A Study on Location Strategy and Trade Area Analysis of Top 10 Malls of Western Suburbs of Mumbai

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ABSTRACT

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Mumbai is the financial capital of the country and home to important financial institutions and Multinational companies. The City has a rich cosmopolitan culture. it is also the capital of entertainment industry and city of dreams. These are enough reasons for the growth of organized retail and real estate development here. It is the capital of Maharashtra & the commercial capital of India & is one of the most populous cities of the world. It has a per capita income of more than 2 lakh which is over three times the rest of India. It homes a large middle class, upper middle class, and the rich class of the country. Retail sector is one of the booming sectors of the city in last 20 years a lot of Mall have come up and the people of Mumbai are adapting to the mall culture. Mall is usually a large, enclosed area, a mercantile establishment consisting of a carefully landscaped complex of shops representing leading merchandisers; usually includes restaurants and a convenient parking area. The word shopping mall is made up of two words: shopping and mall. Shopping can be defined as the activity that involves the exchange of goods and services for money. According to Kuria (1975). Lousberg (2009) defines shopping malls as "premises selling general merchandise or fashion related goods. They are enclosed inward facing stores, connected by a common walkway. Parking surrounds the outside perimeters." A shopping mall can therefore be defined as a complex that encompasses several retail stores, restaurants and other businesses with a common interest in soliciting sales. The complex is put up and managed as a single unit. Shopping malls offer private, off-street parking facilities.

Keywords: Financial Capital, Multinational Companies, Cosmopolitan Culture, Entertainment Industry

Introduction

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Location strategy of Malls:

In Mumbai choosing a mall location is complex, cost can be quite high, and it has a big impact on the strategy. The size of population and the traits of population like income level, lifestyle traits, and other demographic characteristics, competition, transportation access plays an important role in selecting a malls location. It requires a huge investment and cost & so it is difficult to change the location easily. The choice of location influences long term planning. The location decisions are also based on the study of the population trends, the distances people travel to the store, and competitor's entry and exit

In Mumbai, most outlets are located on the high streets. The earlier high streets now mainly comprise of offices and centers of commercial activities.

Residential areas have a miniscule presence on the high streets. Mumbai's Bandra has come up to be as the hottest high street in the metro. The biggest advantage of high streets is the easy access that they provide to the shopper.

Destination Location

Shopping malls location strategy tries to be a destination for the shoppers of that trading area. This concept is very common in India and has existed for a long time now. In India, selling the property has been the primary aim of the real estate developers and the government bodies concerned with it. Basic facilities like parking, security and maintenance etc. were overlooked in the process. But the things have been changing in the recent times. With the organized retailing coming up as a booming industry, the attitude of the developers, government bodies and corporates, towards shopping centers, has witnessed a drastic change. With retailing industry taking a proper shape in India, several projects of opening modern malls are either on the verge of completion or are in the pipeline. The Western Suburbs have some of the biggest malls of Mumbai, like infinity mall, Inorbit mall and Oberoi mall' etc. Mumbai is credited with housing the first Mall of the country & has a retail development the total stock of 11.26 mn. Sq. ft. The city has some of the most successful and grand malls of the country. Retail rental in the city is highest in the world. the size of consumer market is big, and the real estate is struggling to catch up to demand for retail space. The City of Mumbai is divided into 4 zones Island city, western Suburbs, central Suburbs and Navi Mumbai.

Western Suburbs: some of the fastest consumer market is in the western suburbs which includes Santacruz, Linking road in Bandra, Andheri, Malad, Goregaon, Kandivali and Borivali. 10 of the operational malls in western suburbs are studies for the paper. Major Mall in this suburb are Oberoi mall, Infinity Mall, Inorbit Mall. Western suburbs accounts for the around 50 percent of the mall space of the city. The area around Goregaon has more mall space than any other place of the city. Some of the Malls are struggling to get tenant. Inorbit Mall is designed by Raheja, s and Growel Mall 101 designed by Growel and Weil are experiencing good footfall and tenant mix.

Trade Area Analysis

A trade area is simply the geographic area that generates most of the customers for a mall. Knowing the trading areas demographic and lifestyle information is the key for building a successful strategy. A Market analysis study is done to understand demand and supply in the area. Demand refers to the amount of retail mall space that could be supported by consumers residing in the trading area and the supply refers to the gross leasable area (GLA), that currently exist in the trading area. Trade area analysis describe the characteristics of the area around a store or network of stores. Without accurate trade area definitions, the key statistics that impact a store's performance can't not be measured.

Trade area analysis provides information about
- Where a store's customers are coming from,
- How many customers are there in a trade area?
- Where to look for more customers

Factors that Impact Trade Areas:

Analysing trade areas is performed regularly to provide key metrics for improving sales and marketing performance. A change to product offerings will impact the trade area, as will shifts in population and demographics, the existence of competitors, changes to highways and roads, and the addition of other businesses that attract people to the area.

