MARKET SEGMENTATION ANALYSIS

Analysis of Real estate market for a Housing App startup which is offering Rental and Real Estate Classifieds Online

By:
Amisha Srivastava
Drishti.
Saniya Siddiqui

CONTENTS

INTRODUCTION

Market segmentation is founded on the presumption of winning large by specializing on the small. Big thinking isn't always the greatest strategy. Targeting tiny market niches in emerging economies, even some extremely huge markets like India and China, can be a more effective strategy.

What is Market Segmentation? Market segmentation is a marketing phrase that refers to grouping prospective buyers based on their demands and responses to marketing actions. One definition of market segmentation is the split of a market into subsets of customers to simplify target branding and marketing methods. It's simpler to approach someone when you know who you're attempting to attract and what they're interested in.

What is Market Segmentation in Real Estate? Market segmentation in real estate allows real estate companies, investors, and brokers to target specific groups of buyers who would benefit the most from a particular type of property. The goal of market segmentation in real estate is to identify and target specific groups of buyers in order to offer them real estate that is specifically tailored or branded for their needs. Real estate market segmentation may be done based on a variety of characteristics such as property type (residential or commercial), demographics (millennial or baby boomers), and geographic location. Market segmentation may be utilized in a variety of ways depending on the sort of market segmentation employed and the rationale for which it was used. India's real estate industry is projected to rise by a significant margin in coming twenty years, accounting for a significant portion of the country's GDP. The growth in the number of large and lavish investments into this industry confirms the upward trend in numbers. There has been a significant increase in the number of individuals investing, and owing to the implementation of self occupied properties in the sector, there has been a significant increase in the number of home sales and other related sectors. The lack of a centralized title registry that provides title guarantee, lack of uniformity in local laws and their application, nonavailability of bank financing, high-interest rates, and transfer taxes, as well as a lack of transparency in transaction values, have all contributed to India's real estate sector being unorganized, and looking forward Despite the fact that the rental market in many major IT hubs has declined as a result of Covid-19, the rental market in large cities is expected to boom as a result of the population boom, and the new housing rules and Acts that have protected the entire sector from vulnerabilities will attract many investors.

What is the road that has to be taken?
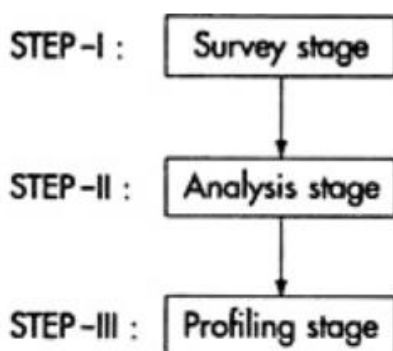
During the survey stage, the researcher conducts interviews with customers to obtain information about their motivation, opinions, and behaviour. The researcher creates a questionnaire and distributes it to certain potential clients in order to perform the study, arriving to the point of analysis following the collection of responses from respondents, the next step is to analyse them using factor analysis to convert them into usable form. The researcher then uses cluster analysis to create strata of similar replies. In the process of profiling Each homogenous cluster is now characterized in terms of its distinct attitudes, psychographic characteristics, geographic location, demographics, and consumer patterns. Each section can be given a name that distinguishes it from the others.

REAL ESTATE SYNOPSIS

With 1.1 billion inhabitants, this is the most populous country on the planet. India is the world's second most populous country, behind China, and is anticipated to overtake it by 2030. Its economic revolution over the last decade has propelled real GDP growth to an annual average of 6% since 1992. Given that demand for property is primarily determined by business development and demographic trends, India is emerging as a major business location, particularly in the service sector. The country's favourable demographics and strong economic growth make it an appealing place for property investors.

However, in recent years, India's real estate sector has shown a trend toward greater organisation and transparency, which has been accompanied by various regulatory reforms. These reforms include the Government of India's support for the repeal of the urban land ceiling act, which has already been repealed by nine state governments; modifications to the Rent Control Act to provide greater protection to home owners who wish to rent out their properties; and rationalisation of property taxes. The trend toward more organisation and transparency has aided the creation of credible value indicators and organised real estate investment by domestic and foreign financial institutions, as well as increased the availability of funding for real estate developers. The nature of demand is also changing with height and customer expectations that are driven by rising disposable incomes, as legal reforms enabling foreign investment are likely to stimulate investment in the Indian real estate market. the emergence of new real estate goods and services as a result of greater globalisation.

