

Prepared by Dr. Rana Maya

REA 621
Real Estate market analysis

Lecture 8



Office building Real Estate Market analysis

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lecture

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Abstract



This lecture introduces the main concepts, indicators, and analytical methods used to assess office real estate markets . such as supply and demand, vacancy rates, rental levels, location characteristics. By analyzing these indicators, stakeholders can make informed decisions regarding office investment.

- 
1. Introduction
 2. Characteristics of Office Buildings
 3. Preparing an Office Market Study
 4. Defining the Market Area
 5. Site Evaluation
 6. Demand for Office Space
 7. Tracking Supply
 8. Evaluating Competitive Buildings
 9. market analyst's conclusions
 10. Case study

Learning outcomes

By the end of the lecture, you will be able to:

Explain the structure and characteristics of the office real estate market.

- **Identify** key factors that influence demand and supply for office buildings.
- **Analyze** office market indicators such as vacancy rates, absorption rates, and rental levels.
- **Evaluate** the impact of economic, demographic, and technological trends on office markets.
- **Apply** market analysis techniques to assess the feasibility of office real estate development.
- **Interpret** office market data to support investment and development decisions.
- **Assess** risks and opportunities in office real estate markets.

Office buildings exhibit a wide range of sizes and styles, from modest low-rise structures with a single tenant (or just a few), to mid-rise suburban campuses, to high-rise multitenant buildings with top-quality finishes and amenities.

Potential office tenants would not necessarily limit their search to a single type of building

Why?



Potential office tenants would consider a variety of available locations, depending on their space requirements, labor needs, and location preferences.

1. Introduction

Demand for office space is changing, dramatically affecting the need for new construction. Flexible arrangements for office workers (more home offices, rapid expansion in coworking locations for corporate staff as well as individual entrepreneurs and startup businesses) result in less space per employee.

These changes dictate the need for careful analysis of market conditions.



2. Characteristics of Office Buildings

Class :

- Class is measured by evaluating the space's age, location, quality of finishes, building systems, amenities, lease rates, and tenant profile.
- Office space inventories generally segment buildings into classes A, B, or C.
- Class A space includes professionally managed buildings that have an excellent location and access, as well as prestigious corporate and professional tenants.
- Increasingly, they are characterized by environmentally sensitive or “green” building materials and operational systems that save on energy and water costs; these systems also provide a healthy work environment for employees.

2. Characteristics of Office Buildings

- Exercise facilities may be available solely for the tenants' use, or at a discounted rate at health clubs open to the public.
- Amenities such as coffee bars, takeout food, restaurants, and other services help attract businesses.
- Buildings are also installing shared conference room spaces that all tenants can reserve; individual tenants are pleased not to have to provide this infrequently used (but costly) feature.



2. Characteristics of Office Buildings

Class A buildings are less than 10 years old or have been extensively renovated to bring them up to current high standards. Building materials and amenities are top quality, and the property conveys a high-status image for its tenants.

Class B buildings have good locations, professional management, and high-quality construction. Although they are not new, these properties show very little physical deterioration, but they may lack state-of-the-art HVAC, lighting, mechanical systems, or tech capabilities.

Class C buildings are substantially older than class A or class B buildings, with inferior locations, lack of design appeal, or signs of deferred maintenance.

2. Characteristics of Office Buildings

Location

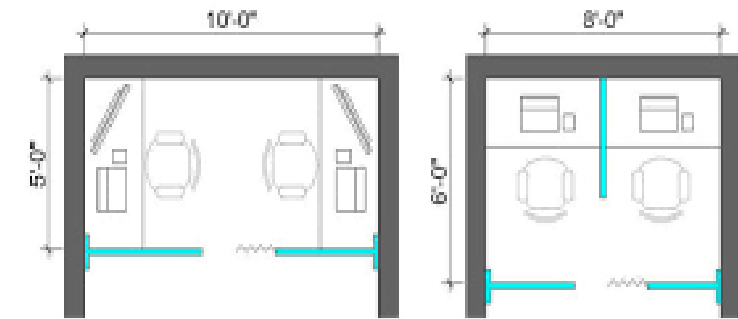
- Location Downtowns or central business districts (CBDs) are usually characterized by tall office buildings and high rents.
- Major business and professional services providers in law, accounting, architecture, engineering, and consulting downtown locations attractive, as do many corporate headquarters and regional offices.
- Government offices are often concentrated in CBDs, but rarely in class A space.
- Spacious suburban office parks, with a variety of building styles and heights, captured a growing share of demand .
- Small suburban office buildings can be found along major arterials and adjacent to retail centers and multifamily residential complexes.



