

# Role of Artificial Intelligence in Optimizing Effectiveness of Digital Marketing in Real Estate

## A Literary Review

Mohit Agarwal<sup>1</sup>, Dr. Nikita Singhal<sup>2</sup>

<sup>1</sup>Research Scholar, IIMT University Meerut,

<sup>2</sup>Associate Professor, IIMT University, Meerut

### Abstract

Digital Marketing has influenced the way companies are targeting their potential customers and have been successful in altering customer perception and their choices to help decision making thereby enabling the companies to achieve sales targets easily.

Artificial Intelligence, the golden term in today's marketing domain, has replaced the conventional marketing strategies. The connotation AI has deep meaning and not merely technical enhancement of human intelligence with the help of machines. When combined with Digital Marketing strategies, AI has miraculously augmented effectiveness of reaching target customers, by generating tools to positively influence consumer perception of aesthetics and tangibility of product especially in real estate sector where the marketing comes into picture even before the product is ready.

Statistics are available to support the fact that technology users, especially Smart phones users are increasing in India significantly. Hence it becomes vital to study and evaluate the untapped potential of Artificial Intelligence tools and techniques in expanding the scope of digital marketing arena in Real Estate Sector in the fast growing Indian economy. Not only the purchasing power of Indian Families is increasing, the desire to live in own property rather than rented ones is also increasing considerably specially in lower/middle income groups thereby creating investment opportunities in real estate. Hence real estate sector is poised to spend on digital marketing strategies powered with Artificial Intelligence.

Present Paper is an attempt to gain deeper insights into the topic with the help of literature review so as to find areas for further research.

**Keywords:** Artificial Intelligence, Digital Marketing, Real Estate

### 1. INTRODUCTION

With the expansion of technology, people are also modifying their communication patterns with the help of digital tools, social media and technological devices which in turn are expanding their decision making patterns related to purchases and investments. Real Estate investments are no longer exception to this paradigm shift. In this connection, Digital Marketing and Artificial Intelligence are imperative to be researched with reference to Real Estate Sector particularly in NCR region of our country.

Digital Marketing, in its simplest way, can be understood as use of some kind of electronic media platforms specifically designed for marketing/ advertising/ promotion of products/ services or companies. In terms of many experts, Digital Marketing can also be referred to as "web marketing," or

may be “internet marketing,” or sometimes “online marketing.”

Internet marketing is a process of building and maintaining customer relationships through online activities to facilitate the exchange of ideas, products, and services that satisfy the customer” (Mohammed, Fisher, Jaworski, & Paddison, 2004, p. 4) Internet marketing is a process of building and maintaining customer relationships through online activities to facilitate the exchange of ideas, products, and services that satisfy the customer” (Mohammed, Fisher, Jaworski, & Paddison, 2004, p. 4) Mohammed, R., Fisher, R., Jaworski, G., & Paddison, G. (2004).

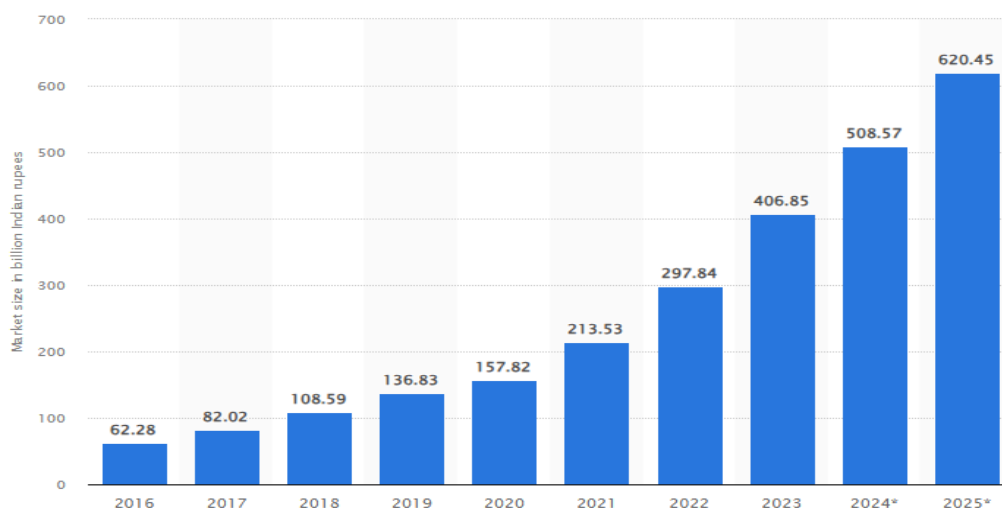
Internet marketing: Building advantage in an Internet economy.

