

Industry Intel with Savills

The Standard Deviants

Haley Bohn

Grace Garver

Mia Parker

Parker Gauldin

Meet The Standard Deviants

—Haley Bohn

Major(s): Data Science & Statistics

Minor(s): ARTH, Computer Science, & Applied Math

—Grace Garver

Major(s): Computer Science

Minor(s): Data Science

—Mia Parker

Major(s): Data Science

Minor(s): Computer Science

—Parker Gauldin

Major(s): Data Science & PPLE

Minor(s): Computer Science

Question:

How can we aid **Savills** in
finding the best office space
for a client by industry?

Our Variables

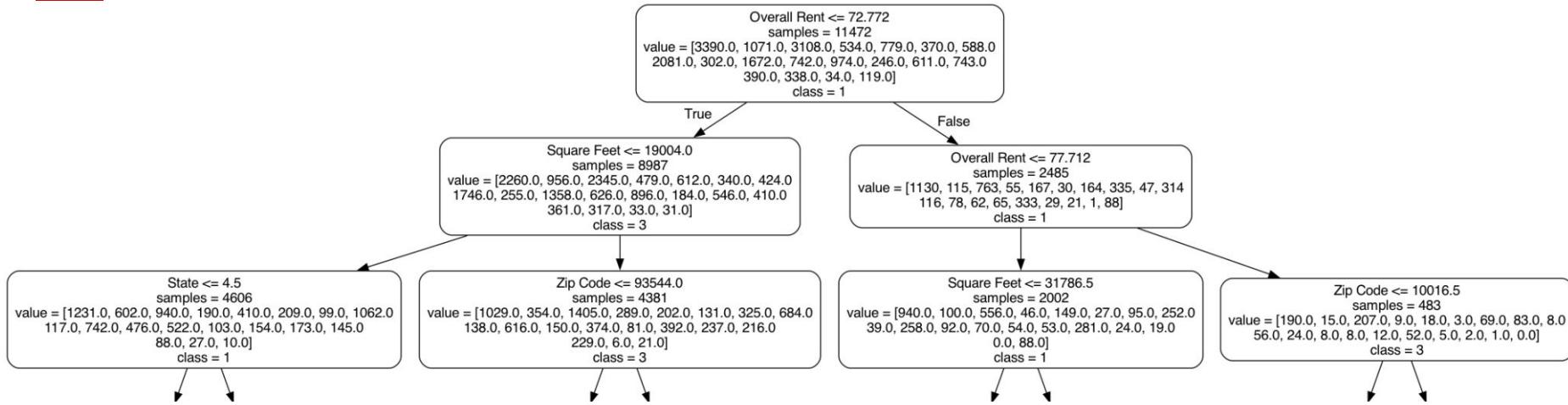
Variables Used

- 'Internal_industry': the industry type that signed the lease
- 'Market': a region that contains several industries
- 'leasedSF': the square footage of the office space leased
- 'CBD_suburban': a classification of location, either CBD (central business district) or suburban
- 'Zip': zip code of the office space
- 'State': state in which the space is located
- 'Overall_rent': average rent in a market for the quarter

Changes Made

- We removed all observations with NA 'internal_industry'
- Replaced variables in 'internal_industry', state, 'cbd_suburban' with number corresponding to variable

Example Tree Across All Industries



Accuracy: 0.227

| Feature | Importance |
|-----------|------------|
| Leased SF | 0.499 |
| Zip Code | 0.247 |

