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Prop-Tech and Its Role in Modern Valuation: How Technology is Redefining the Industry

INTRODUCTION

The Valuation profession in India stands at a crossroad. As we grapple with the dual forces of rapid technological advancement and regulatory standardization, a fundamental question arises: Can machines truly value businesses?

As per Future Market Insights in 2021, the global prop-tech market size was valued at **$25,145.1 million** and is projected to grow at a notable compound annual growth rate (CAGR) of **9.3%** from 2023 to 2033. The market is anticipated to grow more than double its size by growing from **$19.6 billion** in 2023 to an estimated **$47.8 billion** in 2033.

In the current scenario, the United States leads the global market of prop-tech companies by housing nearly

60% of Prop-tech firms followed by Europe with around **27.2%** and Asia still growing with **3.5%.** The focus globally has been largely on residential applications of Prop-Tech, though its scope continues to expand.

The impact of Prop-tech advancement is evident **as 80%** of companies who preferred Prop-Tech have experienced promising results in their operations and services while **70%** of companies have experienced significant improvement in their decision-making abilities and financial performance. These results reinforce the tangible benefits that technology is bringing in the real estate sector.

EVOLUTION OF PROP-TECH

The roots of Prop-Tech can be traced back to the 1980s, when early pioneers like Focus began offering digital property information and KEL, specialized in residual valuations. These companies set down the groundwork for the technological advancements that was followed by demonstrating the potential for data-driven solutions in property management and Valuation.

Over the past few years, prop-tech has quickly turned into a breakthrough in the real estate world. Currently, Prop-tech solutions are used in over 64 countries worldwide with more than 10,000 Prop-tech companies operating in the market.

In India, Prop-Tech is gaining momentum especially in rising cities, where internet penetration is continuously growing. India ranks 4th in global Prop-Tech funding, with startups innovating in areas like digital property management and virtual property tours.

THE EMERGENCE OF PROP-TECH IN REAL ESTATE VALUATION

Traditionally, valuing a property was a manual process heavily dependent on experience, comparable sales and site visits. However, the emergence of Prop-Tech caused a paradigm shift, enabling more accurate, efficient and transparent valuation processes.

Let's explore some of the key technological drivers reshaping the Valuation landscape

1. **Artificial Intelligence (AI) and Machine Learning (ML)**
   AI and ML algorithms analyze vast datasets to identify patterns like property features, local amenities, historical significance, price trends and market volatility to accurately predict property values. A study by Yazdani and Raissi (2023) introduced an approach using self-supervised vision transformers to evaluate real estate properties by analyzing images and quantitative data demonstrating improved valuation accuracy in valuation.

2. Multimodal Machine Learning

Unlike traditional approaches that rely on single data, multimodal approach integrates multiple data types, such as images, text and numerical data to enhance Valuation models. In a recent study conducted by Huang et al. (2025), a comprehensive survey was conducted on multimodal machine learning for Real Estate Valuation, highlighting its superiority over single-modality methods in terms of prediction, accuracy and interpretability.

3. Blockchain and Tokenization

Blockchain technology ensures secure and transparent property transactions. Through tokenization, real estate assets can be digitally split into smaller ownership units, allowing fractional ownership, increasing liquidity and accessibility.

Researchers **Joshi and Choudhury (2024)** submitted a framework utilizing blockchain for real estate asset tokenization that addresses issues like lack of transparency and liquidity.

4. Big Data Analytics

Big Data empowers Valuers by consolidating information from a wide range of sources like transaction history, infrastructure development, economic indicators and consumer behavior. The outcome? More accurate, real-time valuation models that reflect the dynamic nature of property markets.

5. Digital Twin Technology

Digital twins are virtual dupes of physical assets. They allow for real-time monitoring and predictive analysis. It can simulate conditions like wear and tear, energy efficiency and future upgrades. These simulations offer real-time insights and allow valuers to account for future performance when determining property value.

ADVANTAGES OF PROP-TECH

1. **Enhanced Productivity:** Automation of day-to-day tasks, streamlined workflows and efficient communication through real estate prop-tech platforms can significantly reduce the time and effort associated with property management. From automated document generation to real-time collaboration between buyers and sellers, prop-tech helps real estate players redirect their focus towards more strategic decision-making.

2. **Improved Transparency:** Prop-tech introduces a new era of transparency within the real estate sector with technologies like blockchain and smart contracts.

Blockchain technology makes property transactions more secure while smart contracts ensure that all parties have access to accurate records.

3. **Cost Savings:** With automation of property management and transaction processes, there is a reduction in the need for manual labor, resultantly reducing errors. Additionally, it permits predictive analytics, empowering us to make more informed decisions about investments and construction projects.

BENEFITS OF PROP-TECH IN VALUATION:

1. **Increased Efficiency:** Prop-Tech streamlines the Valuation process, saving time and resources.

2. **Reduced Costs:** Automation and digitization can lower the cost of property valuations.

3. **Improved Accuracy:** Prop-Tech-driven valuations are more accurate and reliable than traditional methods.

4. **Enhanced Decision-Making:** Investors and professionals can make more informed decisions based on data-driven insights.

5. **Greater Transparency:** Prop-Tech fosters transparency and trust in the real estate market.

CHALLENGES AND CONSIDERATIONS OF PROP-TECH IN VALUATION

1. **Data Privacy and Security:** The increasing use of digital platforms raises concerns about data protection and cybersecurity. As Prop-tech solutions often involve the collection and analysis of sensitive data, concerns about data security and privacy are paramount.

   Valuers must adapt regulations such as the General Data Protection Regulation (GDPR) and ensure that they are protecting client information from breaches.

2. **Regulatory Compliance:** To navigate the legal and regulatory landscape especially concerning blockchain and tokenization requires careful consideration.

3. **Technology Adoption:** Integrating new technologies into existing systems can be complex and may face resistance from stakeholders accustomed to traditional methods.

4. **Impact of Unaccounted Money:** Presence of Unaccounted Money in Real Estate, particularly in India presents a distinct challenge.

The informal or **"black money"** component of transactions is often excluded from official records. It makes accurate data gathering difficult. While Prop-Tech promotes transparency, its full potential can only be realized when valuations are based on clean, verifiable financial data. Until then, discrepancies between market value and declared value may persist limiting the effectiveness of the tool.

CONCLUSION

The integration of technology into property valuation is no longer a distant future; it is unfolding right before us. Prop-tech has gradually moved from being a buzzword to becoming a practical tool that enhances the way we assess, analyze and understand real estate assets. Whether it's drawing insights from big data, ensuring transparency through blockchain or improving assessment accuracy with artificial intelligence, the tools now available offer valuers a sharper lens to view a property.

Yet, this transformation also brings new responsibilities. Data privacy, evolving regulations and the need for practical training remain critical as we adopt these innovations, with thoughtful implementation and a willingness to adapt Prop-tech.

As we stand at this intersection of technology and traditional practice, embracing these advancements with discernment can help us strengthen the foundation of trust, precision and professionalism that defines the Valuation industry.