Price and Occupancy Rate Optimization

Analytics Department

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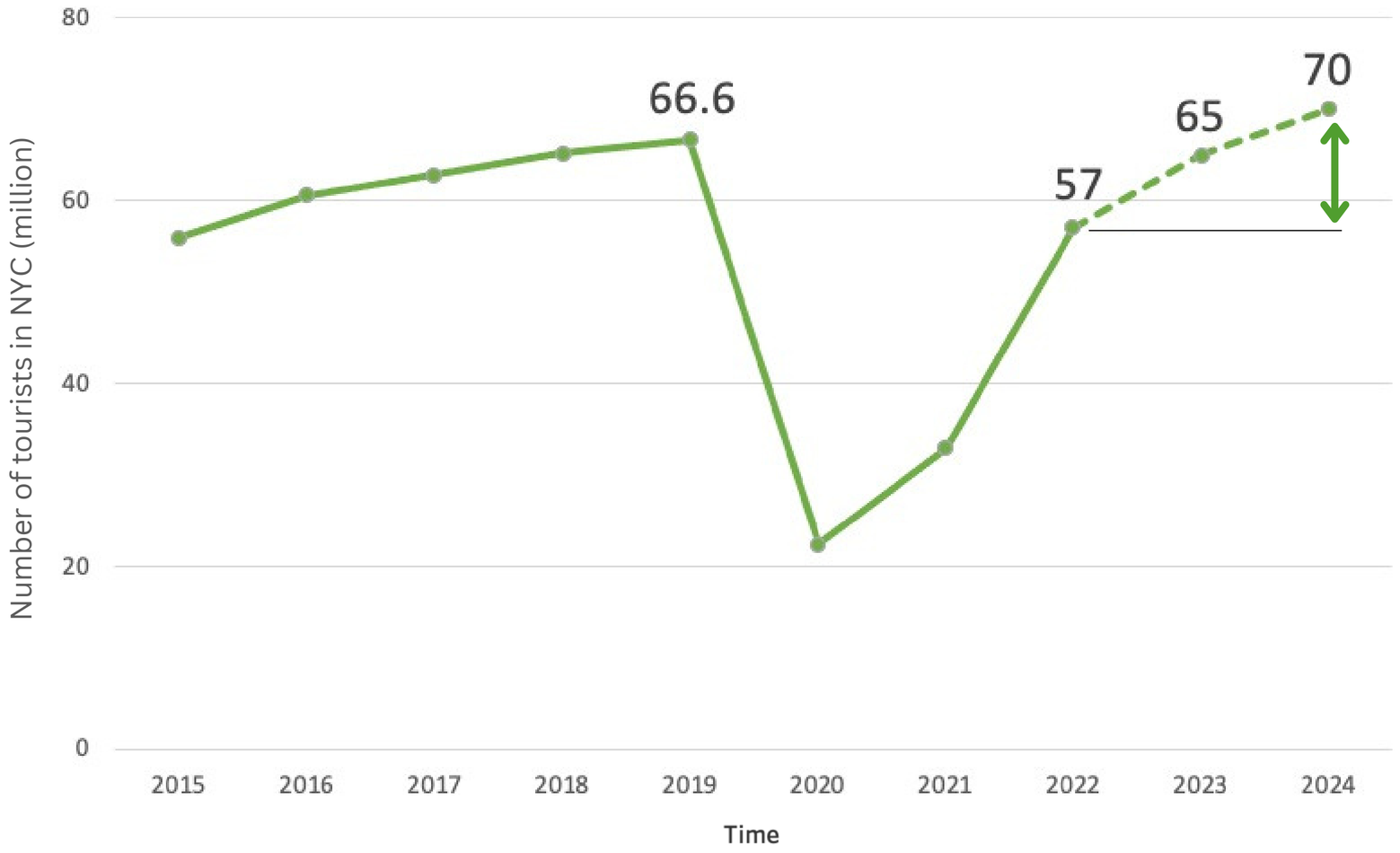
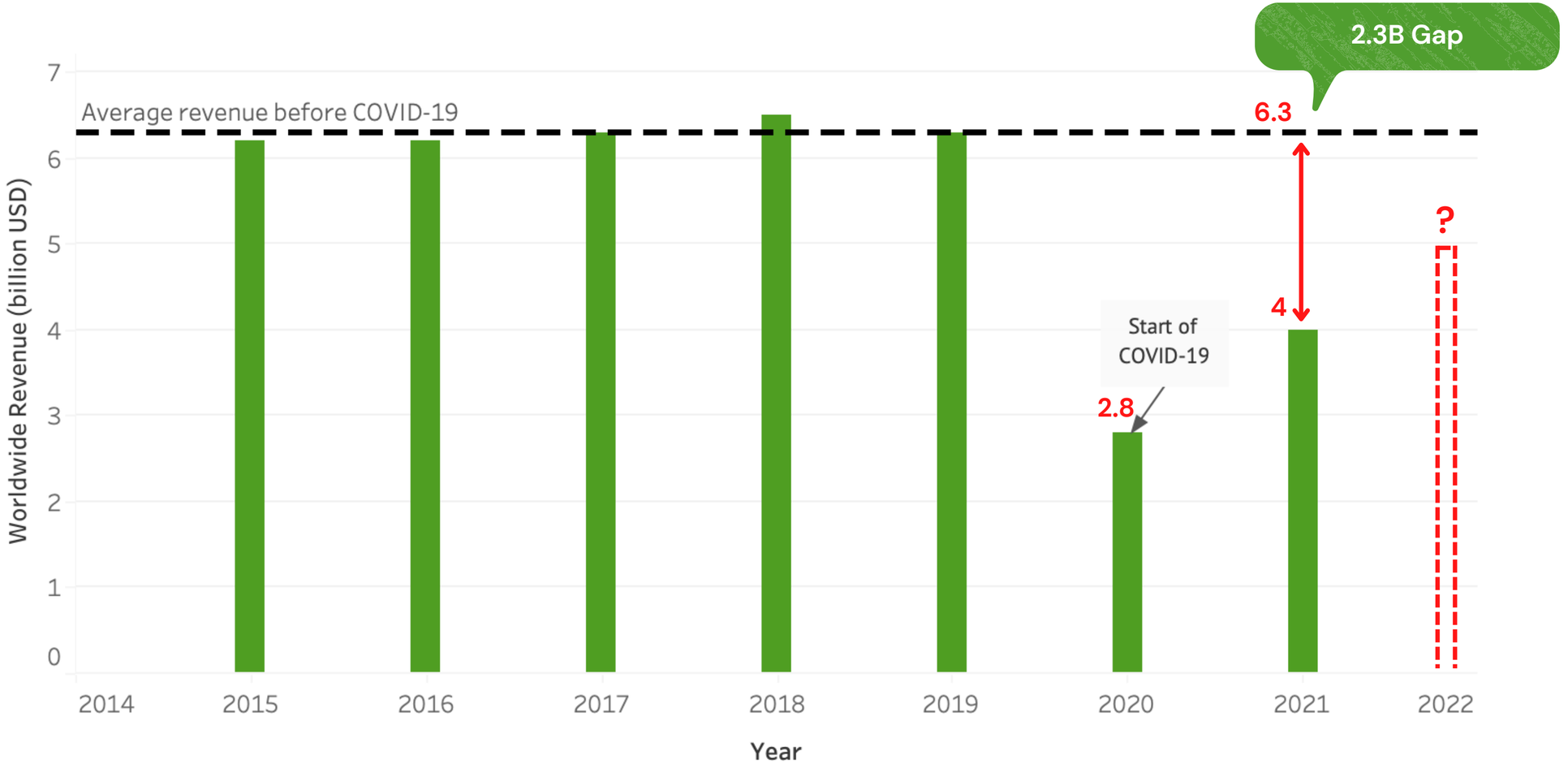
Potential Post-Pandemic Opportunities

