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### **Assessing Impact of Demographic Factors on Purchase Intention With Reference To Residential Sector in Panvel Region**

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#### **ABSTRACT**

Indians have sentimental values towards owning a house. The Residential Sector in Panvel Region has significant social stress in terms of rising urbanization, expanding middle class and shortage of affordable Residential properties. Buyers have started considering Residential property as a product of pride and social security, compared to traditional mode of consumption as ownership and investment. Choosing the right residential property is crucial enough for the buyer.

Developers in Residential Sector are exploring the different dimensions of consumption patterns in order to attract customers. The level of consumer's satisfaction provides the scope for positive word of mouth and loyal customer community as future prospective buyers.

This study attempts to explore demographic factors that affect buying behavior in residential sector. The study further attempts to evaluate key success factors that play active role in overall decision making.

The interpretations are drawn based on the primary research, mainly by getting questionnaires filled from prospective homebuyers in Panvel residing in Navi Mumbai. Secondary research is based on survey reports, research journals and various other sources. A sample of 61 respondents is considered to statistically interpret the results.

**KEYWORDS:** Demographic Factors, Buying behavior, Residential Sector

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## **1. INTRODUCTION**

In today's competitive scenario, developers in residential sector are most worried about the uncertainty. Growing complexity of regulations, value seeking consumers, shrinking availability of funds, vulnerable demand forecast, ever increasing unutilized inventory, are few of the environmental factors difficult to cope up. Considering, there is no other alternative but to face this situation, developers in residential sector have started exploring the holistic approach to attract customer base.

## **2. OBJECTIVES OF THE STUDY**

- To study the Demographic Factors that affects the buying behavior in residential sector.
- To understand the impact of Demographic Factors in isolation and jointly; with the help of frequency analysis and cross tabulation respectively.

## **3. STATEMENT OF THE PROBLEM**

As pointed out by India Brand Equity Foundation, residential sector in India has significant role and contribution to the GDP and economic growth. Thus, it is imperative for residential project developers to assess the factors that influence purchasing of Residential properties. In wake of rising competition, it is advisable for residential project developers to introduce novel approach to attract prospective buyers.

There are very few studies available in India when it comes to studying buying behavior in residential sector. Main objective of this research paper is to assess the demographic factors that influence buying behavior in residential sector.

## **4. LITERATURE REVIEW**

### ***4.1 Residential Property Buying***

Residential property is the only product that is utilized for consumption and investment purpose. It is utmost important to understand residential purchases through behavioral lenses apart from laws of economics.

The safety and soundness of the housing market in India is majorly influenced by distinctive characteristics of the demographic/social features and housing loan facility structure; in terms of available loan rate, loan process, loan margin and collateral structure. The borrower's default on housing loan payments, mainly due to a change in the market value of the property versus loan amount and EMI to income ratio.<sup>1</sup>A 10 percent decrease in the market value of the property vis-a` - vis the loan amount raises the odds of default by 1.55 percent. Similarly, a 10 percent increase in

EMI to income ratio raises the delinquency chance by 4.50 percent. However, borrower characteristics like marital status, employment situation, regional locations, city locations, age profile and house preference, also act as default triggers, and thus cannot be ignored.

Broad behavioral theories point out that real estate market is neither rational nor irrational and based on investor's knowledge. Behavioral biases could be responsible for mispricing in real estate sector, as investors and policymakers, are not able to accommodate and arrive at fair market price. The inclusion of behavioral biases into the construction of price index will greatly improve the traditional price index. The collaborative approach of investors and policymakers can curtail mispricing in real estate sector.<sup>2</sup>

Owning a housing accommodation offers more financial satisfaction.<sup>3</sup> Financial satisfaction levels of Individual investors in India (urban socio-economic classification segment-A) is affected by demographic and socio-economic factors such as age, marital status, occupation, work experience, income, saving rate, nature of household accommodation and investment tenure.

Perceptions towards housing alternatives vary between Sexes and marital status, in terms of provision of stairs, the garden, loneliness and problems or difficulties associated with bereavement; the number of builders contacted and schemes known.<sup>4</sup>

#### ***4.2 Real Estate Sector: Current Scenario in India***

The Residential sector in India contributes 5-6 percent to the country's Gross GDP and overall real estate market is projected to touch US\$ 180 billion by 2020 with 11.2 percent CAGR.