2. Characteristics of Office Buildings

Size and Layout

- Office buildings generally fall into three size categories: high-rise (16 stories or more), mid-rise (four to 15 stories), and low-rise (one to three stories).
- Floor plate size is an important consideration, with some tenants requiring large floor plates so they can occupy fewer levels.
- Floor space flexibility is important as more tenants opt for open-floor layouts and more efficient use of space.
- Office floor plates in new class A buildings generally range from 18,000 to 30,000 square feet.



2. Characteristics of Office Buildings

Use and Ownership

- A majority of office buildings are occupied by multiple tenants who lease their space.
- Office condominium tenants tend to be professional practices (physicians, attorneys, accountants) and other locally owned or franchise businesses.
- Office buildings for market niches: medical and laboratory space, university-affiliated institutes, nonprofits, financial services, or back-office functions .
- Corporations often occupy an entire office building; they may own it or lease it from an investor-owner



2. Characteristics of Office Buildings

Features and Amenities

- A building's architecture and the style and quality of finishes in public areas will be important in the selection of a location by image-sensitive tenants also:
- On-site health clubs, restaurants, and retail roof decks, bike rooms, shared conference centers, and expanded health/fitness options in their buildings.
- Quiet rooms where workers could take a nap. New amenities included dry cleaning drop-off and pet care; hair and nail salons or medical/ dental

“In the past, approximately 3 percent of portfolio space was committed to features like gyms and on-site dining. **Today, owners should expect to allocate 10 percent**, and those who are trying to attract highly sought-after tenants should look to reserve 12 percent or more.

2. Characteristics of Office Buildings

Features and Amenities -Security and Technology

- Security is paramount for government agencies and private tenants, both in the lobby and at the entrance to individual office spaces.
- Companies needing the most up-to-date security features are moving to fingerprint or retina recognition systems.
- High-capacity electrical systems like high-speed internet, flexible telecommunications systems, and both on- and off-site data storage capabilities



2. Characteristics of Office Buildings

Features and Amenities -Energy-Saving and Environmentally Friendly Features

- Energy-saving and environmentally sensitive “green” features are considered essential in a class A office building
- Indoor air quality, temperature and noise controls, and use of nontoxic building materials are as important as lavish lobbies.
- Developers of new buildings are seeking Leadership in Energy and Environmental Design (LEED) ratings, paying attention to site planning that maximizes natural light, installing windows that actually open, using recycled carpet...



2. Characteristics of Office Buildings

Features and Amenities -**Parking and Transit**

- The availability and cost of parking and accessibility to mass transit in urban cores are important features when marketing office buildings.
- suburban tenants wanted five or six parking spaces per 1,000 square feet of rentable area.
- walking or biking to work became more common



2. Characteristics of Office Buildings

Shared Spaces, Flexible Commitments

- As more employees are permitted to work remotely , a growing trend is to use professionally managed flexible office arrangements, often referred to as “coworking” space.
- New businesses and self-employed professionals could show prospective clients or customers a permanent mailing address, an advantage for firms that were just getting started.



2. Characteristics of Office Buildings -example

How “WeWork” Works? In 2018, WeWork was leasing over 12 million square feet of space from building owners in 4,000 locations. The company states that its mission is to “build a community,” not just a place to work.

The following services are included in the monthly fee :

- Offices designed to maximize natural light;
- Free wi-fi and ethernet connections;
- Desks, chairs, lamps, and filing cabinets;
- Use of a copier/scanner/printer on each floor;
- Coffee, tea, and fruit water;
- Common area lounges;
- A nine-to-five on-site manager;
- Daily cleaning;
- Special events, including catered lunches
- Networking gatherings
- Wellness programs; and ■ Bike storage. Many locations are pet friendly.

3.Preparing an Office Market Study

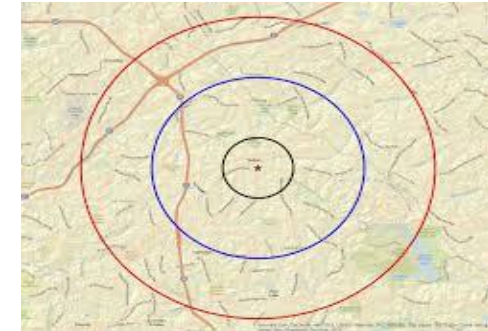
- Market studies for office properties follow a format similar to that used in residential or retail reports, with a few notable exceptions.
- For office space, **demand is more closely related to employment growth** and the need to replace obsolete buildings than it is to household demographics
- **Net absorption is the key indicator of effective demand.**
- As with all property types, attention must be given to supply trends, including construction activity, occupancy rates, and rent growth.