Each trading area has three parts: the primary trading area which encompasses 50 to 80% of the store's customers. The secondary trading area contains 15% to 25% of store customers and the fringe trading area includes all the remaining customers.

There are computerized trading Area models for assessing new store location. An analog model tries to establish a relationship between potential sales and based on revenue of similar stores in the existing area. Regression model uses a series of mathematical equation showing the association between potential stores sales and several variables like population size, average income, the number of households, nearby competitors etc.

Literature Review

Reilly's Law of Gravitation: It establishes the point of indifference between two cities or communities at which consumers are indifferent to shopping at either. According to the law more consumers go to the larger city or community because there is more store to shop from.

It is based on the premise that people are attracted to

larger places to larger places to do their shopping, but the time and distance they must travel influence their willingness to shop in a given city. In other words, people are more likely to travel shorter distances when possible. Additionally, customers are more likely to shop in larger communities, as they provide a greater opportunity for goods and services.

Huff's Law: It delineate the trading areas based on product assortment carried at various locations, travel times from the shopper's home to alternative locations, and the sensitivity of the kind of shopping to travel time.

Central Place theory:

Central place theory has been over past 60 years extremely influential in providing a framework for the analysis of both spatial and non-spatial retailing patterns, although it is subject to certain limitation discussed by Carter and Brown. Kivell and Shaw's have criticized it for reducing a complex model for simple observations, as it suffers from high degree of abstraction in terms of the assumption of identical consumers, an even distribution of population and the concept of single purpose shopping trip to the nearest center which supplies the merchandise. Center place theory assumes consumers to be identical, which is not a very realistic concept. The single most shortcoming of this theory is the failure to accommodate change successfully. Most of the authors have criticized that oversimplification of the single product or the purpose approach. Factors like price, quality and image is been ignored. New models are been propounded on the bases on multipurpose shopping.

Spatial interaction theory

The large retailers have recognized the commercial opportunities offered by changing consumer demands, and they respond with the provision of new shopping facilities offering the advantages of easily accessible out-of-center sites, adequate car parking, larger premises to provide larger range of products and associated services, and a more attractive shopping environment in more secure surrounding (Thomas and Brommlay 2002). These findings have encouraged large concentration of retail outlets in all the areas of retailing. Service encounter is the outcome of interaction with the service provider, physical environment, and service users. The customers present in the premises also affect the total experience of the service encounter (Lovelock).

Spatial interaction theory is based on hypothesis that consumer trade-off the attractiveness of alternative shopping areas against the deterrent effect of distance (Clarkson, 1996). This offers an alternative model to explain behavioural interaction, in the process it discards the assumption made by central place theory that consumer choose to go to the nearest place for shopping. This theory has originated from the studies of William j. Reilly. He drew an analogy between this with Newtonian Physics, linked with empirical observation of shopping behavior placed in an inter-urban structural context. Gravity model considers variables like population and road distance. The problem is these parameters unity and inverse square do not always perform well in practice. Some empirical studies showed that Reilly's model perform well in practical situations, others found inconsistencies. The modification in the Reilly's law came from identifying “inertia factor” that reflected the reasons for consumers not following the Reily s law.

Most significant modification came from Huff (1962-1963). He believed that consumer patronize the competing shopping areas on the basis of its overall utility. He stated that when consumers have a number of shopping alternative opportunities, they may visit several different stores rather than restrict patronage to a particular store. Therefore, each store within a geographic area with which the shopper is familiar has some chance of being patronized

Land value theory

Land value theory is also known as bid rent theory and urban rent theory. Haig and Hotelling have propounded it in the year 1926.it argue that competition for an inelastic supply of land ensures that, in the long run all the urban land will be occupied by the activity capable of paying the highest rentals, and land is thereby put to its “highest and best use”.

It proposes that location of different activity will depend on competitive bidding for specific sites. Land use activities occupy locations sequentially and once established they can prove difficult to move in. in an urban area there can always be nonconforming and outmoded land. In Mumbai the center has lost much of its accessibility because of traffic and congestion this has led to the existence of positive and non-negative rent which do not always decline with distance.

Alonso (1964) developed models for utilization of

land on the bases of Haig's work. He constructed bid rent curves for each land used function. With the objective of attracting most of the customers from the adjoining areas of central sites, retailer are prepared to bid high rental, but the amount they are willing to pay is inversely proportional to the distance from the central business district.