The subsectors of the real estate sector are - Residential, retail, hospitality, and commercial. The conducive corporate environment, demand for office space, urban and semi-urban accommodations is anticipated to provide boost for much-needed infrastructure growth in Indian real estate sector.

Government initiatives like sanctioning of a home loan up to 90%, the rise in the limit on home loan interest from Rs 1.5 lakh to Rs 2 lakh, boosting household savings by exempting limit from Rs 2 lakh to Rs 2.5 lakh; have further boosted customers' confidence in real estate property purchases.

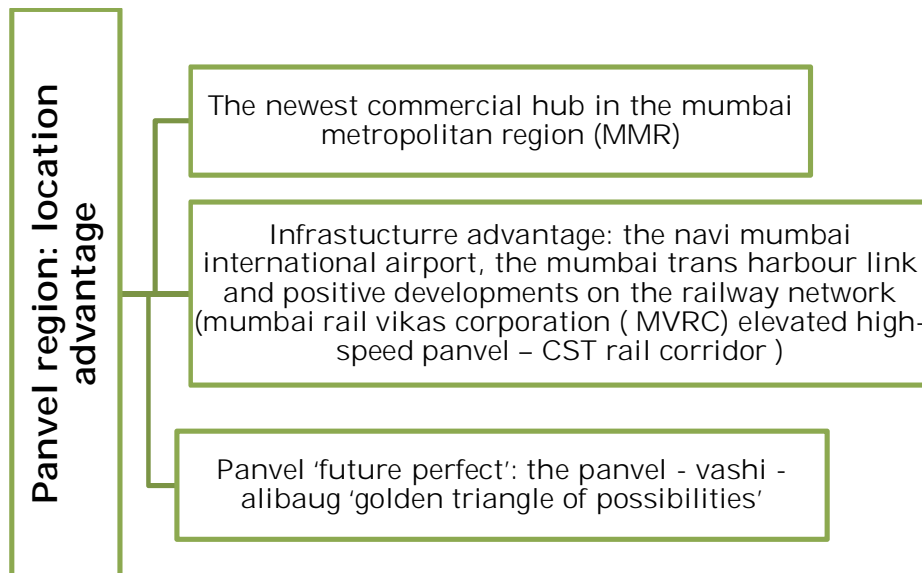
Near absence of transparency proves to be a 'black box' to foreign direct investors in emerging markets. The larger or older Indian firms in smaller cities which are not seeking foreign investment significantly differ in the development process from the US- benchmark model.<sup>5</sup>

The Indian RES was not regulated prior to the passage of the Indian Real Estate Act, 2016. The Indian Real Estate Act 2016 has proved to be an economic reform for the real estate sector and supposed to protect consumers' interest by tightening fraudulent practices of promoters/developers.<sup>6</sup>

As per India Brand Equity Foundation<sup>1</sup>, Indian Real Estate Sector is expected to reach a market size of US\$ 1 trillion by 2030.

<b>Boosters in residential sector</b>	The Indian real estate market- US\$ 180 billion by 2020 (projected size of market)
	Housing sector -11 per cent to India's GDP by 2020. (expected)
	FY2008-2020- proposed CAGR of 11.2 per cent.
	booming sectors having impact on residential sector: Retail, hospitality and commercial real estate
	2017- M&A deals worth US\$ 3.26 billion (real estate sector)
	Private equity investments: 15 per cent increase in 2017 to reach US\$ 800 million.
	The Smart City Project: to build 100 smart cities, is a prime opportunity
	2018 : creation of National Urban Housing Fund of Rs 60,000 crore (US\$ 9.27 billion).
	Pradhan Mantri Awas Yojana (PMAY): 1,427,486 houses have been sanctioned in 2017-18.
	2018, plan to build 13,21,567 affordable houses

**Figure1. Indian real estate sector- road ahead**



**Figure2. Panvel region- golden residential hub destination**

<sup>1</sup>India Brand Equity Foundation (IBEF) is a Trust established by the Department of Commerce, Ministry of Commerce and Industry, Government of India. IBEF regularly tracks government announcements in policy, foreign investment, macroeconomic indicators and business trends.

## **5. RESEARCH METHODOLOGY**

- a) Coverage of the Study: This research paper assesses impact of Demographic Factors on buying behaviors with specific reference of residential sector only.
- b) Source of Data: This research paper is descriptive in nature. Secondary data resources are old research papers, various e-journals, books, websites, whitepapers, newspapers etc. Primary data was collected by survey through questionnaires and interviews. Questionnaire consisted of both open ended and close ended questions to get a mix of both qualitative and quantitative data.