4. Defining the Market Area

Generally accepted development corridors or nodes can be used as the market area for the study and may depend on many factors:

- The location of buildings of similar size, age, and quality
- Street and road patterns in the area surrounding the building
- Proximity to mass transit, major metropolitan highways, and (at times) airports
- Commute times from residential areas
- Proximity to other facilities relevant to target businesses, such as universities, medical centers, research laboratories, or other institutions
- Jurisdictional boundaries (and associated real estate tax rates)
- Physical barriers to access
- The image and quality of nearby land uses.



5. Site Evaluation

- Land planners determine site and lot layout requirements, then prepare preliminary designs
- A site's topography plays an important role in project feasibility
- A market study should include a thorough evaluation of the site's advantages and drawbacks.
- **The project's location directly affects the rent and occupancy levels it can achieve**
- Good access to adjacent roads is critical.
- Proximity to restaurants, shopping areas, and both outdoor and indoor recreation generates higher rents and faster leasing

As noted, a building within walking distance of a mass transit station, for example, may be able to obtain substantially higher rents than buildings a half mile away.

6. Demand for Office Space

Identification of Office-Prone Employment

- **Employment growth is considered to be the best indicator of demand for office space.**
- Market analysts need a good understanding of metropolitan area economies to determine how projected job growth translates into possible demand for new office space.

Growth can occur when new businesses enter the market or when existing businesses expand..

6. Demand for Office Space

Space Standards: Square Feet per Worker

- No universal agreement exists on today's office design standards, and variation by industry is still considerable.
- Some businesses are averaging as little as 125 to 150 square feet per worker, especially in the tech sector, with even less space for employees in call centers, customer service operations, open (shared) coworking spaces, and government offices.
- Open offices (with no enclosed/private spaces) may have as little as 60 square feet per desk seat.
- With increasing rents, allocating less space per employee is one important way that businesses can save money.

6. Demand for Office Space

Use of Historical Net Absorption to Predict Future Demand

Both office employment trends and net absorption are imperfect proxies for office space demand, and neither approach should be relied on alone in market analyses. **When used together, the two approaches can provide a reasonable picture of trends.**



6. Demand for Office Space

Submarket Demand

- Proximity to a business's client base or facilities it uses regularly
- Availability of labor
- Accessibility for workers, both by car and by transit
- Proximity to employee amenities, such as shopping, restaurants, and health clubs,
- Housing costs in the surrounding community
- Image of the submarket as a good place in which to do business.
- Real estate taxes, which can vary not only by submarket but also by municipal jurisdiction
- Comparative rents.



The 1450 Brickell project is a 35-story, 586,000-square-foot office building located in downtown Miami. (Robin Hill)

6. Demand for Office Space

Use of Surveys

- For office buildings targeted to a particular tenant type, survey research can help determine the depth of demand.
- For a building targeted to medical services, for example, a short questionnaire can be sent by either email Postal .
- Service to health care professionals in the local market area, asking about their satisfaction with their current space and interest in expansion.
- They should also be asked about the years remaining on their leases.



7. Tracking Supply

Four key metrics help analysts monitor office space supply changes:

- Inventory (the amount of existing space at a given point in time),
- The percentage of inventory that is vacant or available as sublet space,
- The amount of new space under construction that will be added to the
- Inventory trends in rent per square foot.

The analyst would furnish descriptions of the most important competitive properties in detail, providing information on :

- Proximity to the subject site
- Ownership or management
- building size and height
- lease rates and terms
- Anchor tenancy ,and vacancy rate



7. Tracking Supply

Building Inventory and Square Footage

It is important for the market analyst to understand property coverage and geographic delineations.

Leasing Activity Leasing activity is the gross amount of space for which leases are signed in a specified time period.

Vacancy Rates The amount of vacant space and the vacancy rate (calculated as a percentage of inventory)



If vacancies are concentrated in class B or C space; new construction of class A space might be justified.

If vacancy rates are stable or dropping despite additions to the supply inventory, then market conditions or trends can be viewed positively.

If inventory is largely unchanged but vacancy rates are climbing, demand for office space is weakening..

