

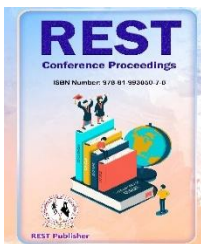


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The Role of Technology in Real Estate Development: Investigating How Technology Is Transforming Property

Management and Sales

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Abstract: The integration of technology in real estate development is revolutionizing traditional practices in property management and sales. This study explores how emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), block chain, and virtual reality (VR) are reshaping the landscape of real estate operations. By enhancing efficiency, transparency, and customer engagement, these technologies offer innovative solutions for property listings, virtual tours, smart building management, and secure transactions. The research further examines the challenges and opportunities associated with technological adoption in the sector, including digital literacy, cost barriers, and regulatory implications. Ultimately, this investigation highlights the transformative potential of technology in fostering a more dynamic, data-driven, and customer-centric real estate industry.

Keywords: Real Estate Development, Property Management, Sales, Technology, Artificial Intelligence, IoT, Block chain, Virtual Reality, Digital Transformation, Smart Buildings

1. INTRODUCTION

The real estate industry, traditionally driven by face-to-face interactions, manual documentation, and physical site visits, is undergoing a significant transformation due to the rapid integration of technology. In recent years, advancements such as Artificial Intelligence (AI), Machine Learning (ML), Block chain, Big Data analytics, Virtual Reality (VR), Augmented Reality (AR), and the Internet of Things (IoT) have begun to reshape how properties are managed, marketed, and sold. These technologies are not only enhancing operational efficiency but also redefining the customer experience by making real estate processes more transparent, personalized, and accessible. Property managers now leverage smart systems to monitor and control building environments in real time, reducing operational costs and improving tenant satisfaction. Meanwhile, real estate agents and developers utilize virtual tours and AI-driven recommendation engines to better match buyers with properties, streamlining the sales process. Additionally, block chain technology has introduced secure and tamper-proof methods for conducting transactions and maintaining property records. As the industry adapts to these digital innovations, it faces new challenges, such as cyber security risks, the need for skilled personnel, and regulatory concerns. Nonetheless, the role of technology in real estate is undeniably pivotal, setting the foundation for a more responsive, data-driven, and sustainable future in property management and sales. This paper aims to delve into the various technological tools reshaping the sector, evaluate their impact, and explore the opportunities and constraints they present.

2. REVIEW OF LITERATURE

Adedigba, Adeniran, and Familusi (2024) categorize Property technologies into three major areas: construction technology, financial technology (FinTech), and property technology. Their study emphasizes that developers embracing these innovations gain a competitive edge through improved output quality and operational efficiency.

Ali et al. (2025) conducted a systematic literature review focusing on the challenges of adopting smart technologies in real estate. The authors highlight barriers such as unclear regulations, cost concerns, and resistance from stakeholders, urging strategic responses to facilitate smoother technological integration.

Latterly.org (2024) highlights how social media platforms like Instagram and Facebook have become essential in real estate marketing. Through AI-driven targeting, agents can now reach highly specific demographics with precision, boosting visibility and conversions.

Ali et al. (2025) also address the growing role of block chain technology in real estate transactions. Block chain enables secure, transparent, and tamper-proof handling of property records, contract management, and title transfers. However, the authors note that widespread implementation is slowed by regulatory and standardization issues.

Research Problem: Despite rapid advancements in technology, the real estate sector in Amravati has been slow to adopt digital tools for property management and sales. There is a lack of understanding about how technologies like digital platforms, AI, and property management systems are being used and their impact on efficiency, transparency, and customer experience. This study aims to investigate how technology is transforming real estate practices in Amravati and identify the key barriers to its adoption.

3. RESEARCH OBJECTIVE

1. To investigate how technology is transforming the property management and real estate sales processes.
2. To examine the benefits and challenges of integrating advanced technologies such as AI, VR, block chain, and IoT in the real estate industry
3. To identify the factors influencing the adoption of these technologies by real estate professionals.
4. To explore the impact of technology on the customer experience in property transactions.
5. To provide recommendations for stakeholders in the real estate sector on effectively leveraging technology to improve operations and services

6. RESEARCH METHODOLOGY

1. Research Design

The present study adopts a descriptive research design to examine how technology is influencing property management and sales in the real estate sector of Amravati City. This design is appropriate for obtaining factual information, identifying trends, and assessing perceptions regarding technological adoption.

2. Objectives of the Methodology

To identify the extent of technology adoption among real estate professionals in Amravati.

To analyse the perceived benefits and challenges of technology integration in property management and sales.

To examine the role of social media and other digital platforms in enhancing real estate marketing outcomes.

3. Population and Sampling

The target population consists of real estate developers, property agents, and property managers operating within Amravati City.