New York, NY: McGraw-Hill/Irwin In the widespread era of the Internet today, technology-centred definitions of digital marketing are also in place. Like few define it as, “Digital marketing is a chain of activities initiated with a motive to develop and enhance customer relationships with the help of online activities which pave the way for better exchange of not only products and services but also the ideas, so as to augment customer satisfaction” [1].

The technique of creating and maintaining a relationship with clients through electronic media and other online activities is known as digital marketing. It covers a variety of tactics for digitally reaching people and generating leads and conversions for our business. Digital marketing is a dynamic process that is always changing, in contrast to traditional marketing. Because we can measure the data, facts, and numbers, digital marketing works well. It lessens the number of frantic door-to-door sales. Additionally, it's a cheap and efficient way to talk to people without bothering them.

The number of active Internet users in India is expected to rise by 45 percent over the next five years, from about 622 million in 2020 to almost 900 million by 2025, according to the IAMA-Kantar ICUBE 2020 report that was published in Economic Times.

**Figure 1 below shows Market Size of India's Digital Advertising as per recent data.**



**Figure 1: Market Size of India's Digital Advertising (FY 2016-2025)**

Source: Statista. Market Size of India's Digital Advertising. Available from: <https://www.statista.com/>

Artificial intelligence in broad sense means the machine’s capability to execute the intelligent tasks of the human brain without efforts, specifically some sort of reasoning, computing, learning and replicating human brain over time. The utilization of AI has wide scopes majorly in the area of computing as well as

robotics.

Beyond vast untapped potential of AI, the literature analysis points our attention towards gaps in evaluating properly AI's specific applications as well as effect on digital marketing with particular reference to national boundaries. Most of the available studies have covered developed economies majorly, creating a considerable gap in research related with developing economies, particularly in Asia Continent [2-4]

## 2. RESEARCH METHODOLOGY

### RESEARCH DESIGN

The research analytical in nature and research design that is used in the study is exploratory research design to collect data on three variables ie artificial intelligence adoption, digital marketing strategy formulation and need of AI in digital marketing for better performance of real estate firms in NCR. However resent paper is qualitative as it is based on literature review.

### DATA COLLECTION

Since present paper is a review paper based on literature review of existing research studies, secondary data is collected for review purpose by studying and analyzing the available literature on the topic in the form of articles, research papers, reports, thesis, newsletters, periodicals, magazines, journals, websites, etc.

### RESEARCH OBJECTIVES

1. To identify the factors that motivates adoption of digital marketing in real estate sector.
2. To analyze the role of application of artificial intelligence in digital marketing, in building brand equity in real estate sector.
3. To identify the most preferred AI enables digital marketing mode that influence real estate firms.
4. To measures the impact of digital marketing on revenue of real estate firms.

### HYPOTHESIS FORMULATED FOR THE STUDY

1. **H01:** The demographic factors of customers do not influence adoption of digital marketing by real estate sector companies.
2. **H02:** Customer preference for digital engagement has negative influence the adoption of digital marketing in real estate sector.
3. **H03:** The application of artificial intelligence in digital marketing has insignificant impact on the enhancement of brand equity in the real estate sector.
4. **H04:** AI driven personalized marketing campaigns have positive influence on brand awareness of real estate firms.
5. **H05:** In the AI enabled digital marketing mode predictive analysis and personalized content recommendation are most preferred by real estate sector.
6. **H06:** The adoption of digital marketing strategies has negative and insignificant impact on the revenue of the real estate firms.

## 3. DIGITAL MARKETING AND ADVERTISING IN REAL ESTATE SECTOR: THE FOCUS AREAS

Marketing and Advertising domain in Real Estate Sector has also witnessed huge investments in digital technologies popular these days like web, e-mail, social media, telecom databases of customers, mobile/wireless applications, and other digital platforms, to make marketing and advertising more

interactive. Apart from this non interactive marketing plans dedicated for achieving cost-effective acquisition as well as gaining more retention of customers are also included [5]

**Digital marketing encompasses a range of technologies and strategies as given below;**

- Search Engine Optimization, or SEO
- Social Media Optimization, or SMO
- Social media marketing, or SMM
- Search Engine Marketing, or SEM
- Affiliate Promotion
- Email Promotion
- Marketing Content
- Optimization for the App Store (ASO)

**Social media optimization** is the process of using social media networks to manage and expand a company's or individual's online content or message. Being able to communicate with clients on various social media platforms and increase the reach and awareness of new products or services makes it preferred digital marketing methods. Another key component of social media optimization is personalizing the information on social media platforms. In this case, the content or other activities on social media channels can be managed using various social media management tools like:

- Loomly
- Agorapulse
- PromoRepublic
- The Hootsuit
- A buffer
- Sprout Social, etc.

