

Exploring PropTech's Impact on the Indian Real Estate Market: A Buyer and Seller Perspective

Dr. P. Ammani,

Senior Associate Professor, NICMAR, Hyderabad

ABSTRACT

The Indian real estate sector for long has been marked by issues like no transparency, complexity and high costs. A new and technology Prop Tech is emerging as a solution to the existing problems in Indian construction industry. This research captures the perceptions of buyers and sellers using online platforms to purchase, lease or sell real estate products. The study reveals that though people started using online platforms for their needs there is a limited awareness about PropTech in India. And the study also reveals that there is no variation of perceptions among different age groups of respondents. In conclusion the study emphasizes on the potential of PropTech to revolutionize the real estate sector if buyers and sellers are properly educated about the same.

Keywords: Real Estate Industry; Prop Tech; Technology; Buyers; Sellers

INTRODUCTION

The Indian real estate industry has been renowned for its complexities, fragmented processes, information asymmetry, and a lack of transparency and that has often plagued the entire experience, from searching for a property to navigating the intricacies of purchase or lease agreements. These hurdles have not only created frustration for buyers, sellers, and investors, but have also hindered the full potential of this crucial sector in contributing to India's economic growth.

PropTech is emerging as a game-changer, ready to improve data accessibility, expedite transactions, and completely change the way people engage with the Indian real estate market. This exciting new frontier at the nexus of digital solutions and real estate holds the promise of unlocking a future characterized by greater efficiency, transparency, and accessibility for all parties involved.

PropTech is the application of information technology (IT) to assist people and businesses with real estate research, purchases, sales, and management (Badmus, 2022). It meets the needs of the real estate sector by utilizing digital innovation. Processes could be expedited, accessibility could be increased, and everyone's experience—developers, investors, purchasers, and sellers—could be improved by using PropTech. PropTech helps in integrating technology; streamlining processes; enhancing data accessibility and better user experience.

In this backdrop of growing importance of PropTech a study has been undertaken to capture the perception of real estate buyers and sellers.

REVIEW OF LITERATURE

In Asia Pacific, India is an important market for PropTech (JLL report, 2019). Since business land part is quickly extending, new players have entered the business sectors, which are targeting expanding the straightforwardness in the business as examination suppliers regarding information preparing and so on (Putatunadu Sayan, 2019). This study also gives a brief idea on the relation between proactive pricing of houses in classified advertisements in the Indian real estate market and therefore shows the direct impact on the pricing with the invent of PropTech into the industry as the marketing tool.

A study by KPMG says that the investments in PropTech have tripled in 2023, showing the growing importance of this technology in real estate (KPMG, 2023).

Local markets form an important part in shaping the buying patterns of real estate in most places and digital technology has a major impact on the global real estate industry. And outcomes of the technology vary from one country to the another (Mohd Lizam, 2019).

Like-wise real estate also shows various trends in the use of digital technology, digitization in real estate sector can be viewed from a variety of ways. According to Sittler and Petter (2017) PropTech talks about innovative companies that

bring together the new technological possibilities and the real estate business models.

Innovation, flexibility and communication is needed for real estate business. Further, the study shows that connectivity using mobile devices is maximum and so it is the means for increase digitization of ecosystem to this medium of communication (Simon chancias et al., 2018). Disruptive technology along with digitalization helps to increase the pace of real estate business (Martyna Nowik, 2018).

In considering the importance of governance of PropTech three aspects are important, firstly it should consider the recorded information about land, housing and property, secondly, specific effects of digitalization and lastly the new actors and players in the PropTech market (Porter Libby et al., 2019).

PropTech allows for automation of real estate management apart from sales and rentals of property. It helps in creating lease agreements, tracking property, paying taxes, managing bliss and etc. (Madhusudhan G 2019)

By offering services in real estate to buy, sell, rent, develop, market and manage property in a more efficient and effective way PropTech has revolutionized commercial office space with technology (Nair Ramesh, 2019).

Chancias (2021), highlights the challenges and opportunities that pre-digital organizations face in the digital age, and it offers a framework for developing a successful digital transformation strategy that is both agile and customer-centric. It underscores that digital transformation is an ongoing journey, requiring continuous adaptation and a willingness to embrace new technologies and ways of working.

