MARKET ANALYSIS AND FEASIBILITY STUDY OF COMMERCIAL OFFICE SPACE IN MICRO-MARKET OF PANVEL

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Abstract
Panvel city is an upcoming real estate investment destination due to its excellent connectivity to major cities like Mumbai, Navi Mumbai, Thane and Pune. It has wide scope of development due to proposed infrastructure projects and presence of Industrial hub. This study aims to understand the robust nature of this city along with the sustainability of the real estate business here. Various research methodologies have been used which include primary and secondary research. The analysis carried out gives us an idea of the scale of challenges pertinent to our micro-market and their prospective solutions. These theories have been translated into potential future scenarios for sustainable economies.

The final output of the research is to present the approaches based on urban theory model and Impact Assessment study of upcoming Navi Mumbai International airport which would boost the commercial real estate business in sustainable manner by taking into consideration factors of sustainability which are social (recognising the needs of everyone) and economical (maintenance of high and stable levels of economic growth and employment).

Keywords: Sustainability, Micro-Market, Real estate, Infrastructure, Commercial.

Background
Panvel is a city in Raigad district which is in western belt of Maharashtra. It is divided into two parts i.e. Old Panvel and New Panvel. Old Panvel is a 300 year old city where as New Panvel was developed in 1970 under City and Industrial Development and corporation (CIDCO) due to the presence of Maharashtra Industrial Development Corridor (MIDC) which was major industrial growth centre that managed various industrial centres like Patalganga, Roha, Taloja,
Bhiwandi, Khopoli and Nagothane. “One of the key driving forces of Panvel’s growth other than affordability is its good connectivity. Panvel is known as the gateway of Konkan region. Some of the major highways providing connectivity to Panvel include NH-4, NH-4B, NH-17, Mumbai-Pune Expressway and Sion-Panvel Expressway. Sion-Panvel Expressway connects the area to the Mumbai International Airport” (Karthik Kashyap, Shankhadeep Chaudhuri, Priyanka Kapoor, Meha Singla, 2018). Panvel is connected to other parts of Maharashtra via the commuter railway network from CSTM, Mumbai, Thane, Diva, Karjat and Konkan Railway. Due to its geographical location, Panvel is destined to become a main centre for transportation and residential activities. “The Airport site is accessible from the existing Mankhurd-Belapur-Panvel & Thane-Panvel commuter rail corridors from Khandeshwar Railway Station and from the Kharghar Railway Station on the Nerul – Uran Railway line presently under development. CIDCO is working on improving connectivity of the Airport by starting Passenger Water Transport and extending Metro Railway routes to NMIA” (Joshi, 2016). Apart from NMIA upcoming infrastructure projects in and around Panvel includes,

- Mumbai Trans-Harbour Link (MTHL) that is a proposed sea link between Nhava Sheva and
- Proposed Navi Mumbai Metro line from Vashi to Panvel.
- Proposed Panvel-CST elevated train corridor
- A new passenger railway line connecting Ulwe and Nhava Sheva

**Economy**

Panvel is surrounded by Maharashtra Industrial and Development corporation (MIDC) managed regions like Patalganga, Taloja, Nagothane, Roha, Bhiwandi and Khopoli. Major industrial developments are found in New Panvel. Companies like Hindustan Organic Chemicals, Reliance Ltd., ONGC, Larsen & Toubro Limited, IPCL established to provide employment to masses.

Hotel Industry is also one of the contributors to the economy as there are many budget hotels located in city and along the national highway.
Kalyan, Pune, Thane, Taloja, Vashi etc., provide excellent backward and forward linkages with support industries and suppliers of intermediates, to the units that would come up within Navi Mumbai SEZ. The unique feature of the project is it will implement walk to work concept. This requires development of housing facilities and related infrastructure in the SEZ area” (Joshi, 2016).

