Utilization Prediction Model

(SaaS Company Operating In The Energy Domain)

Enhanced **visibility into the sales pipeline hygiene, growth and sales representatives' performance leveraging Tableau CRM** to provide valuable business insights to the Revenue Operations team

Development of Occupancy Prediction Model for a Real Estate Company

ABOUT THE CLIENT: Client is a leading Logistics Real Estate firm in the U.S. that leases warehouses and fulfillment centers to manufacturing and distribution companies.

SITUATION

- Client wanted to develop a framework that could help in the investment decisions of purchasing/renovating properties based on the potential rent generated by the properties in the future
- Merilytics partnered with the client to analyze the features of the properties and lease structure, **and build a predictive model to determine the occupancy of the properties**

INPUTS

VALUE ADDED

- Based on the property features and lease agreements, we have identified the key features that potential tenants look for such as square footage, parking spaces, lease term, property age, usage type etc.
- We have also considered external factors such as the time of year, demographic data, property size relative to other properties in the market, market share of the client etc.
- Based on these factors, we have predicted the average lease length, retention rate and down time of the properties and subsequently, the probabilistic occupancy of the property.
- We have also identified potential changes to the properties such as the usage type, addition of parking spaces etc. that could make the properties more desirable in their market

PROCESSING

IMPACT

- The strong predictive variables with a relatively low error rate enabled the client to estimate the overall occupancy in the future, and thus, leverage the findings in the annual budgeting and long term operating plans
- The model could also be customized to predict the renewal risk of an existing lease, helping the client prioritize the properties that need pre-emptive action

OUTPUTS

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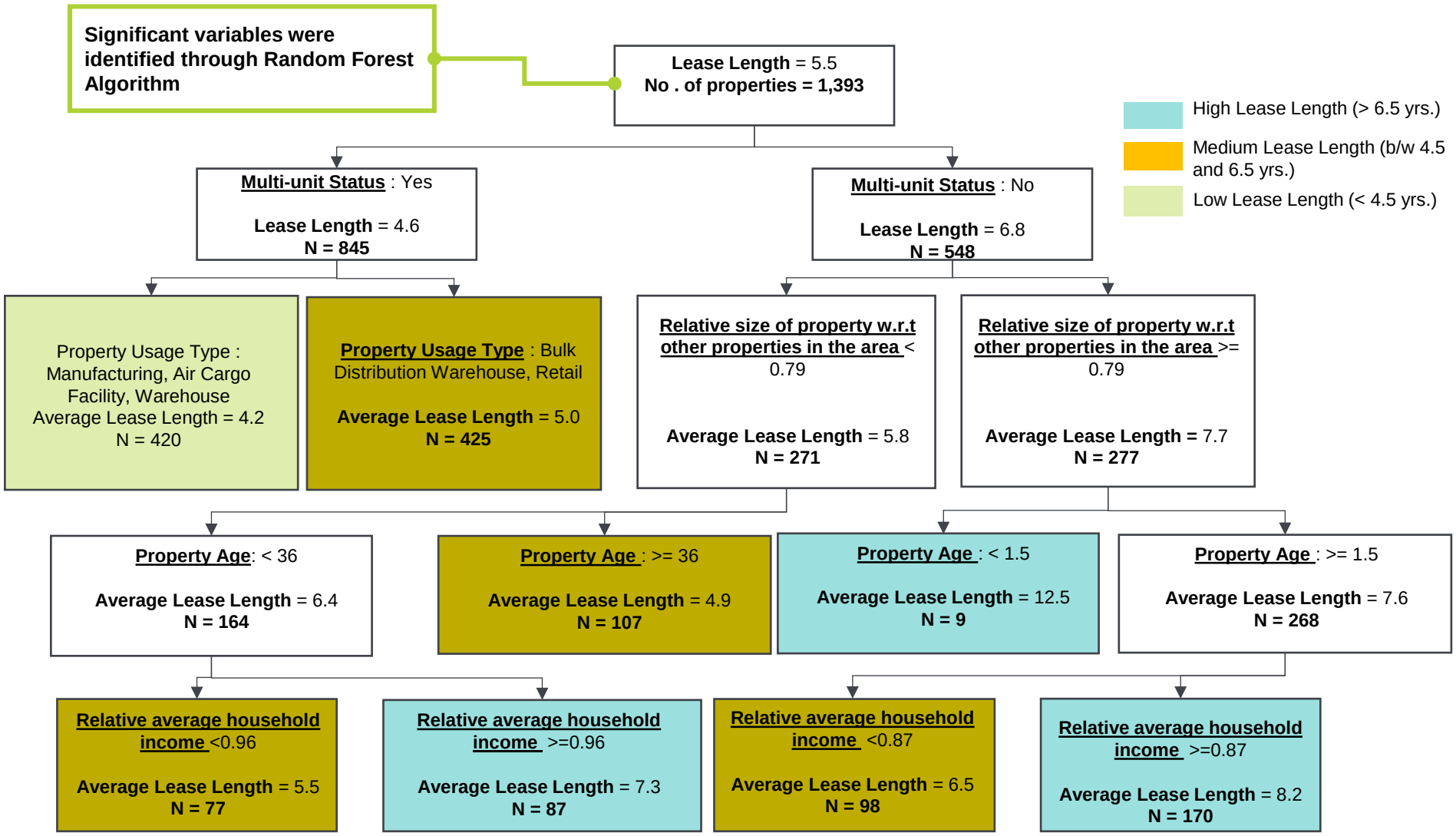