#### 4. AI POWERED MARKETING STRATEGIES IN REAL ESTATE SECTOR: KEY POINTS

When marketing includes AI component, companies can expect Real-Time Outcomes because the results of AI powered digital marketing are quick and tangible. Contrary to traditional marketing, as it is slow process that offers results in long time. As AI catches customer mindset instantly, this approach is real-time; and the impact is visible as soon as the advertising is initiated. Some tangible outcomes are tracking client responses, quick resolution of queries, and many more.

AI's competence lies in its capability for deep and versatile data analysis, enabling businesses to evaluate insights of consumer perception, product preferences, decision making choices and contemporary market trends [6,7]

Utilizing refined machine learning algorithms dedicated to analytics which is focused on company targets and sales objectives, AI facilitates high degree of personalization in sales/marketing activities, dedicated to increase consumer engagement, higher conversion ratios, and enhanced brand loyalty [8-10] In addition, AI based automation channelizes marketing operations more effectively, consuming lesser human resources so the man power can dedicate efforts on strategic endeavours rather than routine tasks which are executed flawlessly with the help of AI [11,12]

As AI is gaining momentum, it offers platforms for businesses all over world to lift up performance, strengthen consumer commitment, and level up tangible brand value in ever rising competitive environment [13, 14]

Hussain et al. (2023) pondered over the magnitude of data-driven analytics and agile technological procedures for companies, particularly real estate firms [15]. Sulaiman et al. (2020) observed the impact of pandemic COVID-19 specifically on the marketing plans and activities in real estate sector, emphasizing upon the need of innovative tools like virtual trips as well as 360-degree tours of site, both can give the potential customer a feel of real visit of site [16]

## **5. LINKAGE BETWEEN AI AND DIGITAL MARKETING WITH REFERENCE TO REAL ESTATE SECTOR**

### **• IMPACT ON LEAD GENERATION**

Due to its global presence and accessibility through Internet and its competence to reach right audience at their convenient time and irrespective of their location, digital marketing results in better exposure. All this improves lead generation process as no time is wasted in reaching potential customer through personalized tailor-made approach.

Haleem et al, 2022 states that artificial intelligence can make more personalized brand experience, making cultivating user engagement and loyalty easier. AI is applied by marketer as sales tools, payment processor and engagement manager to improve customer experience [17]

### **• ROLE OF AI IN MARKET OPTIMIZATION**

Plenty of literature is available to analyze the Linkage between AI and digital marketing with reference to Real Estate Sector. The observations are clear in the form of visible difference in Market Optimization. It is evident that AI powered data analytics has drastically changed the digital marketing background, benefitting the marketers with untapped potential of generating personalized, dedicated, and target oriented more effective campaigns [18]

Market optimization has empowered companies to track consumer behaviour, design strategies to get real-time outcomes faster, and focus on maintaining meaningful customer relations thereby improving conversions. This way AI has increased the power of digital marketing technologies [19]

However, the other side of the coin is that to obtain overall benefits of AI driven data analytics, we need to pay attention to challenges in context of data privacy, safety measures, and ethical issues involved while integrating AI components into digital marketing efforts [20]

### **• HELPING CONSUMER DECISION MAKING**

Linkage between AI and digital marketing in dynamic real estate sector has also empowered real estate consumers not only the companies. Integrating analytics based digital marketing and artificial intelligence (AI) is crucial for marketers in the era of cut throat competition. These pioneering technologies offer marketers benefits of getting better consumer reach, tapping predictable consumer choices, and setting market trends, all in turn help consumers in quick and informed decision-making [21]

Marketers can get competitive edge as they precisely modify their strategies with AI-powered machine learning tools, maintaining loyal customers with ensuring exclusive real time outcomes and better return on investment (ROI).

### **• AUGMENTING COMPETITIVENESS**

Dell'Anna et al. (2019) discuss the digital transformation of the real estate industry through Prop Tech, incorporating AI and data analytics tools. Their research underlines how AI can enhance property marketing through tools like home matching algorithms and virtual reality tours. By employing AI-driven strategies, real estate firms can provide personalized and engaging advertising experiences, leading to

improved market transparency and efficiency. This transformation signifies the importance of embracing innovative technologies in real estate advertising to remain competitive [23]

#### • MODIFYING CONSUMER BEHAVIOUR THROUGH CRM

One of the prominent applications of AI in CRM (Customer Relationship Management) is the development of churn prediction models, particularly in the telecom sector. Research demonstrates that utilizing AI techniques such as classification and clustering can significantly enhance the accuracy of customer profiling and churn prediction [24]

By identifying factors and behavior patterns that contribute to customer churn, telecom companies can design personalized retention strategies and targeted marketing campaigns. The integration of machine learning models, such as Random Forest and k-means clustering, not only aids in predicting churn but also improves decision-making processes in CRM practices.