When it comes to real estate, we don't just have one sector; we have multiple for home use, public usage, governmental use, and so on. These are altered in different ways at different times, as some of the examples below show.

The rise of organised retail in India is predicted to be driven by demographic factors such as increased disposable incomes, changes in shopping patterns, the entry of multinational retailers into the market, and the expanding number of retail malls during the next five fiscal years. Tata Trent, Pantaloon, Shoppers Stop, and RPG Group are among India's leading organised retailers. While organised shopping has been restricted to the country's largest cities, businesses have declared substantial development ambitions in smaller communities.

The hospitality sector in India has expanded as a result of the country's increasing economy, more business travel, and tourism. According to an industry report, the majority of

segments in the Indian hotel industry have shown robust recent growth in room rates as well as occupancy rates with increased demand and limited availability of quality accommodation, and investment in the premium segment of the hotel industry is expected to be between ₹20 billion and ₹23 billion in the aggregate over the next five years. Over the previous two years, average room prices in urban areas have increased by almost 50%, with the exceptions of Bangalore, where they have more than doubled, and Kolkata, where they have increased very little despite considerable growth in occupancy rates.

In residential real estate development rising disposable incomes have fueled the expansion of India's residential real estate sector. Low interest rate fiscal incentives on both interest and principal payments for home loans, as well as increased organisation and the rising number of nuclear families, heighten consumer expectations.

In commercial real estate development, the recent growth of the commercial real estate sector in India has been fueled by increased revenues of companies in the service business, particularly in the IT and ITES sectors, according to industry sources. Industry sources expect the IT and ITES sectors to continue to grow and generate additional employment, resulting in increased demand for commercial space.

FERMI ESTMATION

"Better to be approximately right than precisely wrong"
What is it? The process of formulating a solution to a problem based on a set of logical assumptions. The outcome will be an order-of-magnitude solution.

How are we going to do it? Questions of this sort are frequently severe in nature, and thus cannot typically be answered using ordinary mathematical or scientific knowledge, such as How many pizzas do CSE branch students consume on a daily basis? It's tempting to just say "probably a million" and move on with your life, but this is a problem that can be. Here's how we might be able to tackle the problem.
1. This year, how many students are in the CSE branch? 32000 is a good guess.
2. How many pizzas are they allowed to eat? roughly twice a week on average.
3. What is the average number of slices consumed by a single student? 3 slices on average.
4. On average, how many pieces does a pizza have? We're completely aware of this—eight slices.

So, if we do the arithmetic, the entire CSE branch consumes 840 pizzas every day.
What's more, Fermi demonstrated that this strategy for predicting values is very precise. Your personal estimates are sometimes exaggerated. They might be too low at times. But, in the end, everything balances out.

PROBLEM STATEMENT
Understanding the elements that influence real estate pricing, such as location and consumer behaviour, is the first step in estimating housing/real estate market infographics. Making money and offering rental/housing services are the key goals of a housing app. We asked ourselves a few questions in order to find/estimate the suitable consumer base, such as: What type of tenant are the tenants or purchasers searching for? What sort of neighbourhood do Indian residents prefer? Based on the segments, what type of property is most popular?
These questions can help us estimate the target client and assess the performance of the application in the market by breaking down the housing application market. The prospective client base may be calculated via Fermi estimate.

DATA SOURCES

- Delhi Rent (.csv file)
- Delhi House Data (.csv file)
- Rental Price(.csv file)
- Household Socio Economic Status (.csv file)

We considered a data set from which we could find a solution to the problem statement, taking into account the demographic and physical characteristics of the rental space VR choosing Delhi as a state for this segmentation process, we tried to consider every possible possibility connecting it to the rent or price of that particular area with respect to status locality bedroom bathroom flow type floor number and many other factors. The data we chose will largely determine the sort of conclusion we obtain. Data plays a significant part in this, and we gathered and derived data from reliable sources.