The number of tourists in NYC is bouncing back



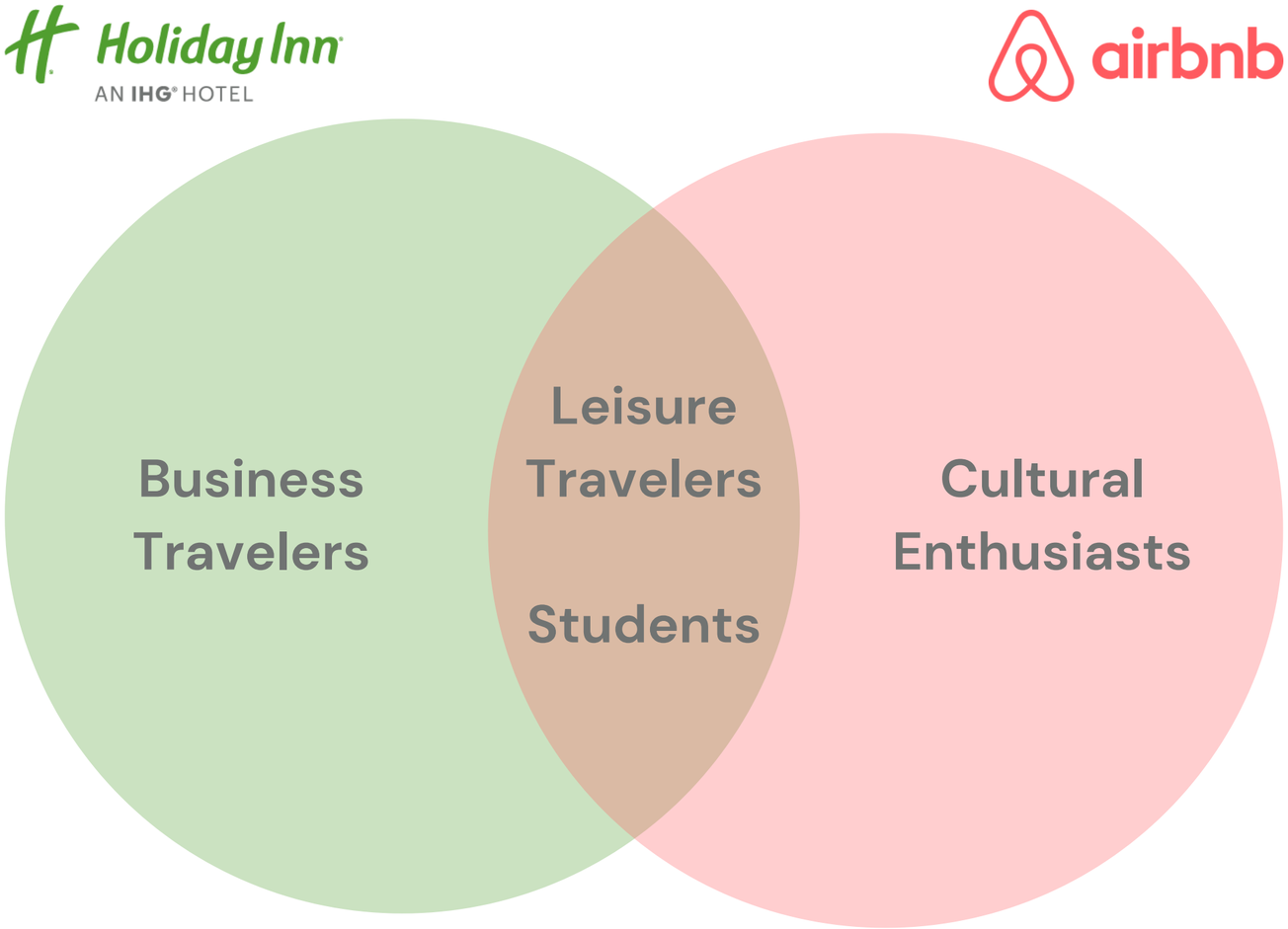
Holiday Inn Worldwide Revenue Over Time

There is still a gap between current revenue and average revenue before COVID-19



Market Similarities of Holiday Inn & Airbnb