“Wholesale markets (APMC) and warehousing are concentrated in Eastern Vashi and Kalamboli. A large proportion of land has been set apart for the service industries in Dronagiri as it is to accommodate several port-based industries. Navi Mumbai has a strong economic base. It is situated adjacent to the Thane Belapur Industrial belt developed by MIDC, which is the largest industrial complex in Asia. During the last 30 years of development, Navi Mumbai has attracted significant economic activity projects; few of which are shifting of wholesale APMCs from Mumbai to Vashi, development of a wholesale steel and large warehousing at Kalamboli, IT Parks at Vashi and CBD Belapur. The new projects like the international airport, the NMSEZ at Dronagiri; and the Industrial Park at Kalamboli, are the new economic activities projects coming up in Navi Mumbai” (Navi Mumbai: A profile).
Introduction

The subject-site is located right next to Panvel railway station. The site has an access from Mumbai Bangalore Highway (NH4), Mumbai Pune Expressway and is surrounded by the access roads on all its four sides and strategically located at the centre of Old Panvel and New Panvel. Kalundre river flowing in South acts as a natural barrier. Subject site admeasures around 10.35 acres of land. Site is under the development jurisdiction of CIDCO.

There is no dedicated parking space demarcated for the residents of this area, but a 1.50-acre space of railway parking lot is located at 25 m from the subject site. Site is easily accessible as it surrounded by access road from all its four edges, and close to public transport system, that is Railway station and Bus Depot. Since it is surrounded by the Access road, the site is clearly visible, overlooking Residential G+7 buildings and K mall from its main access road that is towards the west direction and overlooking railway colony right in the opposite direction that is towards its east direction and the southern part is overlooking the green space which is marked as open space in the DP, towards the north direction is Panvel railway station. Low rise budget hotels are concentrated along the arterial road that connects the NH4 from the west direction of subject site. The shape of the subject site is trapezoidal where the narrow width is of 80.5m and maximum width is 150m. The subject site comes under the HFSI zone owned by CIDCO.
3. Research Question

Is Commercial grade A-office space development Legally permissible, Physically possible, Financially feasible and Maximally productive?

4. Research Objective

To identify feasibility of Commercial grade A-office space development on selected site in Panvel Micro-Market.

Methodology

- Identification of Research Problem
- Literature Review
- Six-Step Market Analysis
- Study of Scientific and Theoretical Models
- Financial Feasibility

Analysis

Property Productivity Analysis

A. Physical Attributes

| Terrain       | Flat land       |
|---------------|-----------------|
| Land Cover    | Wild shrubs and trees |
| Shape         | Trapezoidal     |
| Area          | 10.25 acres     |

B. Locational Attributes

| Connectivity – Railway Station | The site is located adjacent to Panvel Railwaystation. |
|--------------------------------|-------------------------------------------------------|
| Accessibility                  | • Road on all 4 sides                                 |
|                                 | • Major road 12m wide (overlooking K-Mall)            |
|                                 | • 9m wide road on two sides                           |
|                                 | • 6m wide road on one side                            |
C. Legal Attributes

| Commercial                  |                        |
|-----------------------------|------------------------|
| FSI                         | L                      |
| TDR                         | 0.5                    |
| Permissible B.U.A(sq. ft.)  | 901692                 |

| Height of the building (in metres) | Minimum setback (in metres) |
|-----------------------------------|-----------------------------|
| <10                               | 3                           |
| 10-25                             | 8                           |
| 25-30                             | 10                          |
| >30                               | 16                          |

| Height of the building           | Minimum no. of lifts       |
|----------------------------------|-----------------------------|
| Exceeding 16 m                   | 1                           |
| Exceeding 24 m                   | 2                           |

Market Delineation

The subject site is strategically located at the intersection of boundaries of old Panvel and new Panvel. The time-distance gravity model is used to determine the time required to reach major infrastructure from the subject site by considering the concentric circles of distance of 2.5km, 5km, 7.5km and 10 km from the centre of subject site. NH4C, NH66, SH54, Mumbai Pune Expressway, Sion-Panvel Highway, Palaspa-Phata are the major road linkages that are accessible within 2.5 km radius of the subject site.
Navi Mumbai International Airport is accessible within 5 km radius of the subject site in 20 minutes. Manasarovar, Kalamboli, NH4B is accessible within 7.5 km radius of the subject site and Kharghar, MIDC Taloja is accessible within 10 km radius of the subject site in 30 minutes. Major tourist spot and hill station such as Karnala can be accessible in 25 minutes via NH66, Karjat in 50 minutes and Lonavala can be reached in 1 hour via Mumbai Pune Highway from the subject site.