DATA PREPROCESSING

Data preparation is critical in any data mining process since it directly affects the project's success rate. If there are missing attributes, attribute values, noise or outliers, and duplicate or incorrect data, the data is considered to be unclean. If any of these are present, the quality of the findings will suffer.

- Getting Rid of Outliers: A box plot informs us, in general, how the data is distributed. It offers an idea of how far the data is dispersed, what its range is, and how skew it is. The first quartile of data is Q1, which means that 25% of the data falls between minimum and Q1. The third quartile of data is Q3, which means that 75% of the data falls between minimum and Q3. To use this approach to discover outliers, we create a new range, which we'll name the decision range, and every data point that falls outside of it is deemed an outlier and treated as such. (physical features.ipynb)
- Encoding: Tool: Sklearn - Pandas - pd.get_dummies
- Tools for standardisation include: StandardScaler - Sklearn () Standardisation is the process of adjusting the values so that the standard deviation of the distribution equals one. The term "scaling" is frequently used.
- Handling Atypical Data and Removing Null Values: Using the mean to convert a range of prices to float.(demographic.ipynb)

SEGMENT EXTRACTION

- K Means Clustering Algorithm:
    The k-means clustering algorithm is an iterative process of moving cluster centres or centroids to the mean position of their constituent points and reassigning instances to their closest clusters until there is no significant change in the number of cluster centres possible or a number of iterations is reached. The k-means clustering technique primarily accomplishes two goals: • 'Uses an iterative procedure to find the optimal

value for K centre points or centroids, then assigns each data point to the nearest k-center. A cluster is formed by data points that are close to a specific k-center.

One of the most prominent methods for determining the ideal number of clusters is the Elbow approach. This approach makes use of the WCSS value notion. It's the sum of the squares of the distances between each data point and its cluster's centroid1, with the other two terms being the same. We can use any approach, such as Euclidean distance or Manhattan distance, to calculate the distance between data points and the centroid.

The elbow technique uses the procedures below to get the best cluster value:

- It performs K-means clustering on a dataset for various K values (ranges from 1-10).
- Calculate the WCSS value for each value of K.
- Draws a line between the WCSS values computed and the number of clusters K.
- If a sharp point of bend or a plot point resembles an arm, that point is regarded the optimal K value.

Clustering is the process of grouping observations so that members of the same cluster are more similar to one another and members of separate clusters are significantly distinct from one another. Clustering is the process of grouping observations so that members of the same cluster are more similar to one another and members of separate clusters are significantly dissimilar.

ANALYZING MARKET SEGMENTS

Numerous basis can be used to split the market into various segments. Market segmentation bases may be roughly classified into two types. Consumer traits(consumer segmentation) and reactions (product related segmentation). We'll be diving deeper into former.

Geographic Segmentation:
The most common and popular foundation for market segmentation is geographic geography. It's a marketing technique that focuses on selling items to individuals who reside or shop in a certain area. This method is especially beneficial if you offer items that are affected by regional variances in culture, climate, or population. The size of a city can influence a buyer's desire. Even within the same city or suburb, there can be variances in customer preferences. Any population separated by geography that also separates customers into groups with similar demands might be useful to a marketer.
Geographically, the All-India dataset may be segmented.

Demographic Segmentation:
Demographic segmentation is the process of categorising a target market based on factors such as age, education, and gender. It is a sort of market segmentation that aids firms in better understanding their customers and successfully meeting their demands.
To identify viable groups for real estate home prediction, the socioeconomic variable might be addressed. The state of the population's economy has a direct bearing on the real estate industry.

Psychographic Segmentation:

Psychographic segmentation is defined as a market segmentation technique where groups are formed according to psychological traits that influence consumption habits drawn from people's lifestyle and preferences. It is mainly conducted on the basis of "how" people think and "what" do they aspire their life to be.

For real estate this could prove a potential segment as people's lifestyle could tell us about the future of the real estate market in that area.

Behavioral Segmentation:

Behavioral segmentation refers to a process in marketing which divides customers into segments depending on their behaviour patterns when interacting with a particular business or website.

This could rarely serve the purpose still some patterns could prove beneficial in real estate.