We both target a lot of the same markets in the middle-income group



Utilizing Open Source Airbnb Data

Inside Airbnb

Adding data to the debate

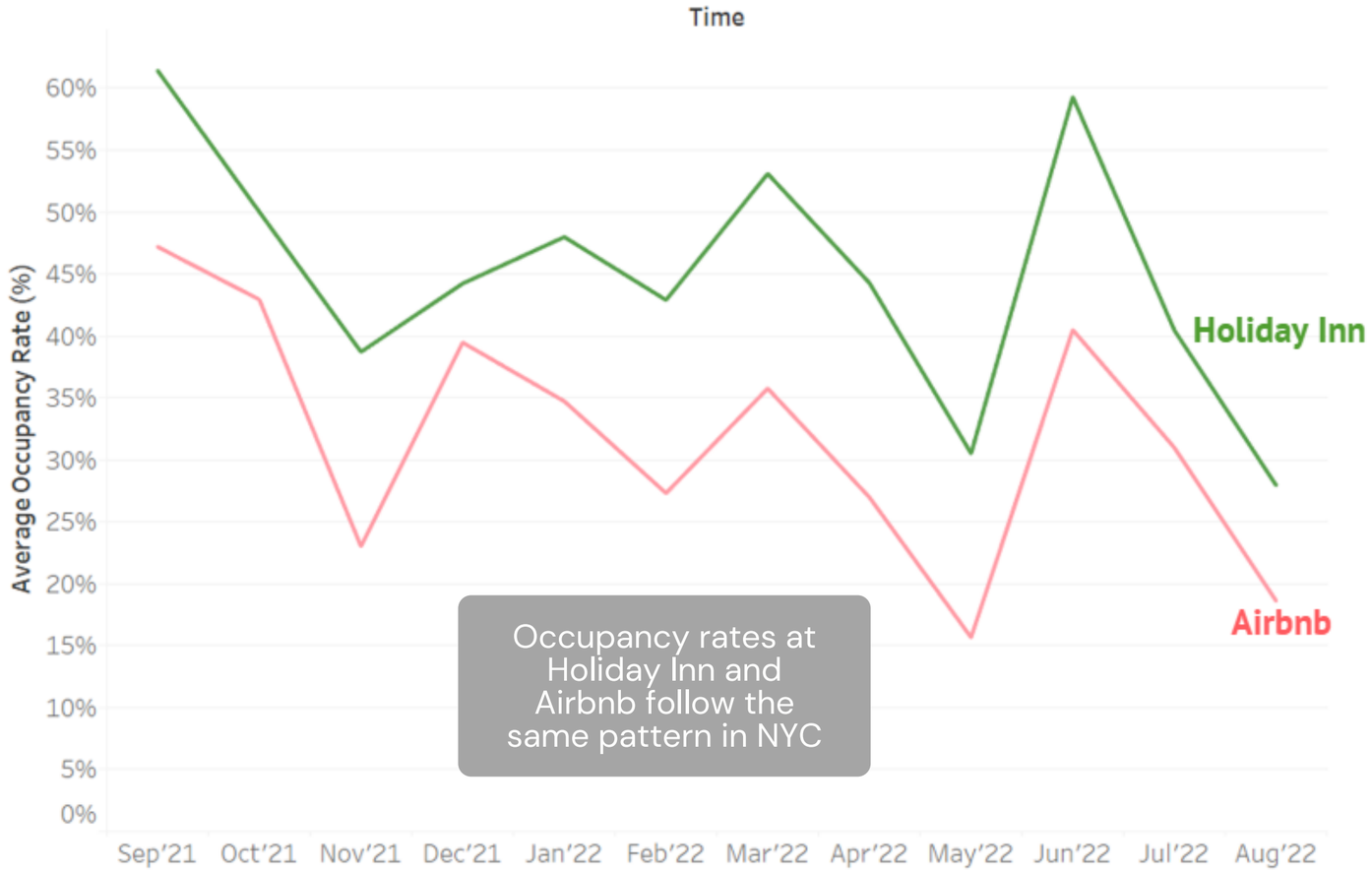
Inside Airbnb hosts free data scraped from Airbnb spanning many years and cities

