

# B.R.I.D.E Business Recommendation Intelligence Development Environment



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## PROBLEM STATEMENT

Develop a systematic approach to find the optimal grouping of shipping customers to prioritize Marketing & Sales interventions and maximize Customer Life Time Value.

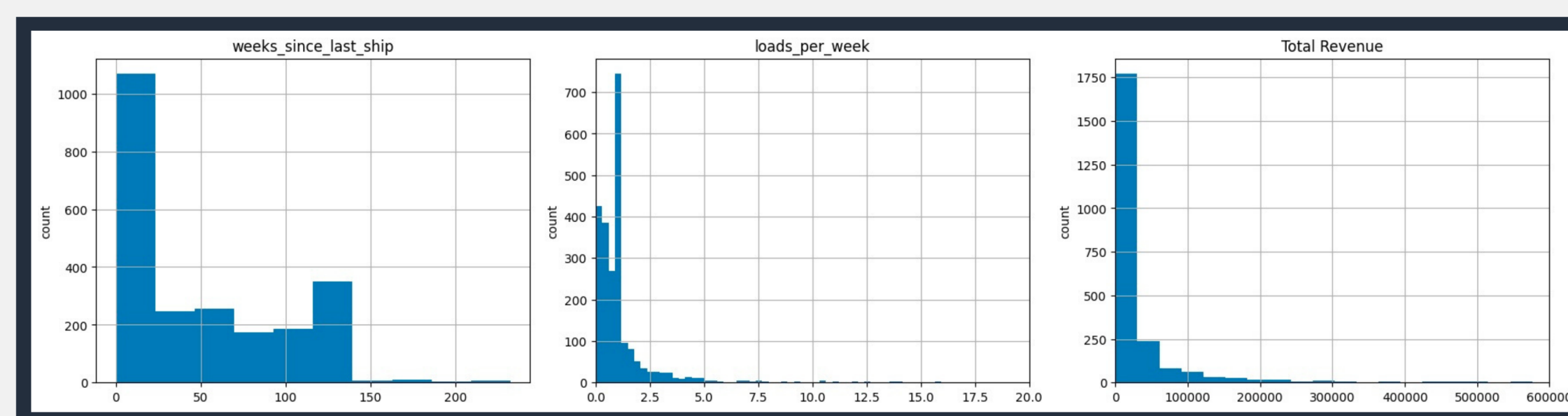
- 1 A **standardized valuation framework** for shippers does not exist.
- 2 Shippers are not **systematically prioritized** with respect to 'value.'
- 3 Changes in shipper performance with respect to resources spent on the shipper are not tracked. **Impact** can not be measured.

## OBJECTIVE



## DATA

**Simulated** snapshot of 2,332 Amazon Freight customers from January 2023.



Data Visualization

## IMPACT

Our project **will save time and resources** for the sales and marketing team. Our model:

- **Removes the time** it takes for a marketing employee to find who they are going to market to.
- Creates more **intuitive and accessible actions** for marketing and sales employees
- Is at least **15% more accurate** in guiding marketing decisions.
  - This translates to saving **1.2% of Amazon Freight's revenue**.