Volume Segmentation:

The division of a market into segments on the basis of the varying volume of demand for the product by individuals, groups or types of customers; typically, the segments are ranked to denote heavy usage, medium usage or light usage.

Product Space Segmentation:

Product segmentation is when a company modifies its product into several different products in order to attract different kinds of customers or target different markets.

Market segmentation simply modifies the marketing strategy in an effort to do the same.

In real estate housing this segmentation may not prove that much beneficial.

Benefit Segmentation:

Benefit segmentation is a method of market segmentation that involves segmenting your market based on the perceived value or advantages that consumers believe they will receive from your product. This can involve categorizing consumers based on perceived benefits such as quality, features, customer service, etc.

SELECTION OF TARGET SEGMENT

When we list properties for rent, our ultimate goal is to provide housing at a consistent rate regardless of location. As a result, we shall focus on the ***"Geographic Segment, Demographic segment and Behavioral segment."*** in order to reach our ultimate aim.

Property rents fluctuate from time to time depending on the geography, temperature, culture, and urbanicity(socioeconomic factors) of the area. So, if we have all of these facts, we would be able to produce uniform and up-to-date rent estimates for residences in various parts of India.
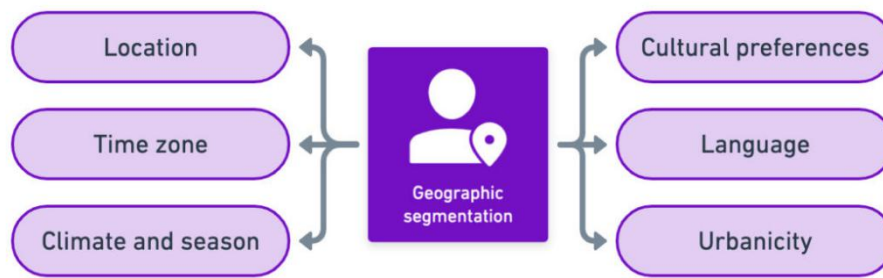
This will help to target a large number of people since they will be able to rent houses at the best price without having to go through the tiresome process of negotiating, and the owners of the properties will be able to rent their property at the best price available at the moment. As a consequence, all chances of being duped by either the vendor or the buyer will be eliminated.