Data Points

- Nightly prices
- Location and neighborhood
- Amenities
- Ratings
- Occupancy rate
- Room type

Occupancy Rates of Holiday Inn & Airbnb

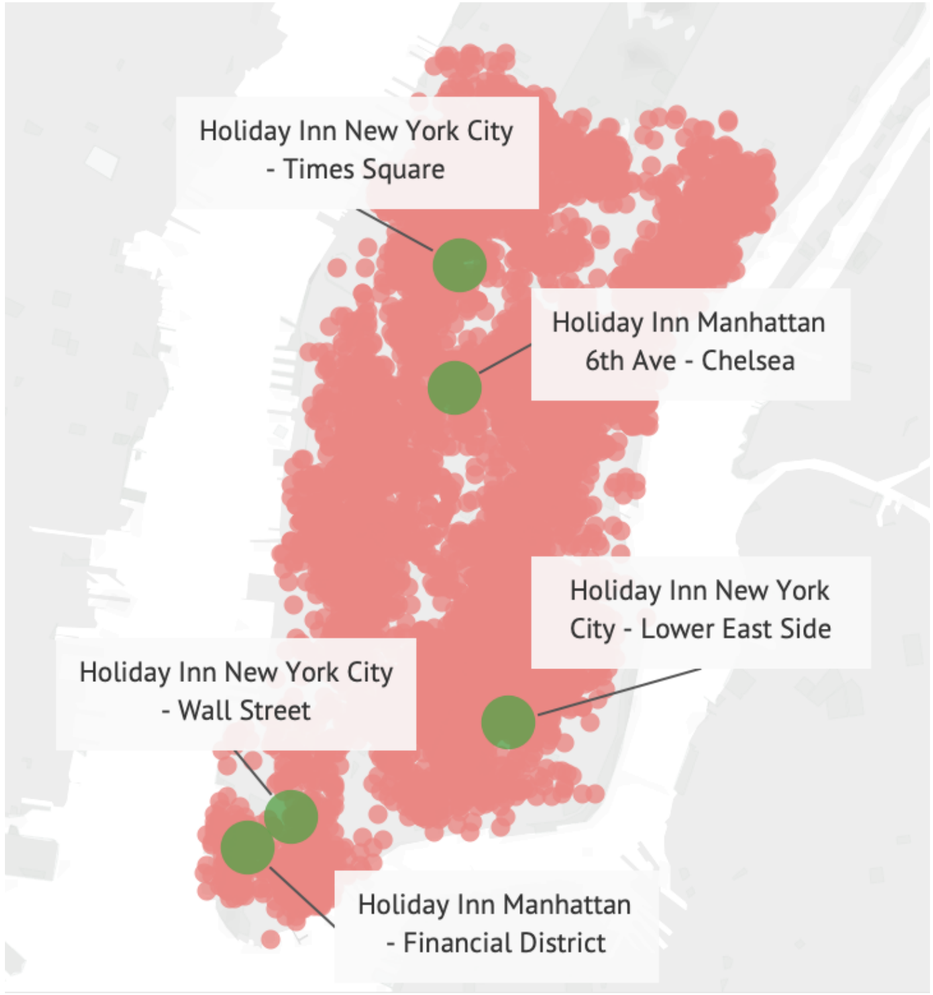
Holiday Inn's occupancy rate is actually higher than Airbnb