Dominating Industries: 2018 - 2024

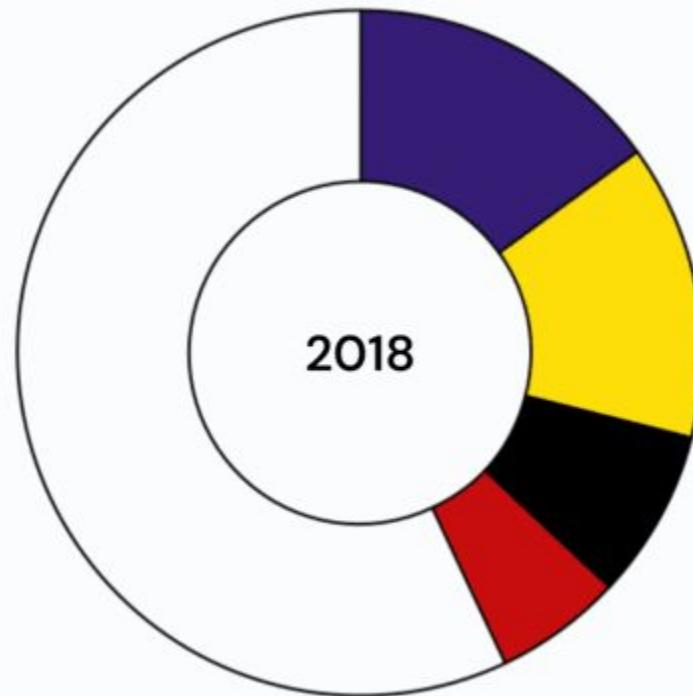
15% Finance & Insurance

14% Technology

8% Business Services

6% Legal Services

57% Other



Top 2 Influencers for Top 4 Industries

Legal Services

Accuracy: 0.888

| Feature | Importance |
|-----------|------------|
| Leased SF | 0.569 |
| Zip Code | 0.200 |

Technology

Accuracy: 0.821

| Feature | Importance |
|-----------|------------|
| Leased SF | 0.517 |
| Zip Code | 0.253 |

Finance & Insurance

Accuracy: 0.798

| Feature | Importance |
|-----------|------------|
| Leased SF | 0.513 |
| Zip Code | 0.213 |

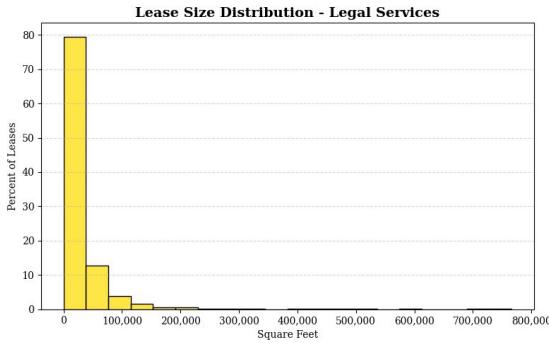
Business & Services

Accuracy: 0.859

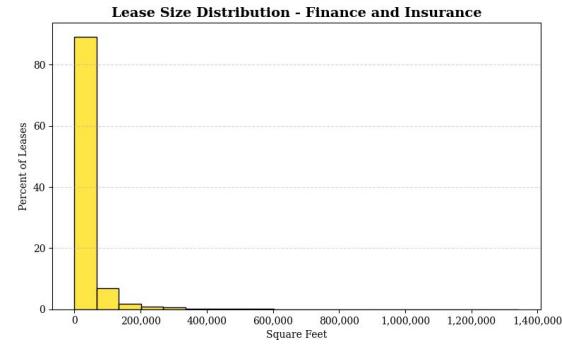
| Feature | Importance |
|-----------|------------|
| Leased SF | 0.537 |
| Zip Code | 0.253 |

