

## IMPACT OF TECHNOLOGY ON COMPLIANCE AND REGULATION OF RERA IN INDIA'S RESIDENTIAL REAL ESTATE INDUSTRY

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### Abstract

During the last decade, the residential real estate market in India has experienced the rapid growth of the sector because of urbanization, demographic changes, and increasing per capita incomes. The sector has always been plagued by challenges of accountability, transparency, and delays despite this growth. To address these challenges, the Real Estate (Regulation and Development) Act, 2016 (RERA) was developed. This act established a regulatory framework that safeguards the interests of homebuyers and forces developers to be more compliant. With the advent of digital transformation, technology has become a major enabler in improving customer confidence and compliance. Real estate processes are becoming more transparent and easily available thanks to digital platforms for property listings, project tracking dashboards, automated compliance systems, and online RERA portals. These tools enhance the effectiveness of RERA by providing customers with real-time information and facilitating regulatory submissions for developers. The impact of technology on RERA compliance in the residential real estate market in India is discussed in this research. In addition, the research explores how customers and developers can measure digital literacy, adaptability, and institutional capacity. A systematic questionnaire was employed to collect primary data from 30 to 40 respondents, who were all homebuyers. To substantiate the findings, secondary data is collected from reports and trade publications. The quantitative data was processed using statistical methods to identify new trends, consumer attitudes, adoption of technology, and regulatory compliance. The purpose of this exploratory quantitative research study is to comprehend the impact of technology adoption on compliance behavior and improve transparency and customer trust in the post-RERA regulatory regime.

**Keywords:** RERA, Compliance, Technology, Digital Transformation, Research Study.

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### Introduction

Opacity, a fragmented regulatory system, and an imbalanced relationship between developers and consumers have traditionally characterized the residential real estate market. The Real Estate (Regulation and Development) Act (RERA), 2016 was enacted to enhance consumer confidence, accountability, and transparency. At the same time, the advent of digital technology—from blockchain-based property registries to AI-powered analytics—has transformed the manner of information dissemination, access, and utilization in the real estate sector.

Employing two interrelated lenses—technological empowerment and regulatory knowledge (RERA)—this research aims to provide a conceptual and behavioral explanation of the developments underway in the residential real estate market. It also explores the role of cultural,

psychological, social, and individual variables in shaping consumer decisions within the newly regulated, technology-driven environment.

### **Conceptual Background of RERA**

**Evolution and Aims:** In order to protect homebuyers and ensure fair business practices in the real estate sector, the Indian government introduced the Real Estate (Regulation and Development) Act, 2016.

The sector was largely unregulated prior to the enactment of RERA, and there were instances of project delays, budget overruns, and a lack of legal recourse for consumers. The following are RERA's main goals:

- Ensuring transparency in project approvals and execution.
- Protecting consumer rights through grievance redressal mechanisms.
- Promoting accountability among developers and real estate agents.

**Knowledge Transparency and RERA:** RERA's emphasis on information sharing brings about a paradigm shift in how consumers engage with the real estate sector. With the help of technology, knowledge that was hitherto the domain of the developer is now shared with all stakeholders.

### **Technology as a Catalyst in the RERA Ecosystem**

- **Digital Portals and Data Transparency:** The RERA website for each state acts as a digital knowledge hub and a library of authentic project information. It brings about accountability by enabling the common man to keep a watchful eye on the progress of projects, financial correctness, and delivery timelines.
- **PropTech Integration:** Emerging trends in PropTech (property technology) such as blockchain land records, AI-driven property valuation, virtual site visits, and CRM systems, upgrade the technological infrastructure that RERA seeks to create. By making it easier to access information, reducing transaction costs, and preventing any fraudulent activities, these technologies can help RERA meet its objectives.
- **Data analytics and artificial intelligence:** AI applications enable regulators and consumers to analyze project performance and forecast potential risks. By forecasting project delays, financial viability, and patterns of non-compliance, predictive analytics models can further strengthen the knowledge-based governance structure of RERA.
- **Blockchain and Trust:** Blockchain technology has the ability to minimize property title disputes, which are among the most persistent problems in the Indian real estate sector, by making land and ownership information tamper-proof. The integration of blockchain technology with RERA has the ability to enhance the reliability of digital information and increase customer trust.

### **Research Gap**

Although there have been studies that have examined RERA from a legal and policy perspective, there is little research on the technological component of RERA compliance, particularly from the viewpoint of consumers. Without carrying out a quantitative analysis of the impact of digital platforms, online disclosures, and PropTech solutions on RERA compliance and trust, most of the information that is currently in print focuses on the results of regulation or overall consumer behavior. In addition, there are few exploratory quantitative studies that examine the impact of institutional capacity and digital literacy on the success of technology-based regulation.