Sampling Method: Purposive sampling, as respondents were selected based on their active involvement in the real estate business and familiarity with technology in their operations.

Sample Size: 50 respondents participated in the survey, representing varying levels of professional experience in the real estate sector.

4. Data Collection Methods

Primary and secondary data sources were used:

Primary Data: Collected through a structured questionnaire containing both close-ended and Liker-scale questions.

Secondary Data: Gathered from academic journals, industry reports, government publications, and credible online sources to support the conceptual framework.

5. Data Analysis Techniques

Descriptive Statistics: Percentages, frequencies, and graphical representation were used to summarize responses.

Inferential Statistics: Chi-square test was applied to examine the relationship between respondents' experience levels and frequency of technology usage.

Data analysis was carried out using Microsoft Excel for tabulation and chart preparation.

7. DATA ANALYSIS AND INTERPRETATION

TABLE 1. Analysis of years of Experience in Real Estate

Sr. No.	Years of Experience	Respondent	Percentage
1	0-2 years	28	28
2	3-5 years	24	24
3	6-10 years	19	19
4	10-above	29	29
	Total	100	100%

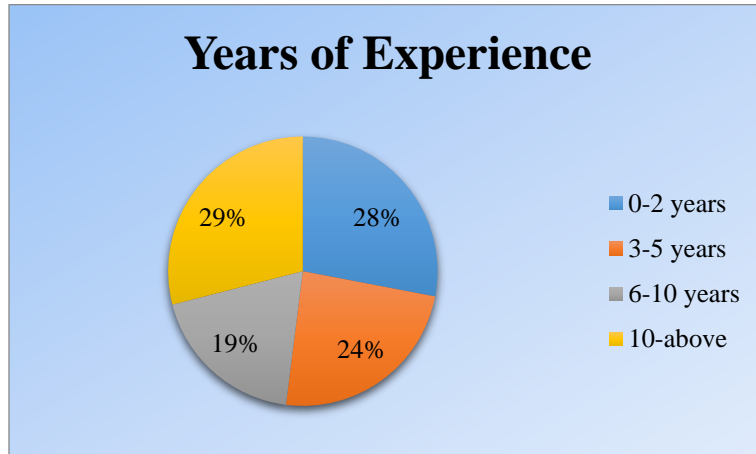


FIGURE 1. Graphical Representation of years of Experience in Real Estate

There is a clear shift towards digital platforms for property search and sales. This indicates growing consumer reliance on technology to make more informed decisions, suggesting real estate firms must invest in user-friendly digital platforms.

TABLE 2. Analysis of how often respondents use technology (apps, websites, CRM, etc.) in their real estate activities

Sr. No.	Frequency to use technology	Respondent	Percentage
1	Never	18	18%
2	Rarely	52	52%
3	Occasionally	20	20%
4	Frequently	10	10%
	Total	100	100

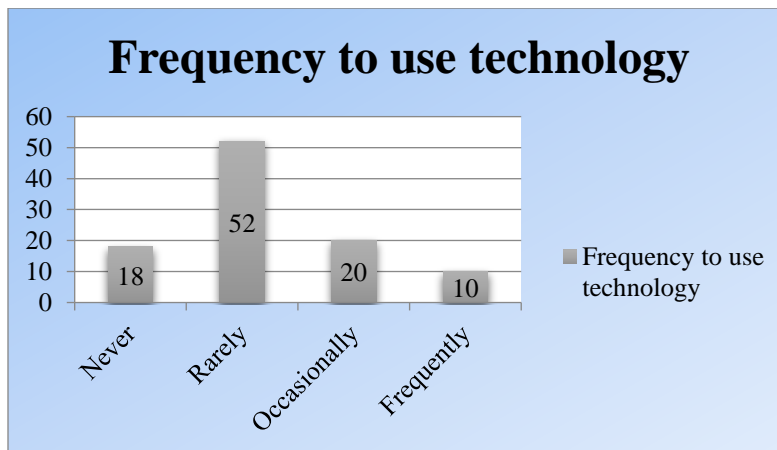


FIGURE 2. Graphical Representation of how often respondents use technology (apps, websites, CRM, etc.) in their real estate activities

Digital payments and documentation are not only reducing paperwork but also enhancing transparency and speeding up deal closures.