Keeping objectives of the research in mind, the researcher approached 61 customers (prospective home buyers in Panvel Region) by using convenience sampling technique from Navi Mumbai.

To assess impact of demographic factors on purchase intentions in residential sector, researcher defined the scope of study as

### 1. Demographic factors

- ❖ Gender- Male, Female
- ❖ Age- in the bracket of < 25 years, 25-30 years, 30-35 years, 35-40 years, 40-45 years, >45 years
- ❖ Annual family Income- < 3 lac, 3-5 lac, 5-7.5 lac, 7.5-10 lac, > 10 lac
- ❖ Marital status- Married, Unmarried, Committed
- ❖ Education- Undergraduate, Graduate, Post-Graduate, Other
- ❖ Size of the Family - < 4 members, 4-6 members, 6-10 members, > 10 members
- ❖ Family set-up- Nuclear family, Joint family, Staying alone
- ❖ Occupation-Self-employed, govt. employee, Private Sector employee, Agriculture

### 2. Purchase intentions

- ❖ Time required to buy a new residential property- Immediately, 3 months- 6 months, 6 months- 9 months, 9 months- 1 year, More than 1 year
- ❖ Residential project identification- Yes, No
- ❖ type of purchase- First time buyer, Repeat purchase
- ❖ purpose of buying - Self-occupancy, Investment purpose only
- ❖ size of apartment- 1RK, 1 BHK, 2 BHK, > 2 BHK, Other
- ❖ property type- Standalone building with basic infrastructure, Property with moderate infrastructure and amenities, Luxury projects

- ❖ decision makers- Self, Parents, Spouse, Children, Entire family

(c) Data Analysis: Analysis of data and information collected from published sources were made keeping the objectives of the study in mind. The data was further processed and analyzed with the help of SPSS- Version 21.

## **6. RESULTS AND FINDINGS**

### **A. Frequency Analysis (Annexure-1)**

- ❖ Gender configuration: 59% Males and 41% Females
- ❖ Age- <31% from the bracket of 35-40 years followed by 30-35 years contributing 20%
- ❖ Marital status- sample consisted 60% of the Married people
- ❖ Education- Undergraduate, Graduate, Post-Graduate, Other
- ❖ Occupation- private sector employees (55%) forms major chunk of prospective homebuyers
- ❖ Income- more than 10 lacs annual income- 31%; 7.5- 10 lacs- 30%
- ❖ Family set-up- majority from nuclear family

### **B. Hypotheses Testing: Significance Level- 95% (Annexure 2)**

- ❖ Accepting the null hypotheses for equal probabilities for factors- gender, age, marital status, family size and project identification
- ❖ Rejecting the null hypotheses for equal probabilities for factors-income, education, family set-up, duration of stay in Panvel, intention to buy, purchase duration

### **C. Cross Tabulation: Annexure 3**

- Assessing impact of size of the family on the preference of apartment size with a layer of family's annual income
  - ❖ Chi-square ratio ( $p \text{ value} > 0.05$ ) shows there is no significant association between preferences of Apartment size across income groups.
  - ❖ The cross tabulation also reflects majority preference to 1BHK across income groups followed by 2 BHK.
- Association between the factors- purpose of purchase, buying intention and duration of residence in Panvel.
  - ❖ Chi-square ratio ( $p \text{ value} > 0.05$ ) shows buying decisions are independent of the factors like purpose of purchase of a residential property and an individual's duration of stay in Panvel Area.
  - ❖ The cross tabulation also reflects equal percentage of people buying property for self-occupation and investment as well. 50% of the population have zeroed Panvel region as hot destination as residential market.

## 7. CONCLUSION

Indian housing market is witnessing staggering efforts of developers and regulators to lure investors, as millions of housing inventories are piling up. With a growing economy and changing buyer expectations, real estate developers are constantly being innovative with their business plans. Every buyer has unique and specific requirement from 'housing' as a product, and the developers have had to adapt accordingly. Borrowers' demographic characteristics like marital status, employment situation, regional locations, city locations, age profile and house preference, act as default triggers, and thus cannot be ignored.