**Demand Estimation**

“Road, rail and air connectivity are important in the consideration of locations for office development, the proximity to good public transport is important for office locations in the central areas. In relation to office development in local towns and ‘out-of-town’ business or office parks, proximity to the national highway and airports are important. At a specific level the locational choice of an office occupier is determined by such diverse factors as: tradition, proximity to markets, staff availability, quality of housing, complementary businesses,
availability of parking, individual preferences by directors. Since the advent of IT and with the introduction of more work–life balance options for employees, many companies have introduced ‘hot-desking’ (i.e. several employees share a desk or workstation) or ‘teleworking’ (i.e. employees working from home via computer and telecommunication links with head office). There is debate about how such changes in working patterns and the advances in IT will affect demand for office requirements in the future” (Sara Wilkinson and Richard Reed, 2008).

![Figure 3: Office rentals in micro-markets across MMR (Real estate Intelligent Service, JLL India, 2018)](image-url)

*Figure 3: Office rentals in micro-markets across MMR (Real estate Intelligent Service, JLL India, 2018)*
| Profession                        | Count | %  |
|----------------------------------|-------|----|
| Professional/Doctor              | 38    | 3% |
| Industry Owner                   | 1     | 0% |
| Trader/Shopkeeper                | 110   | 10%|
| Service Industry                 | 105   | 9% |
| Broker/Real Estate               | 6     | 1% |
| IT Professional                  | 15    | 1% |
| Service manager/Supervisor        | 516   | 45%|
| Clerk                            | 178   | 15%|
| Skilled Worker (Industrial)      | 16    | 1% |
| Unskilled Worker                 | 23    | 2% |
| Teaching                         | 36    | 3% |
| Transport Operator               | 11    | 1% |
| Household maid servant           | 1     | 0% |
| Skilled Workers (non-industrial) | 96    | 8% |
| Total Sample population          | 1152  | 100%|

*Figure 4: Percentage division of population based on profession (Socio Economic Profile - Navi Mumbai, 2010)*
Supply Analysis

Figure 5: Map showing distance between selected site and upcoming commercial space in Panvel (Google Maps, 2018)

Figure 6: EV City Centre Artist's impression and actual construction
Project name: EV City Centre

Construction status: Under construction

Total Project Area: 0.40 Acres

Product Mix:
- 1 tower, 46 units, 6 floors
- Configuration: office spaces and retail shops

Units:
- Office spaces: 36 units
- Area: 14 - 524 sq.m.
- Commercial shops: 10 units
- Area: 12 - 44 sq.m.

Price:
- 29 lakhs to 1.13 cr.
- 10,311 Rs./sq. ft. to 16000 Rs./sq. ft.

Amenities:
- Car parking, Lifts
- 24/7 water supply
- Well equipped with fire fighting system

**Figure 7: EV City Centre Project Description**

**Commercial Grade-A Office space price trends near Panvel**

| Neighbouring micro market | Minimum price (Rs/sq.ft/month) | Maximum price (Rs./sq.ft/month) |
|---------------------------|--------------------------------|---------------------------------|
| CBD Belapur               | Rs 50                          | Rs 80                           |
| Vashi                     | Rs 50                          | Rs 110                          |
| Kharghar                  | Rs 45                          | Rs 120                          |

**Observations**

**Figure 7: Catchment Area**
According to a research report by Liases Foras, Navi Mumbai International Airport is one of the most influential and critical Projects on the development of Panvel and its neighbouring region. The key question here that will the development of Navi Mumbai International Airport have any substantial amount of impact on the subject site? To answer this question, a spatial analysis of existing Mumbai International Airport and its influence on the neighbouring region was carried out by Liases Foras research team.”

“Figure 8: Impact zone catchment area mapping

“The study inferred the impact to 1 km-5km from Airport- the high impact zone will cater all the necessary demand for Airport to perform such as hospitality, retail, offices, etc. The medium impact zone has the probability of attracting few tourists at lower lease rental- this zone impact will be up to 9 km while the remaining region will only have an advantage that they have accessibility to airport which is defined as Low/ No impact zone” (Liases Foras). Nature of demand based upon the proposed Airport, it will bring in demand mostly related to the hospitality sector, closely followed by housing, commercial or other sectors
| Sector                                      | Radius(kms) |
|--------------------------------------------|-------------|
| Hospitality and convention centre          | 1-5         |
| Housing for Airport Employee               | 5           |
| Office for Cargo consultant                | 5-7         |
| Regional offices of International consulting firm | 7-9        |

The analysis suggests that the maximum distance for percolating demand will be limited to 7Km to 9Km. Taking this into account our subject site is located around 5 km-7 Km, which means at present condition in Panvel city, it is quite clear that the demand of offices for cargo consultant would rise according to the impact assessment study. Since the subject site is located at the extreme periphery of radius of 5km – 7 km zone, the impact zone of 7 km- 9 km could also be taken into consideration which suggests the development of regional offices of International consulting firms for the subject site.