Square Footage

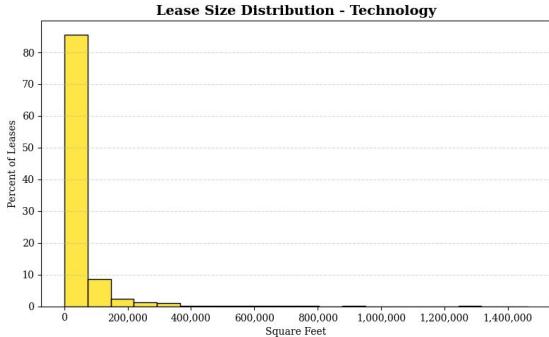
Legal Services



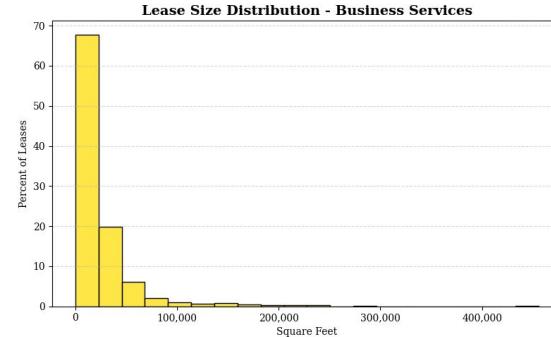
Finance & Insurance



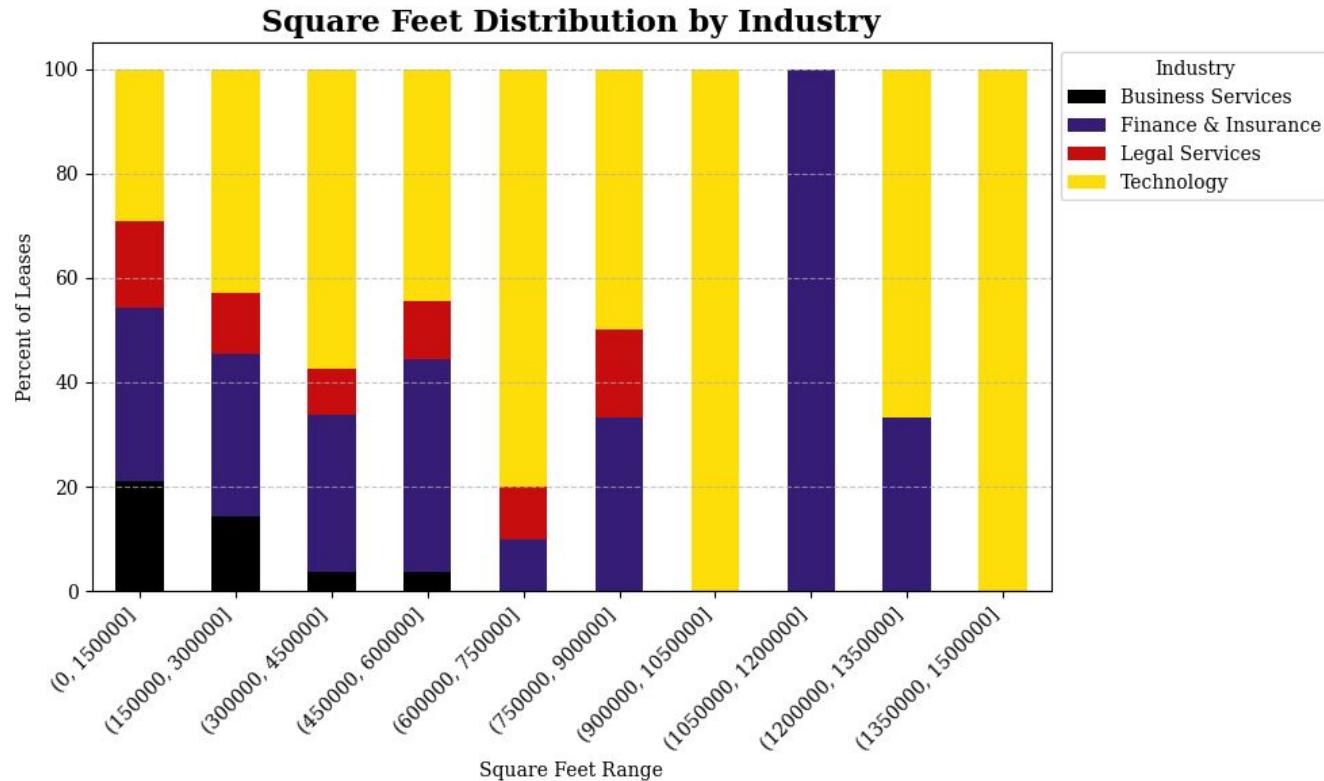
Technology



Business Services



Square Footage



ZIP Codes & Counties



Legal Services

100 – New York City
200 – Washington DC
606 – Chicago
770 – Houston, TX
900 – Los Angeles



Finance & Insurance

100 – New York City
101 – New York City
606 – Chicago
303 – Atlanta
770 – Houston, TX



Technology

100 – New York City
941 – San Francisco
606 – Chicago
201 – New Jersey
787 – Austin, TX



Business Services

100 – New York City
201 – New Jersey
200 – Washington DC
606 – Chicago
222 – North Virginia

Industry Distribution



Analyzing Results

We chose to examine the top four most prominent industries in our dataset: Legal, Business, Technology, and Finance.

Our analysis reveals that square footage and zip code location are the most influential factors, with importance values of approximately 0.55 and 0.25, respectively.