CURRENT IMPLEMENTATION



PROTOTYPE

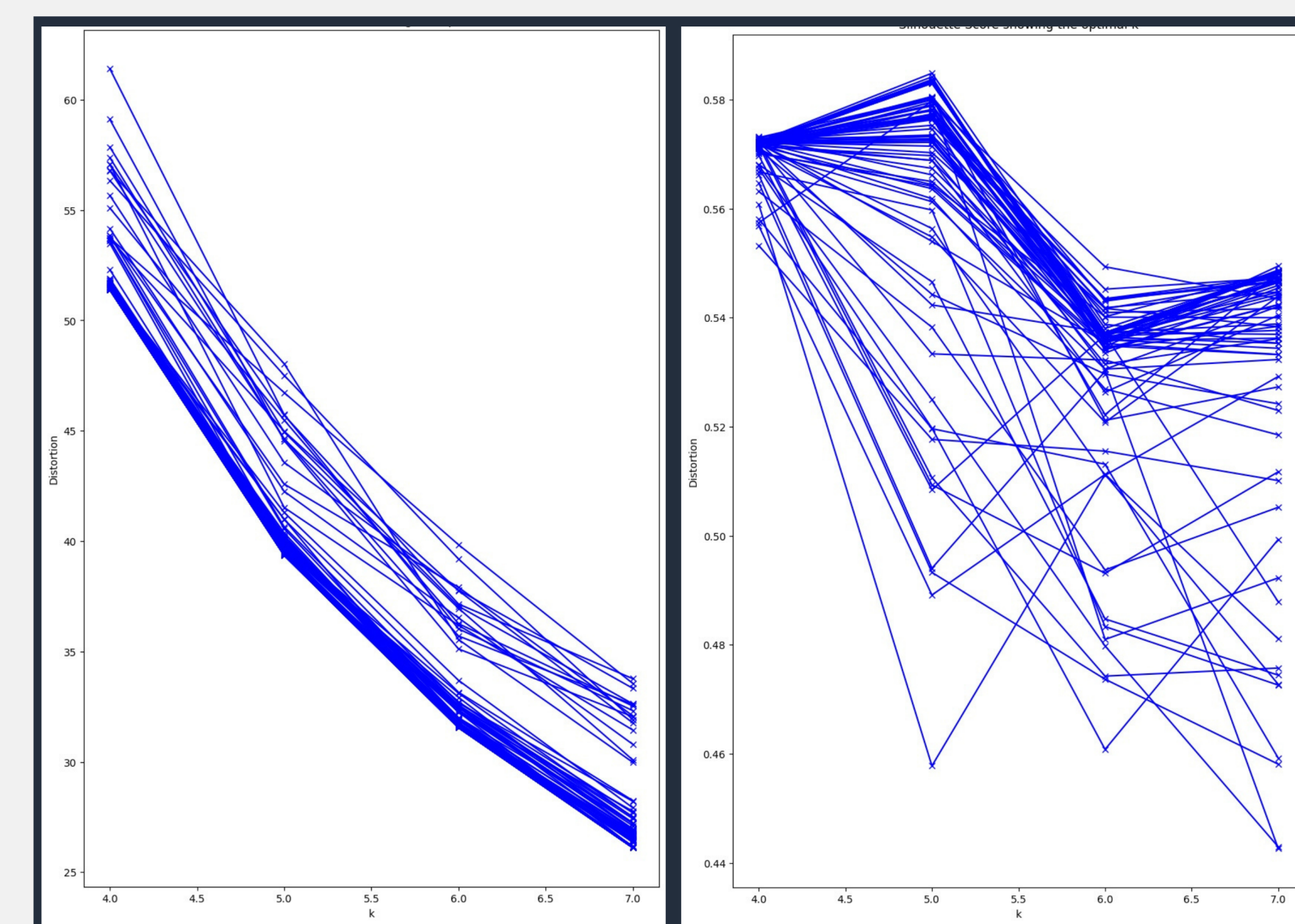
## MODEL

R	+	F	+	M	=	O
Order Recency		Order Frequency		Lifetime Value		Opportunity Score
Number of days since last shipment		Average number of days between orders		Annual revenue generated adjusted for inflation		Quantified 'room for improvement'