Conclusion

A. Feasibility Calculations

|                      |               |
|----------------------|---------------|
| Land Area            | 450846 Sq.ft. |
| Built up Area        | 901692 Sq.ft. |
| Land Price           | 2200.00 Per. Sq.ft. |
| Commercial           | 100%          |
| Construction Cost-Commercial@Rs.3000/sq. ft | 270.51 Crores of Rs. |
| Total Cost of Project| 270.51 Crores of Rs. |

Note:

The cost of land is not taken into consideration while calculating project cost as the value of land will always appreciate unlike a built structure. Rs. 3000/sq.ft.is the observed market rate which includes all the cost required for delivering it to clientele in lock-and-key condition.
### C. Revenue Schedule - Commercial

|                      | 2027          | 2028          | 2029          | 2030          |
|----------------------|---------------|---------------|---------------|---------------|
| Total Rentable area  | 541015        | 541015        | 541015        | 541015        |
| Rent per Sq.ft./Month| 129           | 141           | 156           | 171           |
| Occupancy %          | 85%           | 89%           | 89%           | 89%           |
| Total Rentable Months| 12            | 12            | 12            | 12            |
| Gross Rent           | 710,458,445   | 820,579,504   | 899,205,225   | 989,125,747   |
| Escalation in Rent per year | 10% | 10% | 10% | 10% |
| Rent from Commercial Property | 710,458,445 | 820,579,504 | 899,205,225 | 989,125,747 |
| Administrative & General (2%) | 14,209,169 | 16,411,590 | 17,984,104 | 19,782,515 |
| Revenues after Operating Expenses | **391,234,207** | **451,875,509** | **521,916,213** | **602,813,22** |
C.2. Revenue Schedule - Commercial

|                          | 2031          | 2032          | 2033          |
|--------------------------|---------------|---------------|---------------|
| Total Rentable area      | 541015        | 541015        | 541015        |
| Rent per Sq.ft./Month    | 188           | 207           | 288           |
| Occupancy %              | 85%           | 89%           | 89%           |
| Total Rentable Months    | 12            | 12            | 12            |
| Gross Rent               | $1,088,038,322| $1,196,842,154| $1,316,526,369|
| Escalation in Rent per year| 10%          | 10%           | 10%           |
| Rent from Commercial Property | $1,088,038,322| $1,196,842,154| $1,316,526,369|
| Administrative & General (2%) | $21,760,766 | $23,936,843 | $26,330,52 |
| Revenues after Operating Expenses | $1,066,277,555 | $1,172,905,31 | $1,290,195,842 |

D. Financial Summary

|                                |                |
|--------------------------------|----------------|
| Pre-Tax Net Cashflows          | 1290195842     |
| Post Tax Net Cashflows         | 864431214      |
| IRR Pre Tax                    | 24%            |
| IRR Post Tax                   | 18%            |
| NPV Pre Tax                    | $328,112,248   |
| NPV Post Tax                   | $10,706,615    |
| Net Yield on Investment        | 46%            |
| Breakeven Year                 | 8 Years and 31 Days |
Rationale

From above market research and above financial analysis (DCF Method), it is proved that 100% commercial development is feasible on selected land parcel. The development will take place in 5 years and cash inflows will be generated 8 years after construction ends.

Annexures

**Figure 9: Road Linkages Map of Panvel, Maharashtra (Researcher's Mapping, 2018)**
2. Railway Network

- Chhatrapati Shivaji Terminus
  Mumbai – Panvel station
- Thane – Panvel station,
  Harbour line
- Panvel – Diva rail corridor
- Panvel – Kariят rail corridor
- Panvel – Roha outstation

Figure 10: Railway Linkages Map of Panvel, Maharashtra (Researcher’s Mapping, 2018)

Figure 11: Site delineation (Researcher’s Mapping, 2018)
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