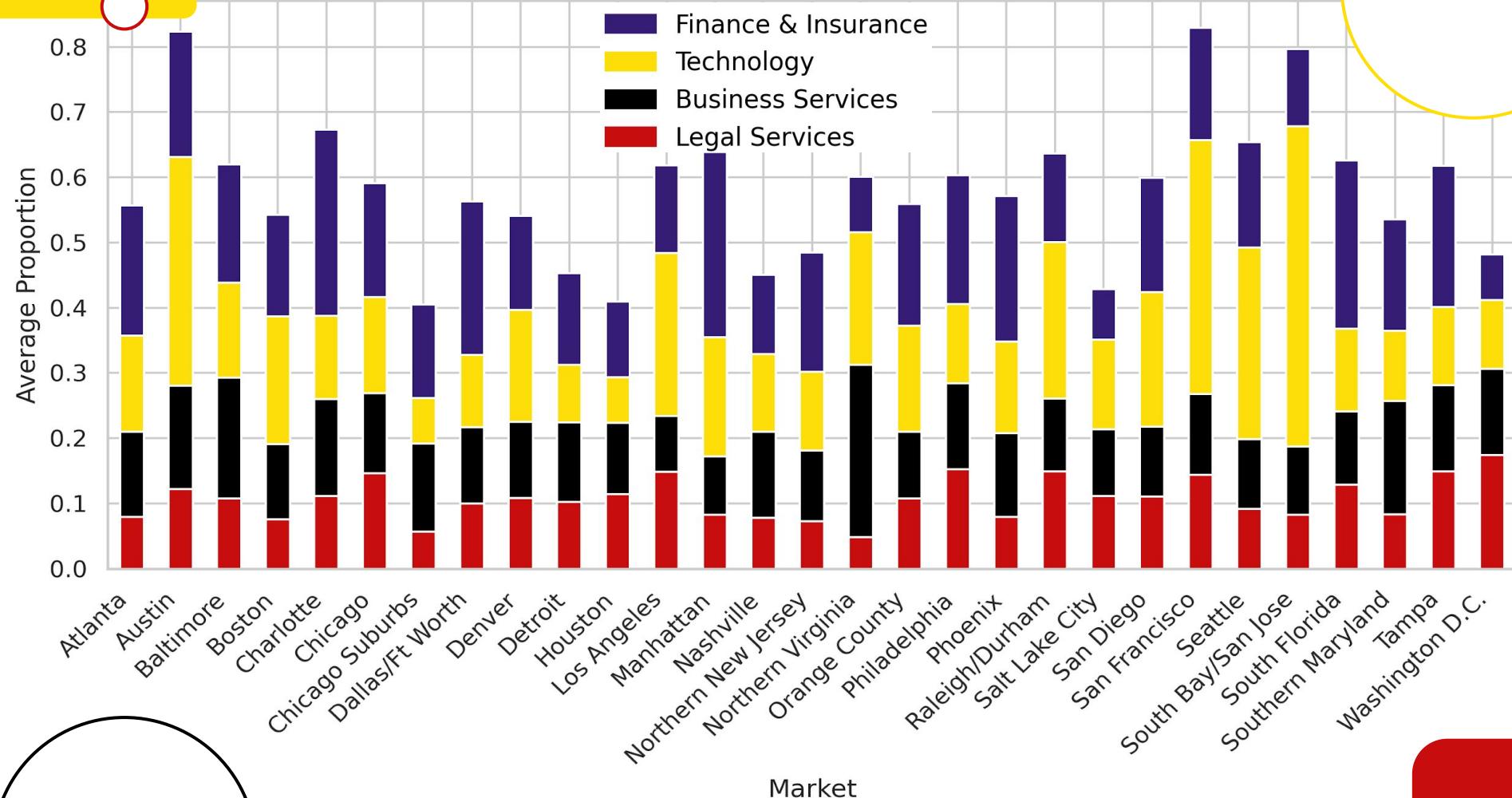
Our square footage analysis showed that Business Services are likely to be placed in smaller locations. When matching for larger spaces, Savills should focus on Finance & Insurance and Technology. Legal Services prefer placements in small to medium locations.

While all four industries have a strong preference for NYC, it's possible that the city is becoming oversaturated with these sectors.