## 8. LIMITATIONS OF THE STUDY

- This study acknowledges that it is restricted to prospective home buyers of Panvel Region, who are planning to buy a residential property in Panvel Region.
- Independent bungalows, row-houses and self-constructed houses have not been considered.
- The recent trends in housing sector were beyond the scope of this study- like green housing, senior citizens community housing, and housing with special features like solar panels etc

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## 11.TABLES AND FIGURES:

Annexure 1:

**Gender**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	25	41.0	41.0	41.0
Male	36	59.0	59.0	100.0
Total	61	100.0	100.0	

**Age**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid < 25 years	11	18.0	18.0	18.0
> 40 years	6	9.8	9.8	27.9
25-30 years	12	19.7	19.7	47.5
30-35 years	13	21.3	21.3	68.9
35-40 years	19	31.1	31.1	100.0
Total	61	100.0	100.0	

**maritalStatus**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	36	59.0	59.0	59.0
unmarried	25	41.0	41.0	100.0
Total	61	100.0	100.0	

**Occupation**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid govt employee	13	21.3	21.3	21.3
private sector	34	55.7	55.7	77.0
self employed	14	23.0	23.0	100.0
Total	61	100.0	100.0	



**income**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid < 3 LA5-7.5 LACSS	2	3.3	3.3	3.3
> 10 LACS	20	32.8	32.8	36.1
3-5 LAC	11	18.0	18.0	54.1
5-7.5 LACS	10	16.4	16.4	70.5
7.5-10 LACS	18	29.5	29.5	100.0
Total	61	100.0	100.0	

**FamilySize**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid <4 members	33	54.1	54.1	54.1
4-6 members	28	45.9	45.9	100.0
Total	61	100.0	100.0	

**FamilySetup**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid joint	12	19.7	19.7	19.7
nuclear	48	78.7	78.7	98.4
staying alone	1	1.6	1.6	100.0
Total	61	100.0	100.0	

## Annexure 2

## Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by Gender = Female and Male occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.200	Retain the null hypothesis.
2	The categories of Age occur with equal probabilities.	One-Sample Chi-Square Test	.130	Retain the null hypothesis.
3	The categories of income occur with equal probabilities.	One-Sample Chi-Square Test	.002	Reject the null hypothesis.
4	The categories defined by maritalStatus = Married and unmarried occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.200	Retain the null hypothesis.
5	The categories of Edu occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
6	The categories defined by FamilySize = <4 members and 4-6 members occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.609	Retain the null hypothesis.
7	The categories of FamilySetup occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
8	The categories of Occupation occur with equal probabilities.	One-Sample Chi-Square Test	.001	Reject the null hypothesis.
9	The categories of PanvelDuration occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
10	The categories of PanvelBuyIntention occur with equal probabilities.	One-Sample Chi-Square Test	.001	Reject the null hypothesis.
11	The categories of PurchaseDuration occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
12	The categories defined by ProjectIdentification = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	1.000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
13	The categories defined by PurchaseType = First time buyer and repeat purchase occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.073	Retain the null hypothesis.
14	The categories defined by Purpose = Self occupancy and Investment purpose onl occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	1.000	Retain the null hypothesis.
15	The categories of ApartSize occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

**Annexure 3**

**ApartSize \* income \* FamilySize Crosstabulation**

FamilySize				income					Total
				< 3 LA5-7.5 LACSS	> 10 LACS	3-5 LAC	5-7.5 LACS	7.5-10 LACS	
<4 members	ApartSize > 2 BHK	Count	0	0	0	0	2	2	
		% of Total	0.0%	0.0%	0.0%	0.0%	6.1%	6.1%	
	1 BHK	Count	0	7	5	2	8	22	
		% of Total	0.0%	21.2%	15.2%	6.1%	24.2%	66.7%	
	2 BHK	Count	1	4	0	2	2	9	
		% of Total	3.0%	12.1%	0.0%	6.1%	6.1%	27.3%	
Total	Count	1	11	5	4	12	33		
	% of Total	3.0%	33.3%	15.2%	12.1%	36.4%	100.0%		
4-6 members	ApartSize > 2 BHK	Count	0	0	0	0	3	3	
		% of Total	0.0%	0.0%	0.0%	0.0%	10.7%	10.7%	
	1 BHK	Count	1	5	4	3	1	14	
		% of Total	3.6%	17.9%	14.3%	10.7%	3.6%	50.0%	
	2 BHK	Count	0	4	2	3	2	11	
		% of Total	0.0%	14.3%	7.1%	10.7%	7.1%	39.3%	
Total	Count	1	9	6	6	6	28		
	% of Total	3.6%	32.1%	21.4%	21.4%	21.4%	100.0%		
Total	ApartSize > 2 BHK	Count	0	0	0	0	5	5	
		% of Total	0.0%	0.0%	0.0%	0.0%	8.2%	8.2%	
	1 BHK	Count	1	12	9	5	9	36	
		% of Total	1.6%	19.7%	14.8%	8.2%	14.8%	59.0%	
	2 BHK	Count	1	8	2	5	4	20	
		% of Total	1.6%	13.1%	3.3%	8.2%	6.6%	32.8%	
Total	Count	2	20	11	10	18	61		
	% of Total	3.3%	32.8%	18.0%	16.4%	29.5%	100.0%		