7. Tracking Supply

**Downtown and Suburban Office Vacancy Rates,
25 Largest U.S. Office Markets**
3rd Quarter 2018

Highest downtown vacancy rates		Lowest downtown vacancy rates	
Market	Rate (%)	Market	Rate (%)
Dallas	28.0	San Francisco	5.2
Minneapolis/St. Paul	20.7	Boston	6.9
Phoenix	20.6	Austin	7.2
Los Angeles	17.5	Manhattan	7.6
Denver/Baltimore	17.2	Seattle	8.2
U.S. average^a	10.5		
Highest suburban vacancy rates		Lowest suburban vacancy rates	

Highest suburban vacancy rates		Lowest suburban vacancy rates	
Market	Rate (%)	Market	Rate (%)
Dallas	19.8	San Francisco	7.1
Houston	19.5	San Jose	7.7
Chicago	18.8	San Diego	10.1
Atlanta	18.7	Orange County	10.9
Miami/Boston	18.3	Austin	11.0
U.S. average^a	14.1		

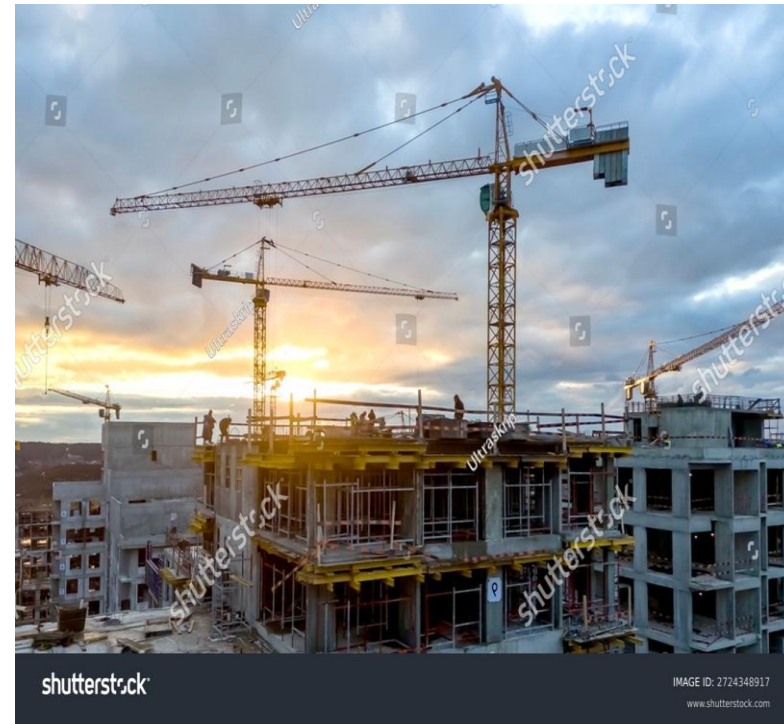
7. Tracking Supply

Construction Activity

CBRE Econometric Advisors tracks annual office space completions.

The firm notes that the peak year for office completions was 1989, when a total of 121.1 million square feet of new space was brought to market.

In subsequent economic cycles, peak-year new space was less than that of the previous peak: 110.3 million in 2001, 76.5 million in 2008, and 64.8 million expected in 2018 (the peak of the most recent cycle).



7. Tracking Supply

Rent Trends, Lease Terms, and Concessions

Market analysts should review trends in asking rents for the metropolitan area as a whole and for the submarket.

These data are usually available in reports issued by brokerage firms or can be purchased from national data vendors.

When evaluating office rent trends, the analyst should focus on properties in a comparable quality class, but it is also important to know the difference in average rent per square foot for class A, B, and C prop During periods of market softness, building owners will offer concessions to attract tenant.



8. Evaluating Competitive Buildings

- Building visibility.
- Compatibility of surrounding uses.
- Ease of access.
- Attractive, enduring exterior design
- Floor sizes and space configuration.
- Energy efficiency. Increasingly, tenants seek space in “green” buildings
- number of elevators and calculate whether it is sufficient to meet today’s standards
- Amenities such as a concierge, fitness center, restaurant or deli, shared conference room, dry cleaner, convenience store, and bank should be noted.



8. Evaluating Competitive Buildings

Private data vendors, local commercial brokers, and online listings are the best sources of information on individual competitive buildings.



9. Market analyst's conclusions

A comparison of the current rate of net absorption of office space with the current (and planned) supply of space gives a fairly clear picture of the overall balance between demand and supply in the market

if annual net absorption in the area has been averaging 50,000 square feet and 50,000 to 75,000 square feet of space are available, demand and supply are in balance. If, however, 100,000 square feet of space are available, the market has a two year supply of office space. And if the market contains 500,000 square feet of available space, it has a 10 year supply.