## Clustering

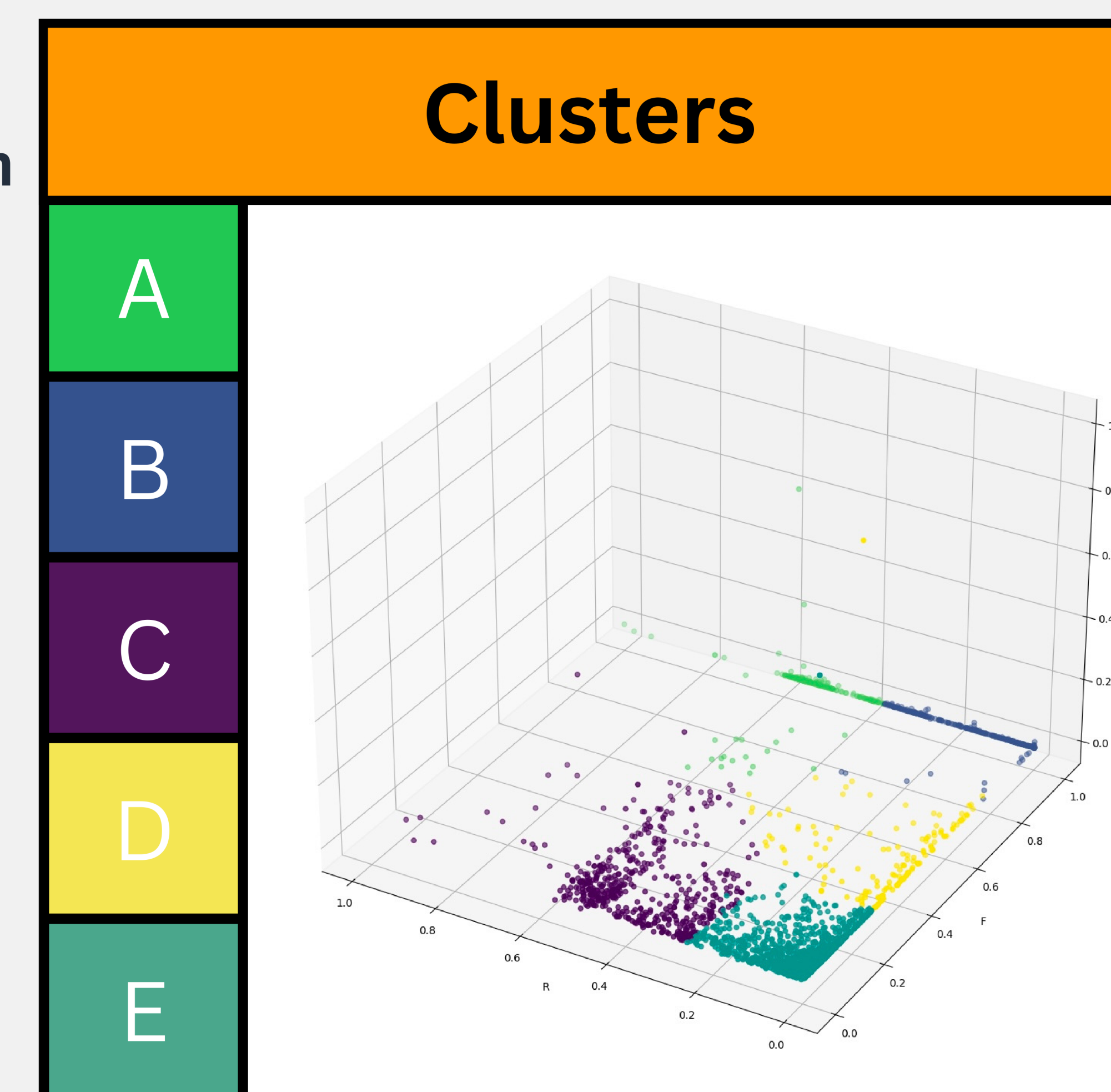
Clustered shippers using **k-means algorithm**

- **Elbow Curve** and **Silhouette Score** employed to determine optimal number of clusters
- Clusters built around **similar shipping traits**
- Facilitates direct, unbiased comparison **between shippers**