Demographic Segmentation: Demographic statistics, such as age, race, gender, income, migration patterns, and population growth, characterise the makeup of a population. It aids in the blending of a certain prospective consumer into a well-defined cluster, where each representative has at least a comparable client base, which not only helps in raising revenue but also in gentrifying the agglomeration and its surroundings.
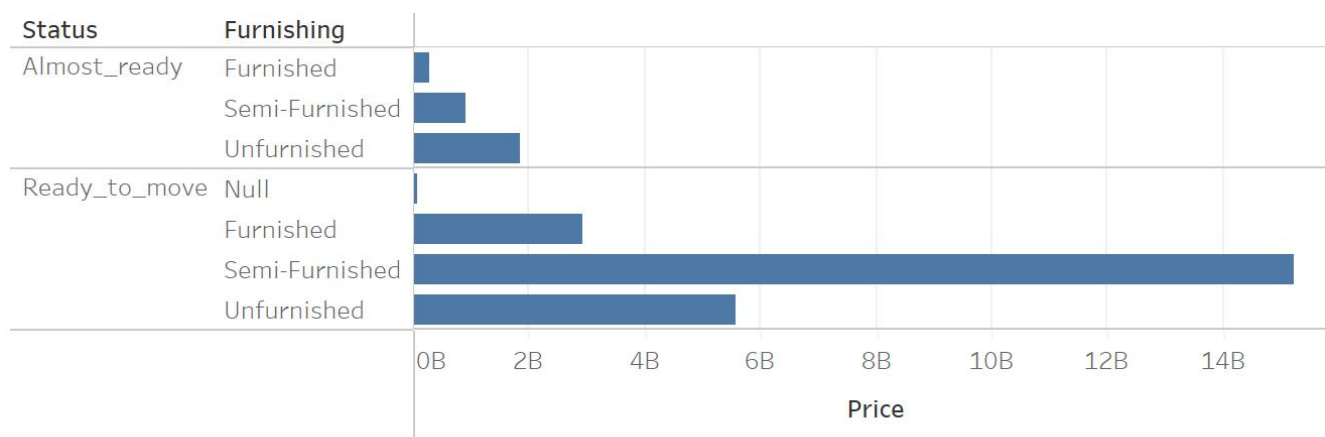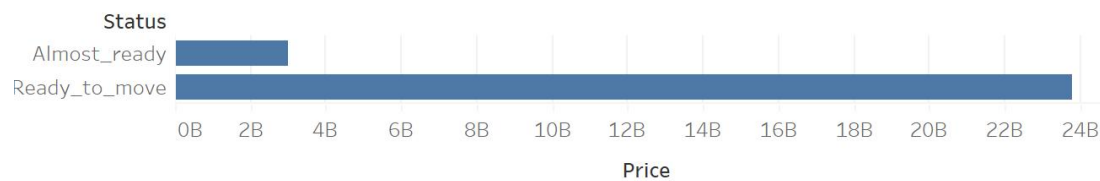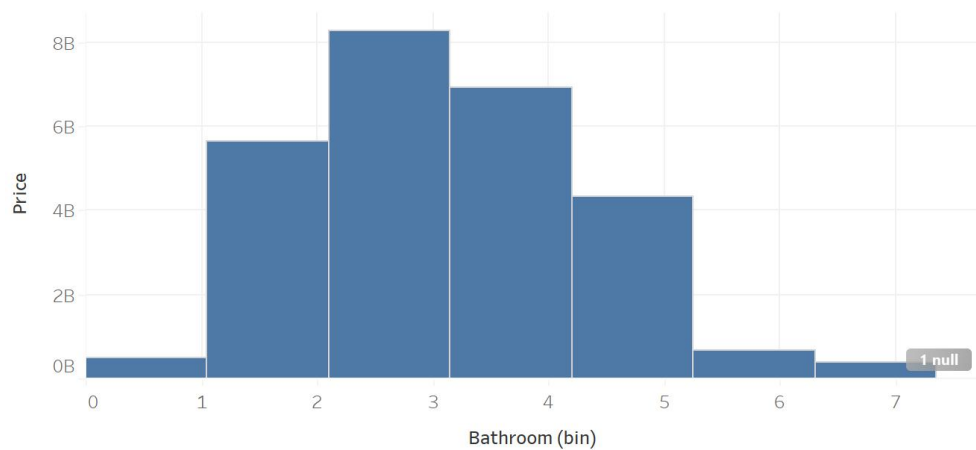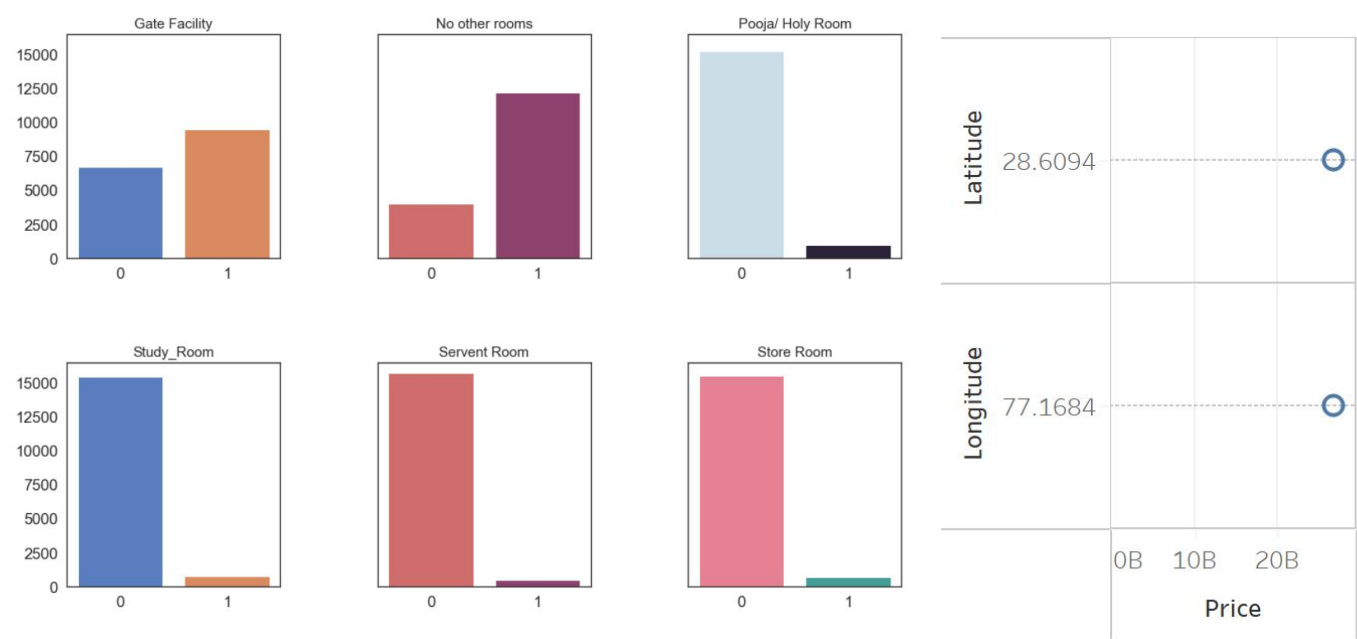