9. Market analyst's conclusions



In an office market study, the market analyst's conclusions will include estimates of absorption, rents, and stabilized vacancy rate.

9. Market analyst's conclusions

Data are available online from national and local commercial brokerage firms that operate in the area, and purchasing data from private vendors.

Example: Vacancy Rates and Asking Rents in Office Submarkets

Phoenix Metro Area, 1st Quarter 2018

Submarket	Vacancy rate (%)	Year-over-year basis point change	Asking rent (per sq ft)	Year-over-year % change
East Valley	11.0	-430	\$24.42	2.5
West Phoenix	14.3	10	\$24.78	9.7
East Phoenix	17.4	-120	\$26.99	4.8
Scottsdale	17.4	-30	\$25.37	4.5
Central Corridor	17.9	-270	\$24.78	2.5
Airport area	19.8	-340	\$23.82	3.8
Northwest Phoenix	20.8	110	\$21.20	3.9

9. Market analyst's conclusions

- Barring a dramatic economic downturn, these numbers do not suggest overbuilding. New space deliveries in 2019 are expected to be below 2018 levels.

Example: Office Market Summary Statistics
Phoenix Metro Area

	Phoenix metro market	Class A	Class B	Class C
Number of buildings, 2Q 2018	2,908	317	2,027	564
Square feet (000s), 2Q 2018	147,591	49,651	85,161	12,779
Vacancy rate ^a (%)				
2Q 2018	14.7	14.4	15.7	9.4
2Q 2017	16.1	15.2	17.3	12.3
Asking rent, per sq ft, 2Q 2018	\$24.69	\$28.89	\$22.69	\$18.00
Net absorption, 2Q 2018 (sq ft, 000s)	1,112	352	527	232
New construction completed, 2Q 2018 (sq ft, 000s)	220	150	70	0
Under construction, 2Q 2018 (sq ft, 000s)	2,963	2,427	536	0

9. Market analyst's conclusions

The data show that buildings in the five-mile study area are small, rents are low, and vacancies are high, even by suburban standards.

The office market in this area had yet to recover from the effects of the recession. Using this information, as well as interviews and field observations in the area, the market analyst could clearly demonstrate to the municipality that no demand existed for new office space

Inventory and rents		
	Suburb X	Five-mile radius
Number of buildings	14	25
Total square footage	441,517	1,091,048
Median building size (sq ft)	22,000	30,000
Median year built	1990	1983
Average asking rent (per sq ft)	\$16.59	\$15.00
Average vacancy rate (%)	19.7	28.0

9. Market analyst's conclusions

Historical rent and vacancy rates: five-mile radius

Year	Average asking rent (per sq ft)	Vacancy rate (%)
2013	\$16.57	29.1
2014	\$17.10	24.6
2015	\$17.11	32.4
2016	\$16.89	30.2
2017	\$16.58	28.0

Exercise : Office Demand Forecast

Exercise : Office Demand Forecast

An office market recorded the following demand for office space:

Year	Net Absorption (m ²)
2020	60000
2021	75000
2022	90000
2023	105000

Questions

- Calculate the **average annual growth rate of demand**.
- Forecast **office demand for 2024** using the growth rate.
- If **new supply planned for 2024 = 150,000 m²**, will the market likely face **oversupply or shortage**?

Exercise : Office Demand Forecast

1. Average Growth Rate

Increase each year = **15,000 m²**

Average growth rate $\approx (15,000 \div 60,000) \times 100 = \mathbf{25\%}$

2. Forecast Demand for 2024

Demand 2024 = $105,000 + 15,000$
= **120,000 m²**

3. Market Condition

Planned supply = **150,000 m²**

Demand = **120,000 m²**

Oversupply = $150,000 - 120,000 = \mathbf{30,000 m^2}$

Market situation: **Oversupply**



Exercise : Office Development Decision

Exercise : Office Development Decision

A developer is evaluating an office project:

Construction cost = **\$50 million**

Expected annual NOI = **\$5 million**

Market capitalization rate = **8%**

Questions

- Estimate the **market value of the completed building**.
- Calculate the **developer profit (value – cost)**.
- Should the developer proceed with the project?