In a broader context, machine learning techniques have been increasingly recognized for their role in predicting customer churn across various industries. For example, a comparative study highlights the effectiveness of these models in analyzing customer data to identify at-risk customers and understand the underlying reasons for their potential departure. This predictive capability empowers organizations to tailor their marketing strategies and service offerings, thereby enhancing customer retention and service quality.

## 6. GAP ANALYSIS

Despite the growing number of studies on digital marketing in real estate, several knowledge gaps remain. Future studies could explore the following areas:

1. Cross-Industry Comparisons
2. Longitudinal Studies on Technology Adoption
3. Consumer Behaviour Analysis in response to various digital marketing strategies
4. Integration of Emerging Technologies such as block chain and augmented reality in real estate.
5. Analytical studies for investigating how AI influences consumer decision-making and engagement across diverse demographics
6. Ethical Frameworks for AI in marketing to focus on navigating privacy concerns and data security challenges.
7. Integration of AI Across Marketing Channels
8. AI's Role in Emerging Technologies: Investigating the intersection of AI with emerging technologies such as the Metaverse could yield innovative marketing strategies that resonate with tech-savvy consumers [25]
9. Longitudinal Studies to assess the lasting impacts of the COVID-19 pandemic on real estate marketing strategies and buyer behaviour in NCR.
10. Evaluating the effectiveness of various digital marketing strategies employed by real estate firms in NCR versus those in other developing regions to identify best practices.
11. Sustainability Metrics for investigating the impact of green marketing strategies on buyer purchase intentions and brand loyalty in the NCR real estate market.

## 7. RESEARCH SIGNIFICANCE

The research is important for real estate firms in NCR regions due to following benefits:



- **IMPACT ON CONSUMER TARGETING AND REACH**

Rafieian and Yoganarasimhan (2020) explore the role of machine learning in improving targeting strategies for mobile in-app advertising. The findings are directly applicable to real estate, where behavioral targeting can significantly enhance the effectiveness of ads presented to potential buyers. By analyzing user behavior and preferences, real estate platforms can implement more efficient targeting policies that yield better outcomes in a competitive market. This emphasizes the potential of AI-driven strategies to refine advertising efforts in real estate. [26]

- **BREAKING GEOGRAPHICAL BOUNDARIES THROUGH SOCIAL MEDIA MARKETING**

Volkova et al. (2015) examine the potential of machine learning to predict personal attributes from social media texts. This research can be leveraged in real estate advertising by utilizing insights from user-generated content to tailor advertisements according to specific demographic segments. Understanding sentiments and emotions expressed by potential buyers on social media platforms can facilitate the creation of targeted campaigns that resonate with audiences. Such a personalized approach is likely to enhance engagement and conversion rates, thereby increasing the effectiveness of AI in real estate advertising [27].

A study by McMahan et al. (2013) highlights the application of machine learning techniques for predicting ad click-through rates (CTR) in online advertising. These principles are directly applicable to real estate listings, where optimizing user engagement and **conversion rates** is crucial. By applying AI algorithms to analyze user behavior and preferences, real estate advertisements can be tailored to enhance their effectiveness. The authors underscore the challenges of managing large datasets, which is essential for real estate platforms where user interactions with property listings must be efficiently processed. This research suggests that AI can significantly improve the targeting of potential buyers, thus enhancing the overall effectiveness of real estate advertising [28]

## 8. CONCLUSION

AI's impact on **customer satisfaction** is particularly evident through the use of digital assistants within CRM frameworks. Research indicates that AI technologies, like Siri and Alexa, can significantly improve user experiences and meet customer expectations (Brill et al., 2019). As organizations integrate these digital assistants into their CRM operations, effective management of customer expectations becomes critical in enhancing satisfaction levels, loyalty, and retention.

Additionally, the application of AI in the hospitality sector showcases its potential to shift from historical data analysis to real-time decision-making. By leveraging machine learning to gain insights into customer preferences and behaviors, hospitality venues can create tailored loyalty programs that enhance customer engagement and satisfaction.

The successful implementation of AI technologies in CRM also hinges on employee engagement and acceptance of these tools. Research has identified perceived usefulness and ease of use as critical factors influencing employees' intention to adopt AI-integrated CRM systems. Organizations need to cultivate a supportive environment that encourages the adoption of these technologies, ultimately enhancing CRM capabilities and operational efficiency. In this context it is imperative to further explore the topic of research.

The literature review in present paper is an attempt to highlight the areas of concern in context of prevailing digital marketing strategies in real estate sector in NCR region. The motive of review is to add

value to the data collection for the study by framing objectives based on gap analysis.

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