Chi-Square Tests

FamilySize		Value	df	Asymp. Sig. (2-sided)
<4 members	Pearson Chi-Square	10.071 <sup>b</sup>	8	.260
	Likelihood Ratio	11.654	8	.167
	N of Valid Cases	33		
4-6 members	Pearson Chi-Square	13.960 <sup>c</sup>	8	.083
	Likelihood Ratio	12.906	8	.115
	N of Valid Cases	28		
Total	Pearson Chi-Square	16.060 <sup>a</sup>	8	.042
	Likelihood Ratio	16.284	8	.038
	N of Valid Cases	61		

a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is .16.

b. 13 cells (86.7%) have expected count less than 5. The minimum expected count is .06.

c. 15 cells (100.0%) have expected count less than 5. The minimum expected count is .11.

PanelDuration \* PanelBuyIntention \* Purpose Crosstabulation

Purpose				PanelBuyIntention			Total
				No	not decided yet	yes	
Investment purpose onl	PanelDuration > 10 Yrs	Count	1	1	1	3	
		% of Total	3.3%	3.3%	3.3%	10.0%	
	5-10 Yrs	Count	0	0	1	1	
		% of Total	0.0%	0.0%	3.3%	3.3%	
	NA	Count	8	5	13	26	
		% of Total	26.7%	16.7%	43.3%	86.7%	
	Total	Count	9	6	15	30	
% of Total	30.0%	20.0%	50.0%	100.0%			
Self occupancy	PanelDuration <1 Yr	Count	0	0	2	2	
		% of Total	0.0%	0.0%	6.5%	6.5%	
	> 10 Yrs	Count	1	0	1	2	
		% of Total	3.2%	0.0%	3.2%	6.5%	
	5-10 Yrs	Count	0	1	1	2	
		% of Total	0.0%	3.2%	3.2%	6.5%	
	NA	Count	5	5	15	25	
% of Total		16.1%	16.1%	48.4%	80.6%		
Total	Count	6	6	19	31		
% of Total	19.4%	19.4%	61.3%	100.0%			
Total	PanelDuration <1 Yr	Count	0	0	2	2	
		% of Total	0.0%	0.0%	3.3%	3.3%	
	> 10 Yrs	Count	2	1	2	5	
		% of Total	3.3%	1.6%	3.3%	8.2%	
	5-10 Yrs	Count	0	1	2	3	
		% of Total	0.0%	1.6%	3.3%	4.9%	
	NA	Count	13	10	28	51	
% of Total		21.3%	16.4%	45.9%	83.6%		
Total	Count	15	12	34	61		
% of Total	24.6%	19.7%	55.7%	100.0%			

Chi-Square Tests

Purpose		Value	df	Asymp. Sig. (2-sided)
Investment purpose onl	Pearson Chi-Square	1.457 <sup>b</sup>	4	.834
	Likelihood Ratio	1.821	4	.769
	N of Valid Cases	30		
Self occupancy	Pearson Chi-Square	4.079 <sup>c</sup>	6	.666
	Likelihood Ratio	4.958	6	.549
	N of Valid Cases	31		
Total	Pearson Chi-Square	3.403 <sup>a</sup>	6	.757
	Likelihood Ratio	4.784	6	.572
	N of Valid Cases	61		

- a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .39.
- b. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .20.
- c. 11 cells (91.7%) have expected count less than 5. The minimum expected count is .39.

Appendix-1