1. Market Value

Market Value = NOI ÷ Cap Rate

= 5,000,000 ÷ 0.08

= **\$62,500,000**

2. Developer Profit

Profit = Value – Cost

= 62,500,000 – 50,000,000

= **\$12,500,000**

3. Investment Decision

Yes, the developer should proceed because:

Project value > construction cost

Expected profit = **\$12.5 million**

10. Case study

Office Building Market Analysis Report

Project: Downtown Business Center , **Location:** Central Business District (CBD)

Prepared for: ABC Real Estate Development Company , **Date:** 2026

1. Executive Summary

This report analyzes the **office market conditions** in the Central Business District to evaluate the feasibility of developing a **new Grade-A office building**.

Key findings include:

The office market currently shows **moderate vacancy levels (10–12%)**.

Demand for **high-quality office** is increasing due to growth in the **technology and financial sectors**.

Rental rates have grown by approximately **5% annually during the last three years**.

The analysis indicates that the proposed project could achieve **strong occupancy and competitive rental rates** if delivered within the next two years.

Exercise : Office Development Decision

2. Regional Economic Overview

Economic conditions strongly influence office demand.

Indicator	Value
Population	2.8 million
GDP growth	4.2 %
Employment growth	3.5 %
Office employment	420,000 workers

Major Office Demand Sectors

Financial services ,Technology companies ,Professional consulting firms ,Government agencies
Growth in these sectors is expected to increase **future office space demand**.

Exercise : Office Development Decision

3. Office Market Supply Current Office Inventory

Indicator	Area
Total office stock	3,200,000 m ²
Occupied space	2,880,000 m ²
Vacant space	320,000 m ²

Vacancy Rate

$$\begin{aligned}
 \text{Vacancy Rate} &= \text{Vacant Space} / \text{Total Supply} \\
 &= 320,000 / 3,200,000 \\
 &= \mathbf{10\%}
 \end{aligned}$$

Exercise : Office Development Decision

New Supply Pipeline

Project	Size
City Tower	80,000 m ²
Riverside Offices	60,000 m ²
Innovation Center	45,000 m ²

Total new supply: **185,000 m²**

Exercise : Office Development Decision

4. Office Market Demand

Demand is measured using **net absorption**, employment growth, and business expansion.

Net Absorption Trend

Year	Net Absorption
2022	70,000 m ²
2023	85,000 m ²
2024	110,000 m ²

Average demand growth: **approximately 20% per year.**

Demand Drivers

Expansion of multinational companies

Growth in start-ups and technology firms

Increasing demand for flexible workspaces

Exercise : Office Development Decision

5. Rental Market Analysis

Average Office Rent

Location	Rent (\$/m ² /month)
CBD Grade A	35
CBD Grade B	27
Suburban Offices	20

Rental growth rate: **4–6% annually.**

Key Observation

Tenants increasingly prefer:

Modern office design

Sustainable buildings

Proximity to transport and services

Exercise : Office Development Decision

6. Competitive Market Analysis

Major competing office buildings include:

Building	Size	Rent	Occupancy
City Business Tower	60,000 m ²	\$36	95 %
Central Plaza	55,000 m ²	\$34	92 %
Metro Offices	40,000 m ²	\$31	88 %

The market shows **strong demand for high-quality buildings** with modern facilities.

Exercise : Office Development Decision

7. Market Forecast

Future Supply

Expected new supply within three years:

250,000 m²

Future Demand

Projected annual demand:

100,000 – 120,000 m²

Market Outlook

Vacancy may increase slightly to **12–13%** in the short term.

Long-term demand remains strong due to **economic growth and business expansion.**

Exercise : Office Development Decision

8. Proposed Office Development Analysis

Item	Value
Building type	Grade-A office tower
Total floor area	45,000 m ²
Rentable area	38,000 m ²
Expected rent	\$36/m ² /month
Target occupancy	90 %

Estimated annual gross revenue:
 $38,000 \times 36 \times 12 = \text{\$16,416,000}$

Conclusion

The office market in the CBD remains **stable with moderate growth potential**. Although new supply is entering the market, demand growth should absorb most of it.

The proposed office project is **likely to be financially viable** if:

- Construction costs are controlled
- Competitive amenities are provided
- Effective leasing strategies are implemented

Conclusion

Understanding the dynamics of supply and demand, economic conditions, employment growth, and business activity helps stakeholders evaluate the performance and future potential of office markets.

Key indicators such as vacancy rates, absorption levels, rental trends, and new construction activity provide valuable insights into market conditions and competitiveness.

lecture

08



Exercise

Do Office building Real Estate Market analysis to decide about developing new project in your town?



Thank You