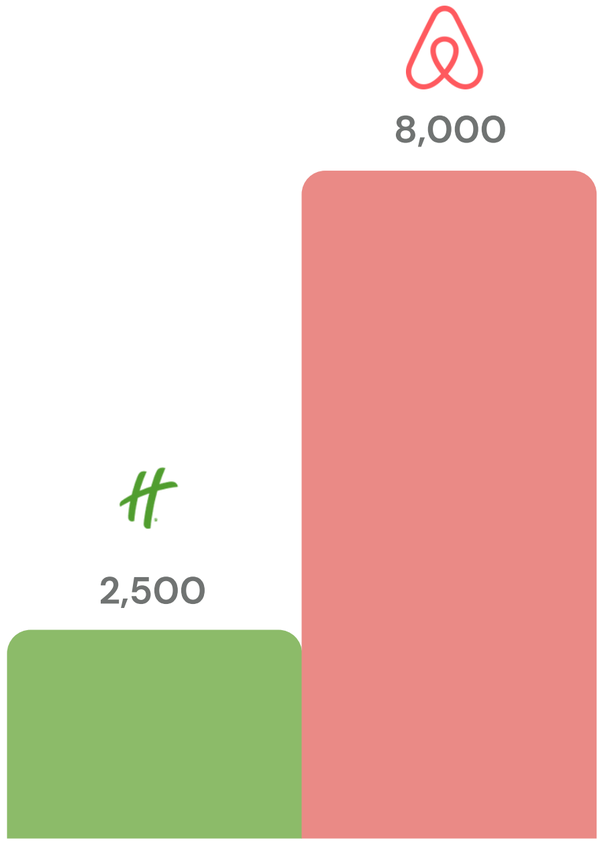
$$\text{Occupancy Rate} = \frac{\text{Number of Occupied Rooms}}{\text{Number of Available Rooms}}$$