### **Objectives of the Study**

The specific objectives of the present study are:

1. To examine the role of technology in improving compliance with RERA regulations in India's residential real estate sector.
2. To evaluate the effectiveness of digital tools in enhancing transparency and accountability.
3. To study the relationship between technological adoption and consumer trust in real estate transactions.

### **Review of Literature**

- 1) "Technology and PropTech in Real Estate Regulation", Chaturvedi (2020) and KPMG (2022): Highlight that PropTech innovations—such as digital property platforms, AI-based analytics, and blockchain-enabled records have transformed operational efficiency and transparency in real estate markets
- 2) "Consumer Behaviour, Trust, and Information Asymmetry", Kotler and Keller (2022): emphasize that high-involvement purchases, such as residential property, are highly sensitive to information availability and perceived risk
- 3) "Digital Governance and Knowledge-Based Regulation", Niti Aayog(2021): highlights studies on e-governance indicate that digital platforms improve accountability, responsiveness, and citizen trust by reducing discretionary power

### **Research Hypothesis**

Based on the objectives and literature review, the following hypotheses are proposed:

- **H1:** Technology adoption has a significant positive impact on RERA compliance.
- **H2:** Digital transparency through RERA portals significantly enhances consumer trust.
- **H3:** Technology-enabled grievance redressal mechanisms positively influence consumer satisfaction.

### **Research Methodology**

**Research Design:** The study uses an exploratory quantitative research design to identify new relationships between technology adoption and regulatory compliance.

### **Data Collection Methods**

**Primary Data:** A structured questionnaire consisting of 15 questions was conducted on 50 residential real estate consumers (homebuyers).

**Secondary Data:** Collected from government publications, policy documents, research articles, and industry studies.

**Sampling Technique:** The convenience sampling technique was employed owing to time and accessibility limitations.

**Tools for Analysis:** Statistical analysis tools such as percentage analysis, mean, standard deviation, and correlation analysis were employed to analyze the data.

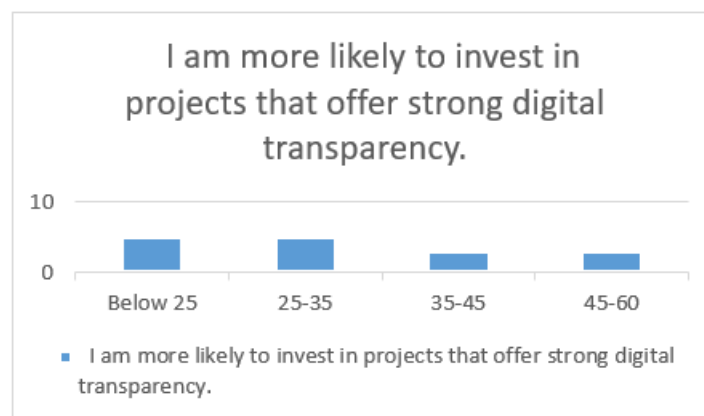
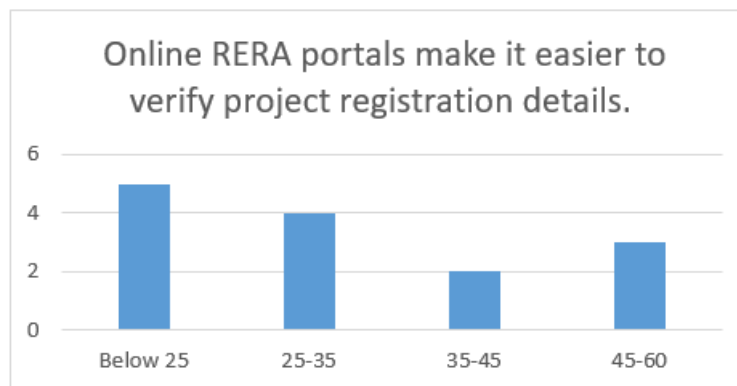
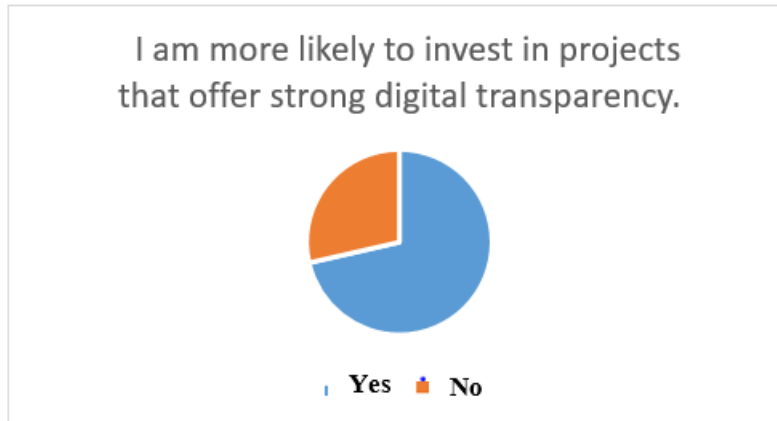
### **Data Analysis and Interpretation**

**Demographic Profile of Respondents:** The majority of the respondents belonged to the age group of 18-60 years, thereby establishing that they were online real estate platforms-aware and tech-savvy homebuyers.