Age, income, spending score, family size, ethnicity, work type, marital size, and other factors aid in this segment's facilitation. It also aids in defining the customer's personality and ensuring that they are able to make ends meet.
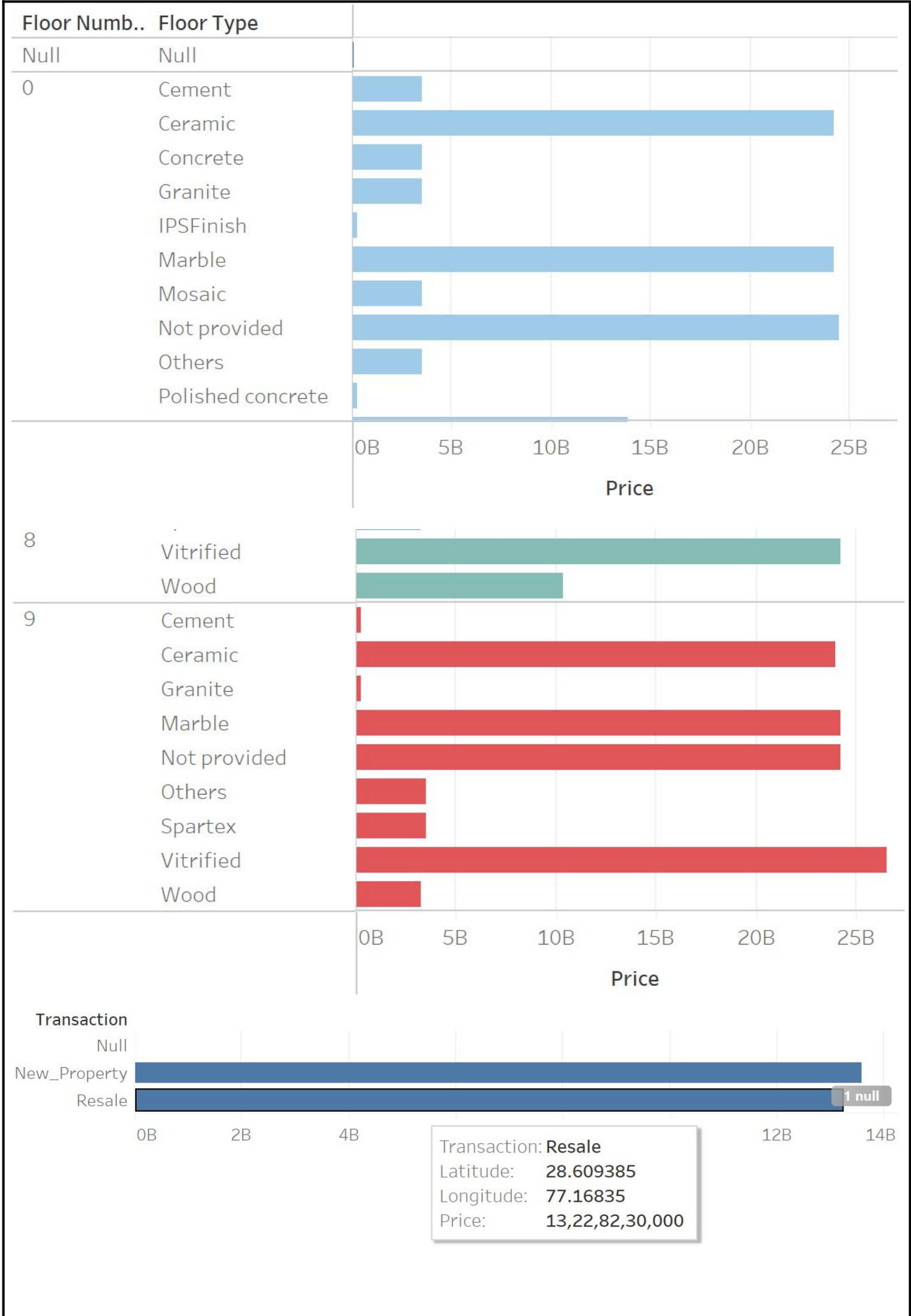
The graph below demonstrates how essential demographic segmentation is to this industry, and it is clear that employment, marital status, and gender play the most crucial roles in it.
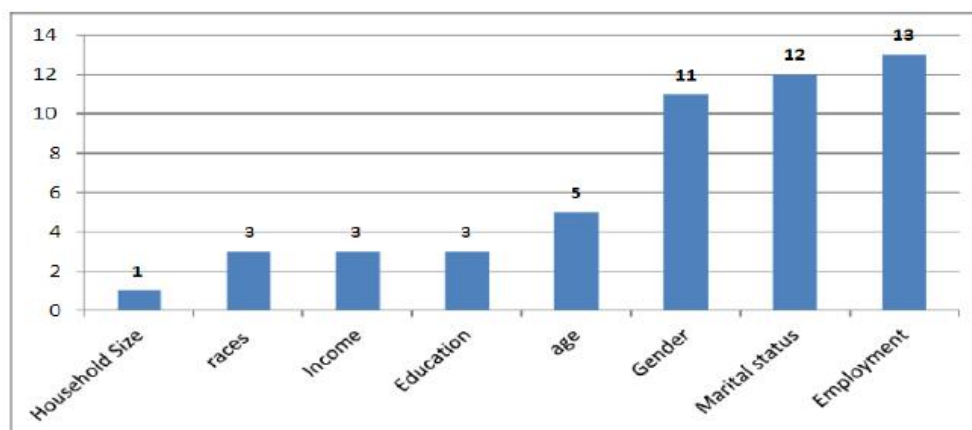
Psychographic Segmentation: In real estate, psychographic segmentation refers to the study of customers based on psychological and cognitive characteristics such as their beliefs, values, ideas, hopes, and objectives. To understand consumers' purchasing behaviours, psychographics go beyond demographics (e.g., age, gender, race, and geography). The issue of why a client would want to buy anything is always answered by looking at their beliefs, values, ambitions, and attitudes. In this industry, psychographics are fully dependent on the consumer, who plays a significant part in segmentation and, depending on their perspective, either makes or breaks the transaction. It all relies on the lifestyle, attitudes, and interests of