Distribution of Holiday Inn & Airbnb

in Lower Manhattan

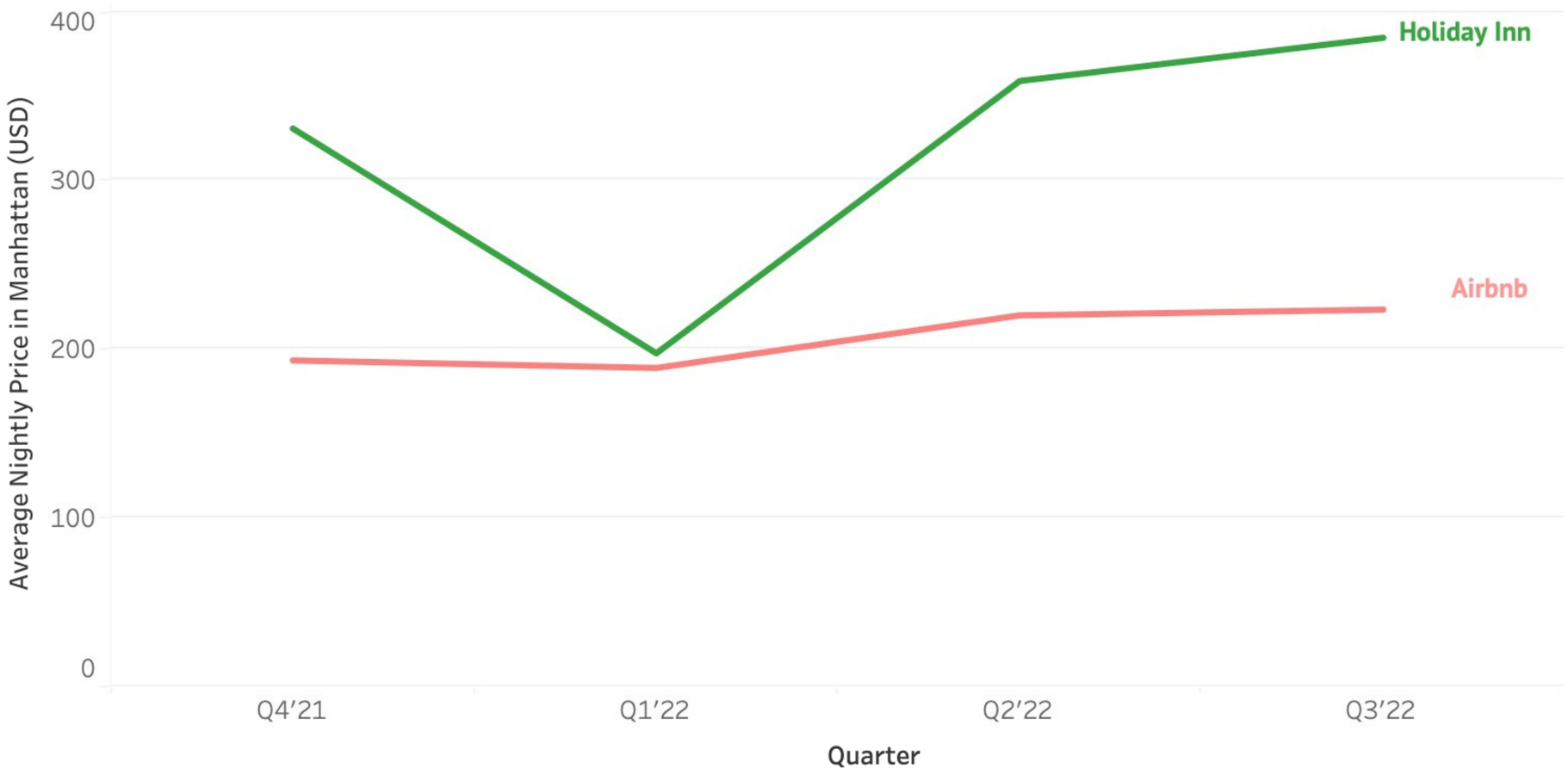


Number of Rooms



Nightly Prices of Holiday Inn & Airbnb

Airbnb's lower price likely contributes to lots of rooms being occupied despite the high number of rooms



Build a Predictive Model

Use Past

Prices
occupancy rates
...of Airbnb and Holiday Inn

Predict Future

Prices
occupancy rates
...of Airbnb and Holiday Inn

Action

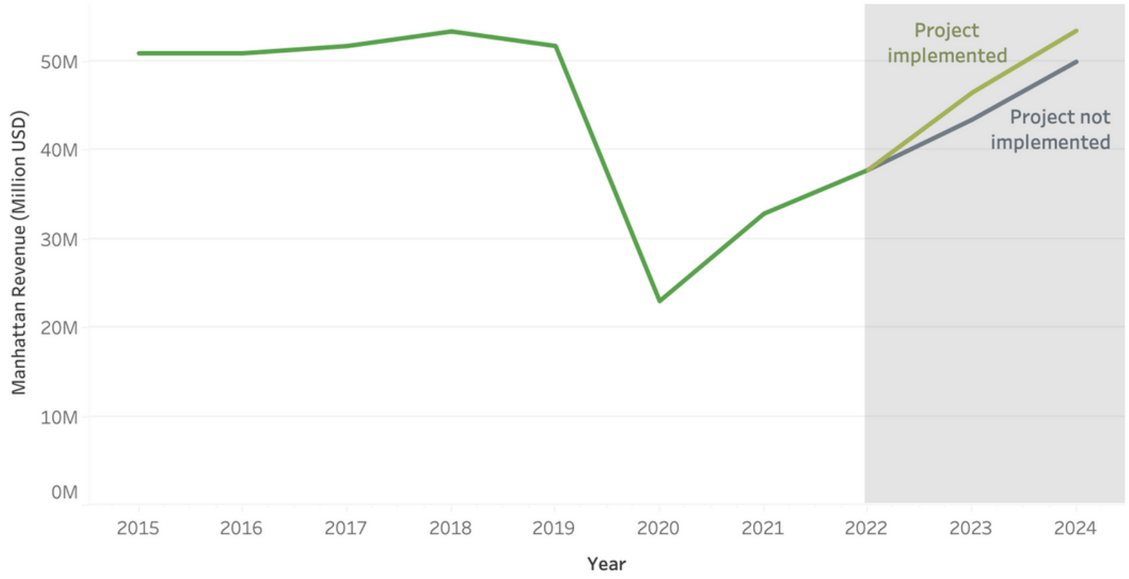
Funnel data to pricing team
to adjust our room prices

Costs

1	2 full-time data scientists	$200,000
2	Training of pricing teams	$100,000
3	Upkeep and infrastructure	$600,000
		$900,000

