the fast-changing digital environment to remain competitive. Future studies might look into the relationship between artificial intelligence and the customer even after the engagement does the marketing for a long time—trust and loyalty in particular.

Keywords: Predictive Analytics, Artificial Intelligence, Digital Marketing, ROI, AI Enhanced Marketing.