The research on Prop Tech was more on understanding the integration of technology or on the opportunities and challenges in adopting these technologies in real-estate industry. There were no studies identified which captured the perceptions of buyers and sellers of real estate in adopting to new technologies like PropTech. Hence, present study addresses this research gap.

Objectives of the Study:

- ❖ To understand the perception of real estate buyers regarding PropTech
- ❖ To understand the perception of real estate sellers regarding PropTech

METHODOLOGY

Research Design: This research design encompasses both exploratory and descriptive elements, allowing the researcher to investigate and uncover new insights while also providing a comprehensive understanding of users of PropTech.

Population:

This research mainly focuses on the population of buyers and sellers of real estate industry in India.

Sampling Techniques:

The sample size of 72 has been chosen using Cochran's formula

Sampling Method:

A convenience sampling method while ensuring that the sample's distribution closely approximates normality,

Scaling Techniques:

This research adopted both open and close-ended questions, including Likert scale techniques, to gather a comprehensive range of responses and insights from participants

Data Collection:

A combination of primary data, collected through surveys and interviews from buyers and sellers of real estate industry in India.

Data Analysis & Interpretation:

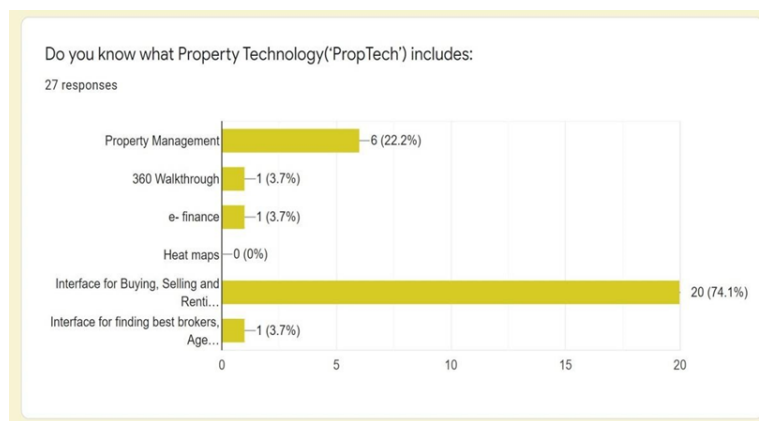
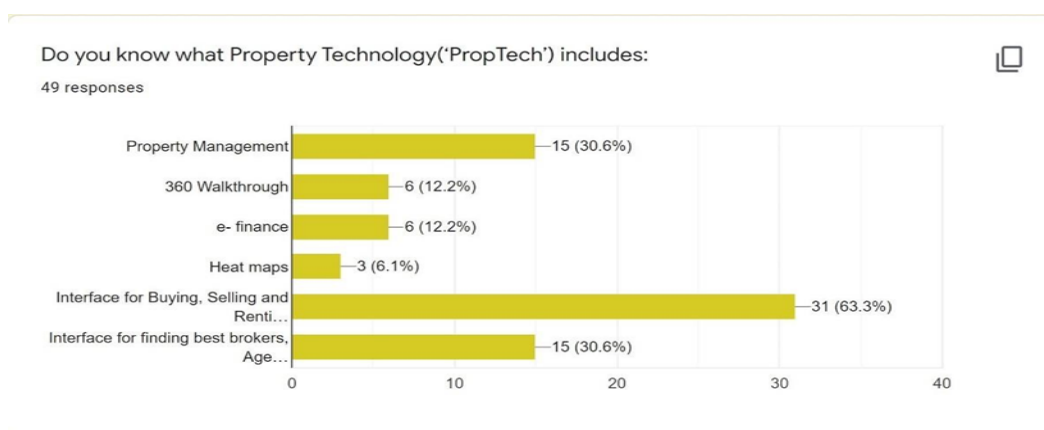
The questionnaire survey performed through online platforms yielded 72 responses from various stakeholders of the Indian real estate industry. The questionnaire survey had 27 responses from seller and 47 from buyers as shown in the Figure 1 and Table 2 as given below. The questionnaire survey serves the purpose of finding whether both the sellers and buyers of real estate are aware of property technology. Hence to verify the same data from the responses collected it is noted that majority of the respondents i.e. 57 out of 72 have denied that they are aware of the term „PropTech“ as shown in the table 2.