the buyer/tenant. It is especially important in the high-end segment of the market, where clients value top-notch houses and the amenities that come with them.

Floor Numb..	Floor Type
Null	Null
0	Cement
	Ceramic
	Concrete
	Granite
	IPSFinish
	Marble
	Mosaic
	Not provided
	Others
	Polished concrete

Price

8	Vitrified
	Wood
9	Cement
	Ceramic
	Granite
	Marble
	Not provided
	Others
	Spartex
	Vitrified
	Wood

Price

Transaction

Null
New_Property
Resale

0B   2B   4B   12B   14B

1 null

Transaction: **Resale**
Latitude: 28.609385
Longitude: 77.16835
Price: 13,22,82,30,000

CUSTOMIZING THE MARKETING MIX

A marketing mix includes multiple areas of focus as part of a comprehensive <u>marketing plan</u>. The term often refers to a common classification that began as the <u>four Ps</u>: product, price, placement, and promotion.

Effective Marketing touches on a broad range of areas as opposed to fixating on one message. Doing so helps reach a wider audience, and by keeping the four Ps in mind, marketing professionals are better able to maintain focus on the things that really matter. Focusing on a marketing mix helps organizations make strategic decisions when launching new products.

Product

This represents an item or service designed to satisfy customer needs and wants. To effectively market a product or service, it's important to identify what differentiates it from competing products or services. It's also important to determine if other products or services can be marketed in conjunction with it. The product that is being developed here is a HOUSING APP. The traditional brokage system will be tackled through this. There will be listing of real estate market (Residential, Commercial, Industrial, Land) along with online property rental. This differentiates it from other available product in market.

Price

The sale price of the product reflects what consumers are willing to pay for it. Marketing professionals need to consider costs related to research and development, manufacturing, marketing, and distribution—otherwise known as cost-based pricing. The survey will be conducted in different regions then we can come to conclusion of pricing the properties and the beta version of app will be released to check how much customers are satisfied with the proposed APP.

Placement

The type of product created is important to consider when determining areas of distribution. The APP would work best in metropolitan cities. However providing services to small cities and towns of the country would prove beneficial as there is high demand and less available services.

Promotion

Joint marketing campaigns also are called a promotional mix. Activities might include advertising, sales promotion, personal selling, and public relations. A key consideration should be for the budget assigned to the marketing mix. Marketing professionals carefully construct a message that often incorporates details from the other three Ps when trying to reach their target audience. Determination of the best mediums to communicate the message and decisions about the frequency of the communication also are important. Customer service businesses often will take a consumer-centric approach that incorporates additional elements to address their unique needs. Three additional Ps tied to this type of marketing mix might include people, process, and physical evidence. People refer to employees who represent a company as they interact with clients or customers. Process represents the method or flow of providing service to the clients and often incorporates monitoring service performance for customer satisfaction. Physical evidence relates to an area or space where

company representatives and customers interact. Considerations include furniture, signage, and layout. Additionally, marketers often study consumers who frequently will influence strategies related to service or products. This also requires a strategy for communicating with consumers in terms of obtaining feedback and defining the type of feedback being sought. Traditionally, marketing commences with identifying consumers' needs and ceases with the delivery and promotion of a final product or service. Consumer-centric marketing is more cyclical. Reassessing the customers' needs, communicating frequently, and developing strategies to build customer loyalty are the goals.

POTENTIAL SALE IN EARLY MARKET

Because most individuals had to move from one place to another for a variety of reasons, including employment and schooling. The majority of these individuals are YOUTH, defined as those aged 15 to 29. Purchasing a home is not regarded a viable choice for such folks. Here is where our app comes in to assist the YOUTH find a property to rent at the best-fixed price according on the area and kind of property, which might be a PG, a Flat, or a House.

Second, there are ENTREPRENEURS who are unsure if they will be able to sustain their firm in the long term or are wary of making large investments in real estate. As a result, either renting the property or purchasing already constructed shops is the best alternative for them.

Then there are some who are settled but lack the financial means to acquire home since property prices are too high. As a result, they are left with two options: taking out a house loan or renting the property. Both solutions are equally advantageous.

Potential Profit: Because the product caters to the majority of society's demographics, it has a large consumer base.

LIMITED SCALE ANALYSIS *(click here)*

Only demographic and psychographic segmentation were used in restricted scale study, where we looked at the property's location and other aspects connected to it, as well as characteristics in the house that impact the selling of the house.

During the demographic analysis, we considered the age of the person, their income, whether they are a homeowner, a renter, or a likely homeowner or renter, how many members live in that house or are expected to live in that house, what is the size of the household, if there are children, what is the category of children, if there are none, none, what is the person's marital status, and so on. Furthermore, we tried to ignore the household key and marital status.

While conducting the psychographic analysis, we took into account bedroom number, bathroom number,furnishing , address, floor number facing , floor type, community, parking, wheelchair adaption, pet facility, light bill, power backup, and various types of rooms, maintenance, deposit, and rent, among other things, keeping in mind all of the amenities people would like to have before renting or purchasing a place.