**Awareness of RERA and Digital Tools:** Nearly 80% of the respondents were aware of RERA, and online and digital portals were their primary sources of information.

**Perception of Compliance and Transparency:** A majority of the respondents agreed that technology-based grievance redressal systems and transparency systems reduce the risk associated with real estate transactions.

**Statistical Insights:** The proposed hypotheses were confirmed through correlation analysis, which revealed a positive correlation between technology adoption and perceived regulatory effectiveness.



**Consumer Behavior in Residential Real Estate:** In residential real estate, consumer behavior is complex and includes cultural identification, emotional engagement, social prestige, and personal objectives. In contrast to other products, home buying is a long-term, highly involved process with strong psychological and financial implications.

**The Intersection of Technology, Behaviour, and Knowledge:** These three elements are collectively transforming the way consumers perceive and behave in the real estate market.

**The Knowledge-Behavior Nexus:** The openness of RERA's data allows consumers to make rational decisions, which is in line with Herbert Simon's paradigm of limited rationality, which states that technology increases the boundaries of rational decision-making by making knowledge readily available.

**Technological Mediation of Trust:** The removal of intermediaries in digital RERA platforms enables direct trust in verified data as opposed to trust in people, such as developers or agents. This shift from "trust in people" to "trust in systems" is a paradigm shift that fundamentally changes the way consumers behave.

**Behavioral Change through Accessibility of Information:** Heuristic biases such as herd behavior, anchoring, and overconfidence are mitigated by the presence of verified facts. Speculative euphoria is less likely to influence consumers who rely on transparent RERA information.

### **Challenges in Implementation**

Although RERA has been successful, it still has some challenges in its implementation:

- **Implementation of RERA:** The implementation of RERA varies from state to state, leading to inequalities in the quality of digital interfaces and regulations.
- **The Digital Divide:** The lack of digital literacy in certain groups of people restricts them from effectively using online knowledge portals.
- **Developer Resistance:** Builders may take advantage of loopholes in the law or delay disclosures to circumvent the law.
- **Enforcement Gaps:** RERA is less effective in cases of adjudication delays and a lack of awareness campaigns.

### **Future of Knowledge and Technology in Real Estate Regulation**

The integration of PropTech, AI, blockchain, and data analytics with RERA and other laws will continue to shape the future of residential real estate.

- **AI-Powered Compliance Tracking:** Data can be tracked automatically to detect non-compliance in real-time.
- **Smart Contracts:** Smart contracts on the blockchain can automatically enforce payment and delivery commitments.
- **Augmented Reality Visualization:** Potential buyers can experience projects before construction, making informed decisions easier.
- **Data Democratization:** Housing data can be used to inform research, policy, and consumer empowerment.

### **Suggestions**

- Develop standardized digital RERA platforms across states to ensure uniformity and ease of access.
- Enhance consumer digital literacy through awareness and training initiatives.

- Integrate advanced technologies such as AI and blockchain for real-time compliance monitoring and secure records.
- Strengthen technology-enabled grievance redressal mechanisms for faster dispute resolution.

### **Future Scope of Research**

Future research can expand the sample size and include multiple stakeholders such as developers and regulators. Further studies can also examine the role of emerging technologies in strengthening regulatory governance and consumer trust in residential real estate. We can study the consumer behaviour in relation to residential real estate.

### **Conclusion**

Since the Real Estate (Regulation and Development) Act, 2016 came into practice, there has been a marked shift in the residential real estate market in India. This research examined the role of technology in enhancing the effectiveness of RERA and increasing compliance with regulations in the residential real estate market. The results show that with the use of technology-based tools, RERA acts not only as a regulatory framework but also as a knowledge-based regulatory framework, enhancing transparency and customer trust.

The role of digital RERA portals, online disclosure systems, technology-based grievance redressal mechanisms, and PropTech solutions in reducing information asymmetry has been critical in enhancing perceptions about the effectiveness of regulations and enabling customers to make more informed decisions, particularly in cases where projects are still under construction. Technology is a key driver of regulatory governance, as evident from the positive correlation between RERA compliance and technology adoption, which was established.

As per the findings of the study, the influence of customer confidence is gradually shifting from unofficial guarantees to digital regulatory information, which signifies a shift towards system-based trust from a behavioral perspective. Digital literacy, capability, and implementation variations across states are still affecting the effectiveness of technology-driven regulation.

The integration of regulation, knowledge sharing, and technology has transformed the landscape of governance in the residential real estate market in India. Although RERA has laid a robust institutional framework, its long-term success will depend on further technology integration, standardization, and consumer awareness to create a transparent, efficient, and consumer-friendly real estate market.

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