Table 1: Descriptive Statistics

	Observed N	Expected N	Residual
Buyer	45	36.0	9.0
Seller	27	36.0	-9.0
Total	72		

Table 2: Descriptive Statistics of awareness of PropTech

	Observed N	Expected N	Residual
Yes, I'm aware of the term PropTech	15	36.0	-21.0
No, I'm not aware of the term PropTech	57	36.0	21.0
Total	72		

**Fig 1: Buyers Response****Fig 2: Sellers Response**

Interpretation:

Based on the inferences made from Figure 1 and 2 it is evident that majority of the respondents understand PropTech just as an interface for buying, selling and renting platform and therefore a complete understanding of the proptech is missing. Hence the full potential of proptech is unknown to many of the respondents of both the buyer as well as the seller questionnaire.

ANOVA Test (Sellers)

The data with respect to the age group and the perception of the respondents in relation to proptech was validated using the one sample ANOVA test. The descriptive statistics of the input data are given in Table 4 which represent 5 categories of age group and the sellers perspective on usage of online platforms for selling properties.

Null Hypothesis: The means of all the groups are equal. (“All the age groups have the same perception about using online platforms”)

Alternate Hypothesis: The means of all the groups are not equal. (“All the age groups have different perception about using online platforms”)

Table 3: ANOVA Test Result

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.635	4	.159	.271	.894
Within Groups	13.472	23	.586		
Total	14.107	27			

The results of the test are as shown below in the Table 3 which depicts a significance value highly greater than 0.05 i.e. 0.894 and so we accept null hypothesis, which means that there is no significant difference of perception among different age groups of the respondents.

Table 4: Descriptive Statistics

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
25-34yrs	2	3.0000	.00000	.00000	3.0000	3.0000	3.00	3.00
35-44yrs	12	3.2500	.96531	.27866	2.6367	3.8633	2.00	5.00
44-54yrs	1	3.0000	.	.	.	.	3.00	3.00
55-64yrs	9	3.4444	.52705	.17568	3.0393	3.8496	3.00	4.00
65+	4	3.5000	.57735	.28868	2.5813	4.4187	3.00	4.00
Total	28	3.3214	.72283	.13660	3.0411	3.6017	2.00	5.00

ANOVA Test (Buyers)

The data with respect to the age group and the perception of the respondents in relation to proptech was validated using the one sample ANOVA test. The descriptive statistics of the input data are given in Table 6 which represent 4 categories of age group and the seller's perspective on usage of online platforms for selling properties.

- **Null Hypothesis:** The means of all the groups are equal. (“All the age groups have the same perception about using online platforms”)
- **Alternate Hypothesis:** The means of all the groups are not equal. (“All the age groups have different perception about using online platforms”)

Table 5: Buyers Perception

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.124	3	.041	.040	.989
Within Groups	41.421	40	1.036		
Total	41.545	43			

Table 6: Descriptive statistics of Buyer Questionnaire Perception

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
25-34yrs	29	3.3103	1.00369	.18638	2.9286	3.6921	1.00	5.00
35-44yrs	4	3.2500	.50000	.25000	2.4544	4.0456	3.00	4.00
45-54	4	3.2500	.95743	.47871	1.7265	4.7735	2.00	4.00
55-64	7	3.4286	1.27242	.48093	2.2518	4.6054	1.00	5.00
Total	44	3.3182	.98294	.14818	3.0193	3.6170	1.00	5.00

Interpretation:

The test results validate that the significance value is greater than 0.05 i.e. 0.989 and so we accept null hypothesis, which states that all the age groups have the same perception about using online platforms for buying properties as shown in table 5.

CONCLUSION

The Indian Real Estate market is growing at an exponential rate, study finds the need of 100 million houses in the next few years and hereby showing that there is a supply issue in the Indian Real estate sector as stated by various firms. Our study finds that though there is a lot of development but the real estate sector needs the right product for the right market segment at the right price which the current developers are unable to cater.

A demand for affordable housing is found to be greater than ever before. It is evident from the study that PropTech has increased the sales of new homes constructed by various developers across India in the tier 1 cities, it has also been seen as a proportion of these transactions are foreign investments without actual site visits all with the help Prop technology.

The Customer survey suggests that individuals are not aware of the term PropTech but they tend to use online platforms for various purposes such as property listing, online stats, market trend setc. in India.

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