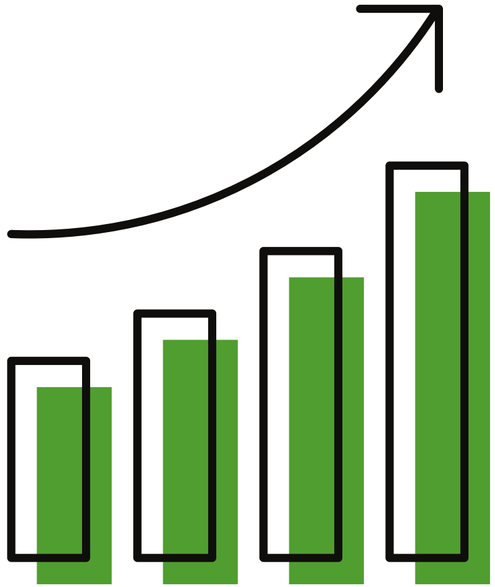
Returns

- **$6.5 million** (7% increase over projected revenue) over 2 years
- 622% ROI



To sum up...

- We need to take advantage of the tourism bounce-back
- We can do that by taking back some of Airbnb's market share
- Gaining insight from Airbnb can give us a competitive advantage



Any questions?

We need your help to make this happen!

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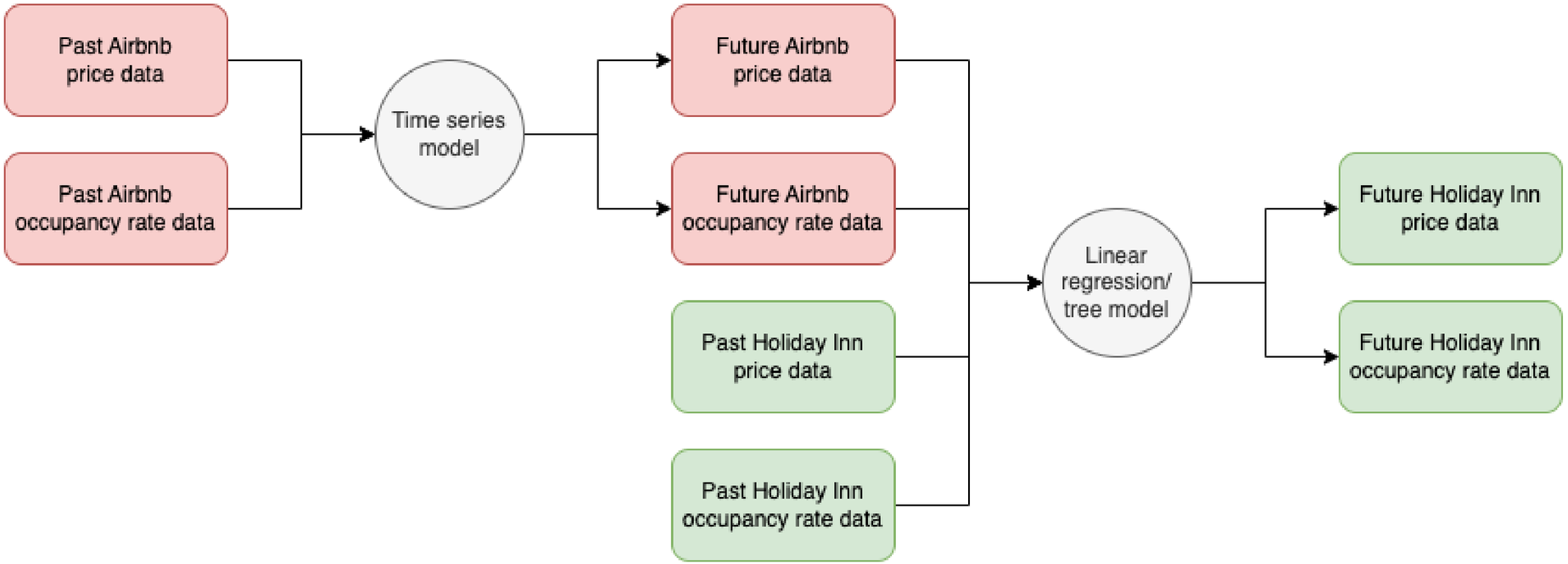
Appendix

Graph 1: Predictive model flow of information