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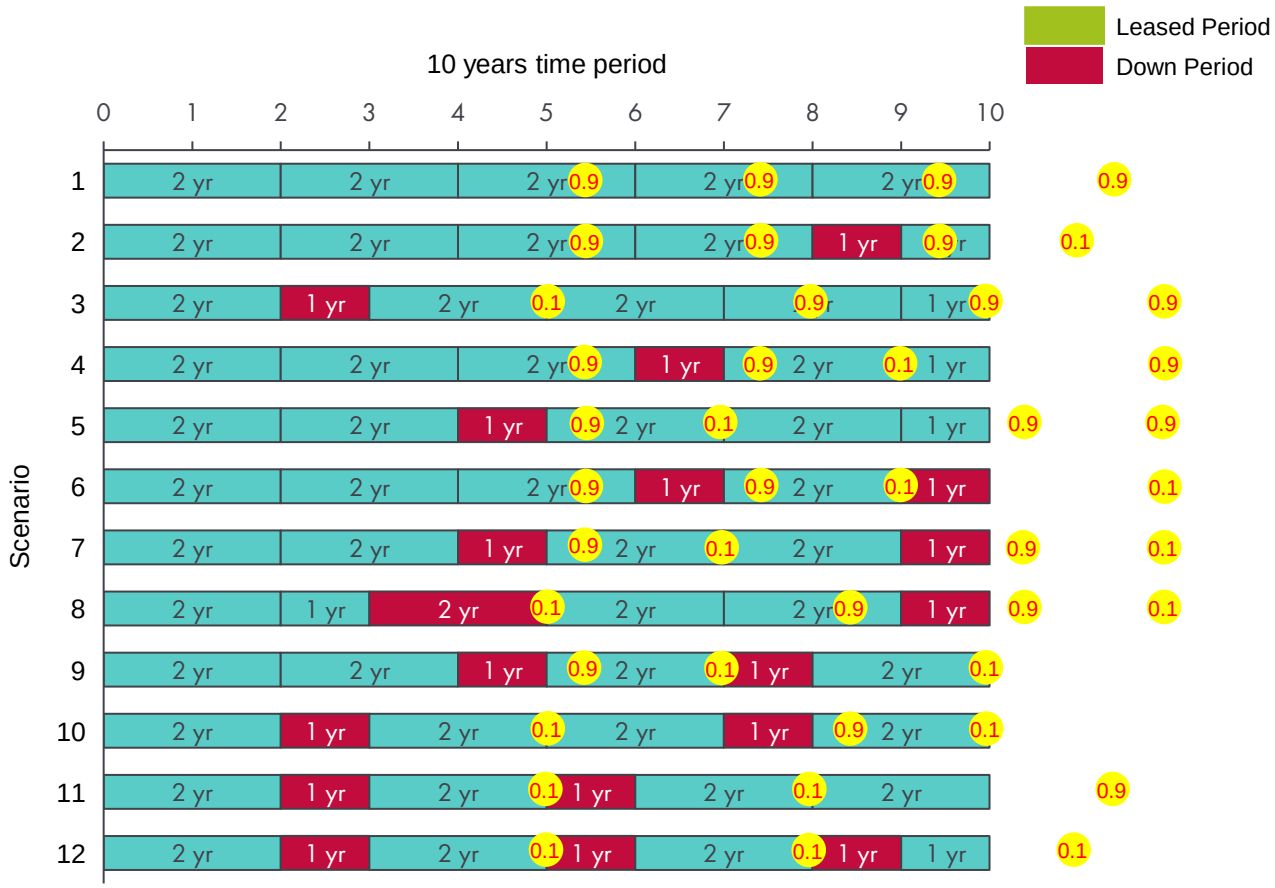
Predicted Variables:

- Average Lease Length = 2 years
- Average Down Time = 1 year
- Retention Rate = 90%

Predicted the lease length, down time and tenant retention rate based on the significant variables



Simulated various occupancy scenarios based on the predicted variables and calculated the probabilistic occupancy

Scenario Occupancy[1] (A)	Probability of Scenario (B)	Probabilistic Occupancy (A * B)
100%	0.6561 (=0.9 x 0.9 x 0.9 x 0.9)	65.61%
90%	0.0729 (=0.9 x 0.9 x 0.9 x 0.1)	6.56%
90%	0.0729 (=0.1 x 0.9 x 0.9 x 0.9)	6.56%
90%	0.0729 (=0.9 x 0.9 x 0.1 x 0.9)	6.56%
90%	0.0729 (=0.9 x 0.1 x 0.9 x 0.9)	6.56%
80%	0.0081 (=0.9 x 0.9 x 0.1 x 0.1)	0.65%
80%	0.0081 (=0.9 x 0.1 x 0.9 x 0.1)	0.65%
80%	0.0081 (=0.1 x 0.9 x 0.9 x 0.1)	0.65%
80%	0.009 (=0.9 x 0.1 x 0.1)	0.72%
80%	0.009 (=0.1 x 0.9 x 0.1)	0.72%
80%	0.009 (=0.1 x 0.1 x 0.9)	0.72%
70%	0.001 (=0.1 x 0.1 x 0.1)	0.07%
Total		96.03%

1. Scenario occupancy is the occupancy when the scenario plays out as shown in the adjacent chart
2. The property is assumed to be on lease after a downtime giving it a 100% probability of occupancy after each downtime in the above chart.