The principle of minimum differentiation

This principle originated from Harold Hotellings (1929) classic paper. It suggests that a given number of stores operating within the same market sector will achieve superior performance if they are clustered together. Hotelling made key assumption regarding location, pricing, transport cost, consumer behaviour, market shape, conjectural variation and number of competitors. In retailing context, a number of empirical studies support the principle that sellers of same and similar categories tend to cluster totally together. These studies have been carried out in number of different countries; Brown explains that the high order retail trades, like ladies outfitter or departmental stores, exhibit the most clustered distribution, whereas low order retail business such as convenience stores and personal services are the least agglomerated of all.

Chief factors to evaluate in retail trading areas

Population size and characteristic like density of the population, age distribution, average education level, total disposable income, occupation distribution, percentage of residents owning home, availability of labor, closeness to sources of supply like delivery cost, timeliness, promotion facilities availability and frequency of media cost, economic base like dominant industry, extent of diversification, competitive situations, availability of store location and the regulations. The sites can be evaluated on the parameters like

Pedestrian traffic, vehicular traffic, parking facilities, transportation, store composition. The planned shopping center-This is a group of architecturally unified commercial building, is designed and operated as a unit. It has balanced tenancy had good parking facility. It has the support of strong suburban population. Some big retailer is also involved in the making of shopping centers. A regional shopping center is a large planned shopping facility appealing to a geographically dispersed market. A regional center offers a very broad and deep assortment of shopping-oriented goods, megamall is a type of regional shopping centers.

Analysis of Spatial Distribution of Shopping Mall and their Trade Areas in Mumbai

Some of the major upper class and upper middle-class household resides in Western Suburbs which includes Santacruz, Linking Road in Bandra, Andheri, Malad, Goregaon Kandivali, Borivali and Dahisar. Main operational malls in this zone are Infinity Mall, Inorbit Mall, Oberoi Mall, Thakur Mall, Growel 101 etc. Western suburbs, micro-markets accounts for 6 large malls. A reason for this could be the lack of organized retail in these spaces and hence the need for large malls. Another reason could be the fact that a lot of individuals in these areas have an income higher than the other parts of Mumbai.

Table 1

Western Suburbs: Population Growth		
Census	Pop.	%±
1971	1,705,490	—
1981	2,858,170	67.60%
1991	3,947,990	38.10%
2001	5,095,680	29.10%
2011	6,220,000	22.27%

Population density 15000/km2

Source: MMRDA Data is based on Census 2011

Each of the suburbs has their own railway station. Bandra, Andheri and Borivali are important railway station western suburbs. The Western Express highway connects Dahisar to Bandra and then Worli and South Mumbai.SV road is another major road of Mumbai Suburbs which houses some of most fashionable retail destination of Mumbai. Goregaon has the area around has maximum amount of mall space in the western suburbs.

Table 2. Population Size and Characteristics of Mumbai

Sr. No.	Demographic analysis	
1	Area	603 Sq. Km
2	Population	1.84 million
3	Population rate growth	0.03%

4	Estimated Population growth in 10 years	1.31%
5	Historical population Growth	2.03%
6	Number of households	6.6 Million
7	Number of households with an annual income of 2 Million	4%
8	Rate of increase in the household of 2 million income	150%
9	No. of households with an estimated income 1-2 million	15%
10	Per capita income of Mumbai	199,150
11	Population density	26,000 square km
12	Average age of city population	29.9 years
13	0-15	22.50%
14	16-44	58%

Table 3: Commercial and Residential Property rates of Western Suburbs locations

Sr. No	Name of the Mall	Location	Property rate-Commercial	Property rate - Residential	Commercial Lease per sq. ft.	Residential lease outright
1	Infinity Mall	Malad	Rs 14,500*	Rs12700/-	Rs 85	15,000-2,00,000
2	Inorbit Mall	Malad	Rs. 14,500/-	Rs 12,700/-	Rs 85	Rs 15,000/-Rs 2,00,000
3	Oberoi Mall	Goregaon	Rs 16,500/-	Rs14,200/-	Rs 100	
4	Growels 101	Kandivali	13,000-17,500	Rs 13000-18000	Rs 80- 150	18,000-75000
5	Thakur Mall	Dahisar	10,000-12,500/-	10,000-12,000/-		

*All the rates are in Square feet

Source: https://www.mumbaipropertyexchange.com/research/mumbai-property-rates

Table 4: Western Suburbs Mall Demand and Supply Gap

	20111	2012	2013	2014
Estimated Demand	4.43	4.47	4.50	4.54
Total Stock	4.13	4.38	4.38	4.38
Shortfall percentage over	7	2	3	3
Oversupply	NA	NA	NA	NA

Note: Figures are in million square feet
Source: (Research studies on mall in India) asipac report, 2011.