Elbow Curve

Silhouette Score



## Opportunity Calculator

Calculated & normalized **with respect to its cluster**

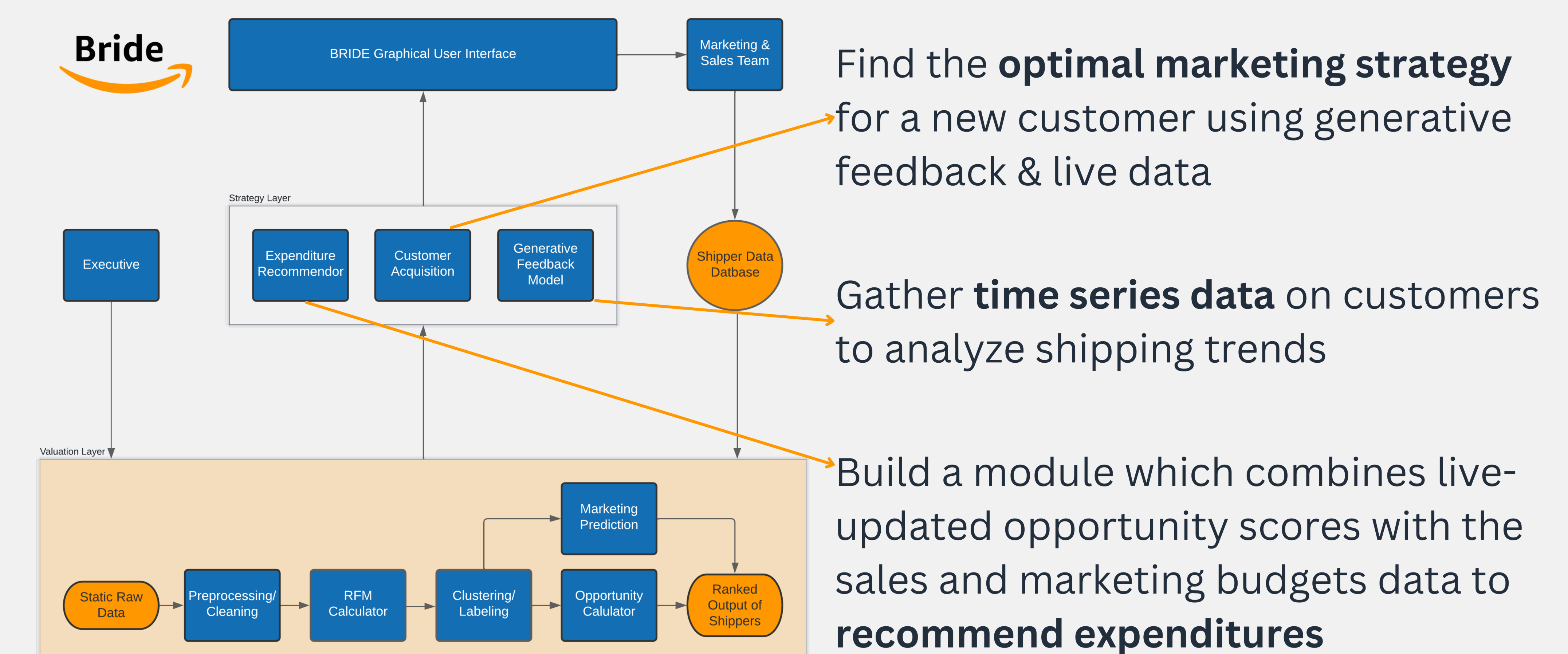
$$O = c_r(R - R_c) + c_f(F - F_c) + c_m(M - M_c)$$

**coefficients** adjust opportunity score priorities based on **market conditions**



A shipper has higher opportunity the **further away** its RFM is from the cluster centroid.

## RECOMMENDATIONS



A special thank you to our professors and mentors: Savannah Beroud, Dr. Patricia Buchanan, Lei Chen, Rahul H R, Michelle Song, and Trent Wydrowski