Question:

**How can we visualize the
impact of COVID-19 on the
top four industries?**

Industry Composition by Market (Proportion Across All Years: 2018-2024)



COVID Recovery

2018

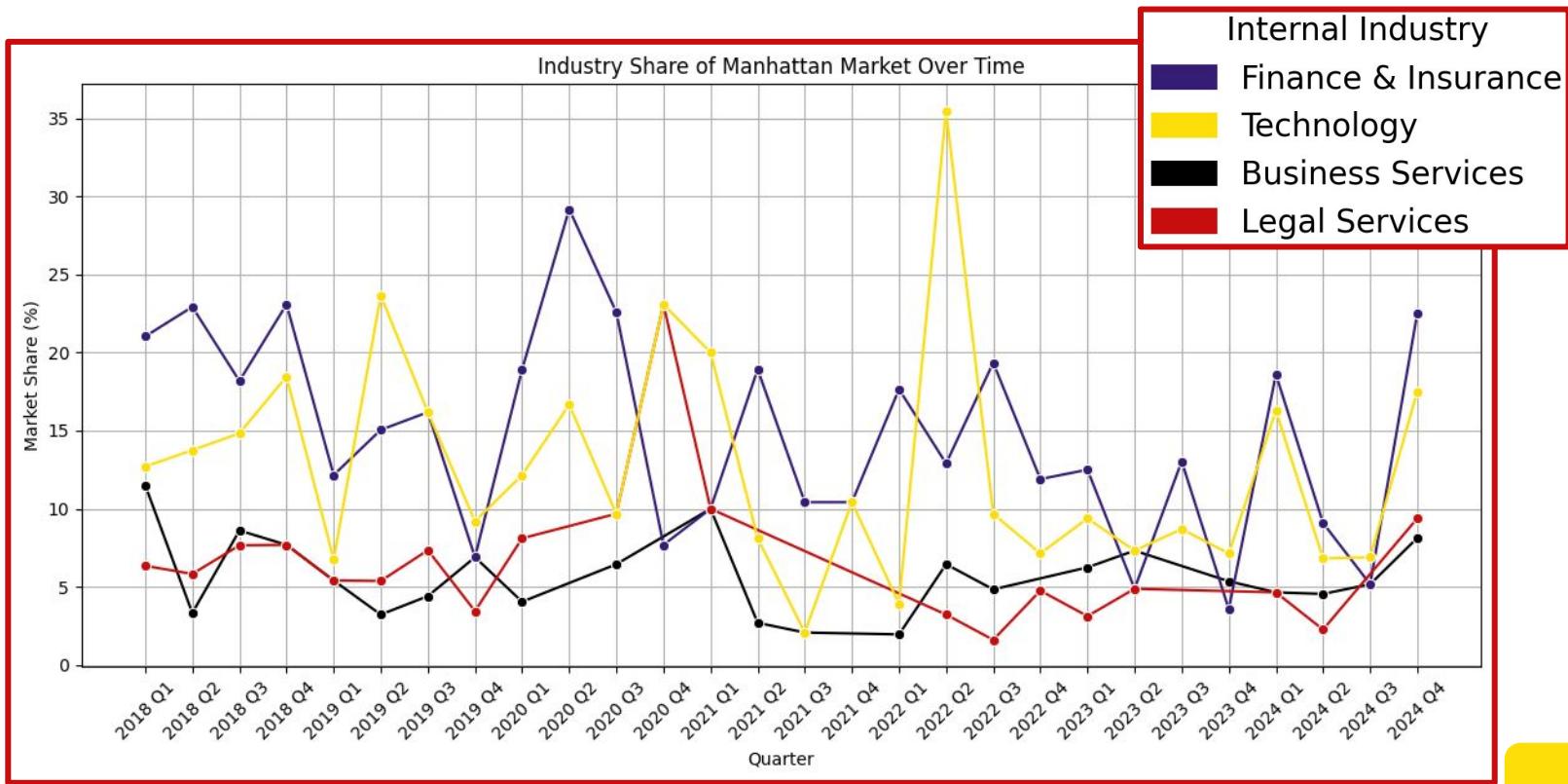


2024



- Finance & Insurance
- Technology
- Business Services
- Legal Services

Industry Shares of Manhattan



Analysis and Observations

The **Finance and Insurance** sector consistently led the Manhattan market, starting at **21.03%** in Q1 2018 and growing to **22.5%** by Q4 2024. Despite some fluctuations, it maintained the largest market share.

Business Services remained under **10%** of the market for most of the period, reaching a low of **1.96%**. This could be attributed to long term effects of COVID, as many businesses were forced to shut down.

In **2020**, especially in **Q2**, there were irregular patterns, with **Financial Services** spiking to **29.17%**, likely due to other industries scaling down or temporarily shutting down, while financial services quickly adapted to new demands, such as remote work and virtual services. This period also saw a noticeable decline in **Business** and **Legal Services**.

Thanks

Does anyone have any questions?