TABLE 3. Analysis of how important is social media in real estate sales today

Sr. No.	Importance of social Media	Respondent	Percentage
1	Not important	6	6
2	Slightly important	28	28
3	Moderately important	22	22
4	Very important	33	33
5	Extremely important	11	11
	Total	100	100%

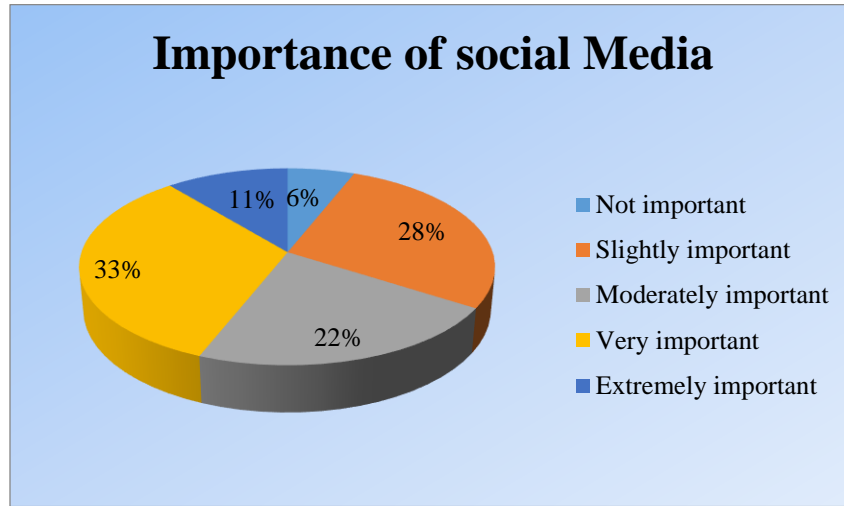


FIGURE 3. Graphical Representation of how important is social media in real estate sales today

The above Graph shows importance of social media in real estate sales today in which 6% says not important, 28% says slightly important, 22% says moderately important, 33% says Very important, and 11% says extremely important.

TABLE 4. Analysis of has technology improved property management

Sr. No.	Technology Improve Management	Respondent	Percentage
1	No improvement	7	7
2	Slight improvement	14	14
3	Moderate improvement	26	26
4	Significant improvement	31	31
5	Complete transformation	22	22
	Total	100	100%

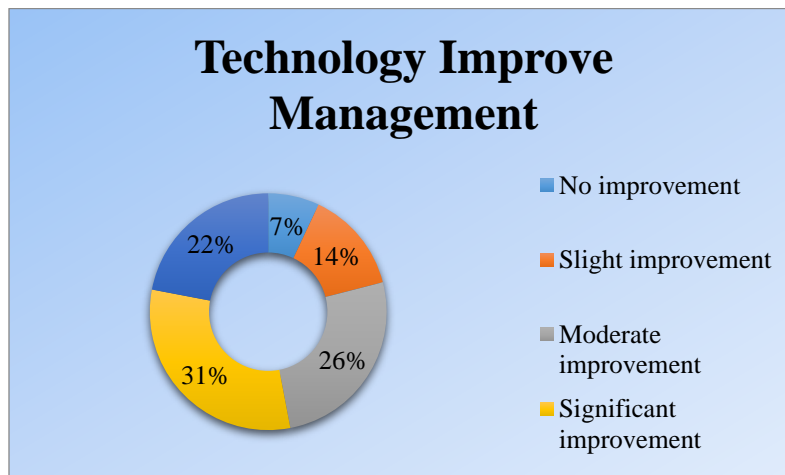


FIGURE 4. Graphical Representation of has technology improved property management

While the benefits of technology are evident, adoption is hindered by a skills gap and cost concerns. Training programs and affordable tech solutions could accelerate transformation.

Findings: The study reveals that real estate professionals in Amravati exhibit a wide range of experience levels, with nearly equal representation across beginners and highly experienced practitioners. Technology adoption in property management and sales remains

moderate, as 52% of respondents use technology rarely and only 10% use it frequently, indicating a significant gap in integration. Social media plays a pivotal role in marketing, with 66% of respondents rating it as moderately to extremely important in driving sales and client engagement. Property management has seen noticeable improvements, with 31% reporting significant enhancement and 22% experiencing complete transformation through technological tools such as CRM systems, digital documentation, and smart building solutions. However, barriers such as limited digital skills, cost concerns, and resistance to change are slowing adoption. These results highlight that while the transformative potential of technology is widely acknowledged, its benefits are not yet fully realized due to uneven adoption and insufficient strategic implementation.

8. CONCLUSIONS

The research concludes that technology is reshaping the real estate sector in Amravati by improving property management efficiency, enhancing sales processes, and expanding market reach through social media. Yet, adoption remains inconsistent, with many professionals still hesitant or underprepared to fully integrate digital tools into their operations. The clear benefits—ranging from streamlined documentation and faster deal closures to improved client engagement—underscore the need for greater technological literacy, affordable solutions, and targeted training programs. Social media has emerged as a powerful marketing channel, and its strategic use can substantially boost sales performance. Overall, the industry's future competitiveness will depend on bridging the digital skills gap, overcoming resistance to change, and leveraging emerging technologies such as AI, IoT, block chain, and VR to create a more data-driven, customer-focused real estate market.

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