Table 5: Spatial Distribution of leasable space, population, income and connectivity

Malls	GLA (in sq ft	Population (in Million)	Household Income (in million per annum)	Connectivity (distance from railway station. (Km)
Raghulila Mall	1,50,000	5	1.8	1
Infinity Mall	8, 50,000	9.5	3	2
Growels 101	7,50,000	5	2.4	2
Obroi Mall	5,50,000	4.5	2.3	3
Infinity Andheri	3,00,000	9.5	3.4	3
Inorbit Mall	5, 47,00,	4	3	2
Moksha Plaza	1,00,000	9.5	3	1
Thakur Mall	4,00,000	4	2	2
Maxus Meera	2,50,000	5	2	1
Maxus Gorai	2,00,000	3	1.5	1

Source:
1. Knight Frank India Research (Mumbai) 2002, 'Searching for space', Praxis Business Line,
2 . Source: https://www.statista.com/statistics/658634/share-of-annual-income-in-mumbai-india/
3. Statistical analysis of Primary data.
4. MMRDA Data is based on Census 2011

In this section, the factors which affect the location of shopping malls and analysis of their trade areas and consumer behaviors are investigated. The hypothesis is that the leasable space is a function of population, income, and connectivity. The relationships between the leasable shopping space and distance to CBD, population and income of the districts are investigated using regression analysis. Data is given in Table 1. An Excel program was used for the analysis.

Table 2 contains a summary of the standardized coefficients of regression analysis. According to the results, income is the only factor to affect the shopping mall space among the variables considered. Connectivity and the population of districts are found not significant. These results are within the findings of Simkin (1990) that Household Income is the most important influence on the market within a given metropolitan area. The level of household income,

primarily because of its effect on purchasing power, and secondarily because of variations in purchasing patterns that occur among income groups. Income disparities between different parts of the Mumbai Suburbs are found.

For the analysis of trade areas, 10 malls are selected from the Western Suburbs of the city since some of the major malls are in this area. all are good enough to provide a good indication of the urban commercial environment in which it is located. The spatial data was collected from application of the questionnaire on personal preference nature. Analysis of commercial structure is difficult because many of the shopping malls do not permit the surveying of their customers

Table 6: Regression analysis of the factors which effect shopping malls location

Regression Statistics	
Multiple R	0.309028
R Square	0.095498
Adjusted R Square	-0.01756
Standard Error	258969.5
Observations	10

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	102084.7	344583.4	0.296255	0.77458	-692526.1077	896695.6	-692526	896695.6
Income	126071.8	137176.5	0.919048	0.384943	-190257.7529	442401.4	-190258	442401.4
Intercept	408012.5	618690.9	0.659477	0.528113	-1018691	1834716	-1018691	1834716
Population	375	136148.8	0.002754	0.99787	-313585	314334.6	-313585	314334.6
Intercept	1.2375	1.890349	0.654641	0.531065	-3.12165	5.596652	-3.12165	5.596652
Connectivity	0.125	0.415989	0.300489	0.771465	-0.83427	1.084272	-0.83427	1.084272

Table 7: The factors which effect the number of customers to the Mall

Variables	Beta	t	significance
Income	0.909420741	4.299863	0.113360473
Connectivity	-0.81232	-4.23	0.09
Adjusted R Square	0.193544766		
F	3.159949895		
Significance F	0.113360473		

A Survey was conducted of 100 randomly selected customers shows that 40% come for shopping, 25% for eating, 15 % for entertainment and 20% for walking and window shopping. Seventy-five per cent of its customers come from the primary trade area and 22% from secondary trade area and 3 percent from tertiary trade area. 50% customers come up to 1-hour distance, 44% customers come from more than one-hour distance.45% of the customers come by car, 55% customers come by public transport and 5% by walking. The malls attract more customers because of its size location as propounded by Reilly and Huff Models. The results of the study show that income of the trade area is the most important factor to affect the location of malls.

Conclusion

With respect to trade areas of the shopping malls, large malls in Mumbai are quite successful in getting traffic due to tremendous population increase, increase in household incomes growth in car ownership & changing lifestyles. in consequences more and more malls are coming up, with new housing projects, bridges, highways, flyovers, subways, has increased the connectivity. Mumbai with its large population and its rapidly growing retail market offers a great potential for new investors in leisure property. There is still a huge gap between demand and supply of Mall space.

The investigation of consumer behavior reveals that rise in income is one of the major reasons for the growth of shopping mall in the western suburbs. The relationship between leasable shopping area and income, population connectivity was investigated using regression analysis. The result showed that only rise in household income is related to the leasable space available in the area. Thus, shopping malls are generally located in the high-income location. Furthermore, surveying of consumption pattern of the shopping malls in the western suburb showed these malls are accessible by car as well as public transport. People visiting the malls also come from secondary trade areas and besides shopping, the customers come to malls for spending quality time. Thus, a further research is required to understand the changing pattern of consumption and spatial distribution of commercial structure to develop efficient retail market.

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