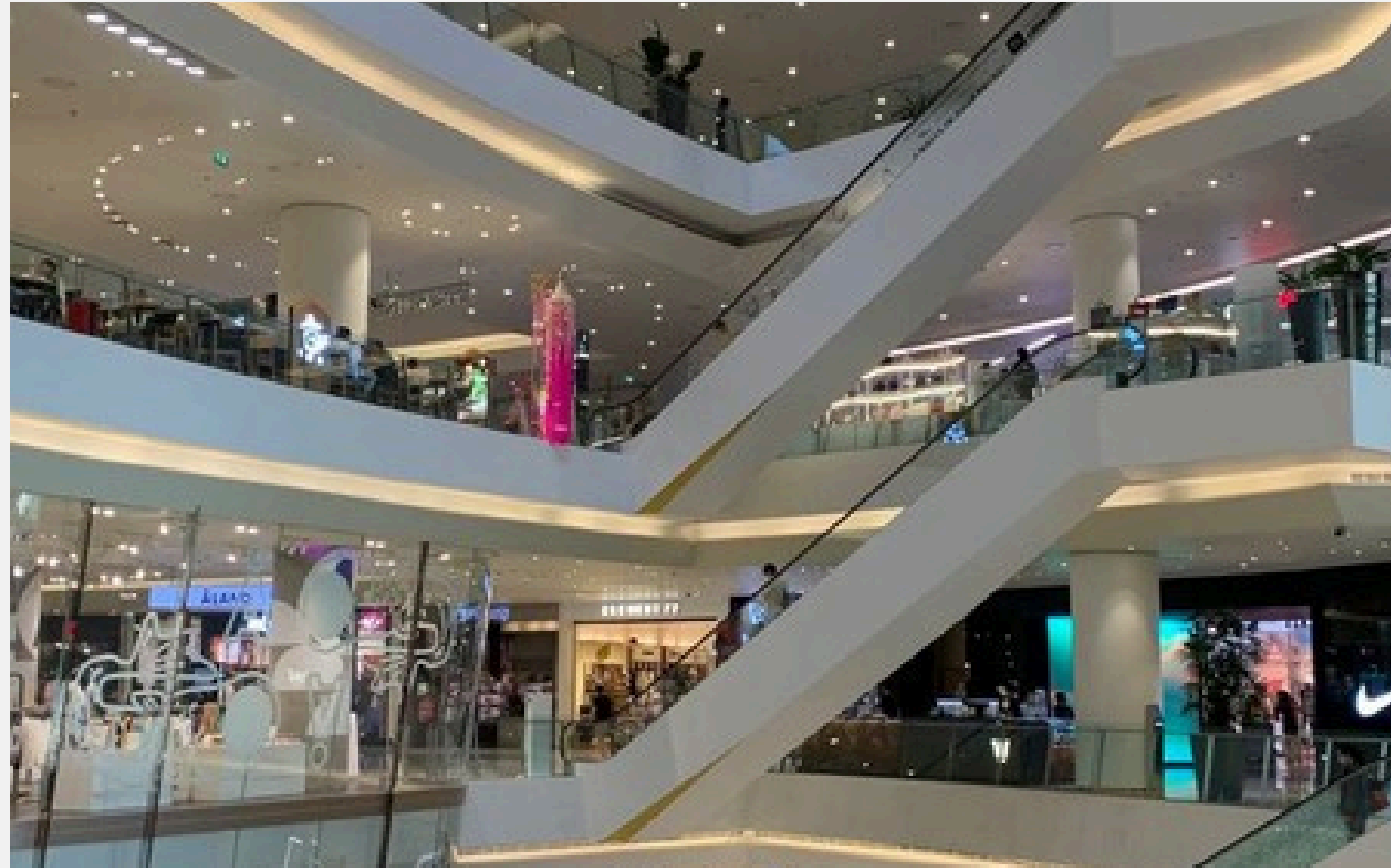


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CALIFORNIA MALL – CUSTOMER & SALES ANALYSIS DASHBOARD



BY ARWALY H. SALSABILA



OVERVIEW

BUSINESS
CONTEXT

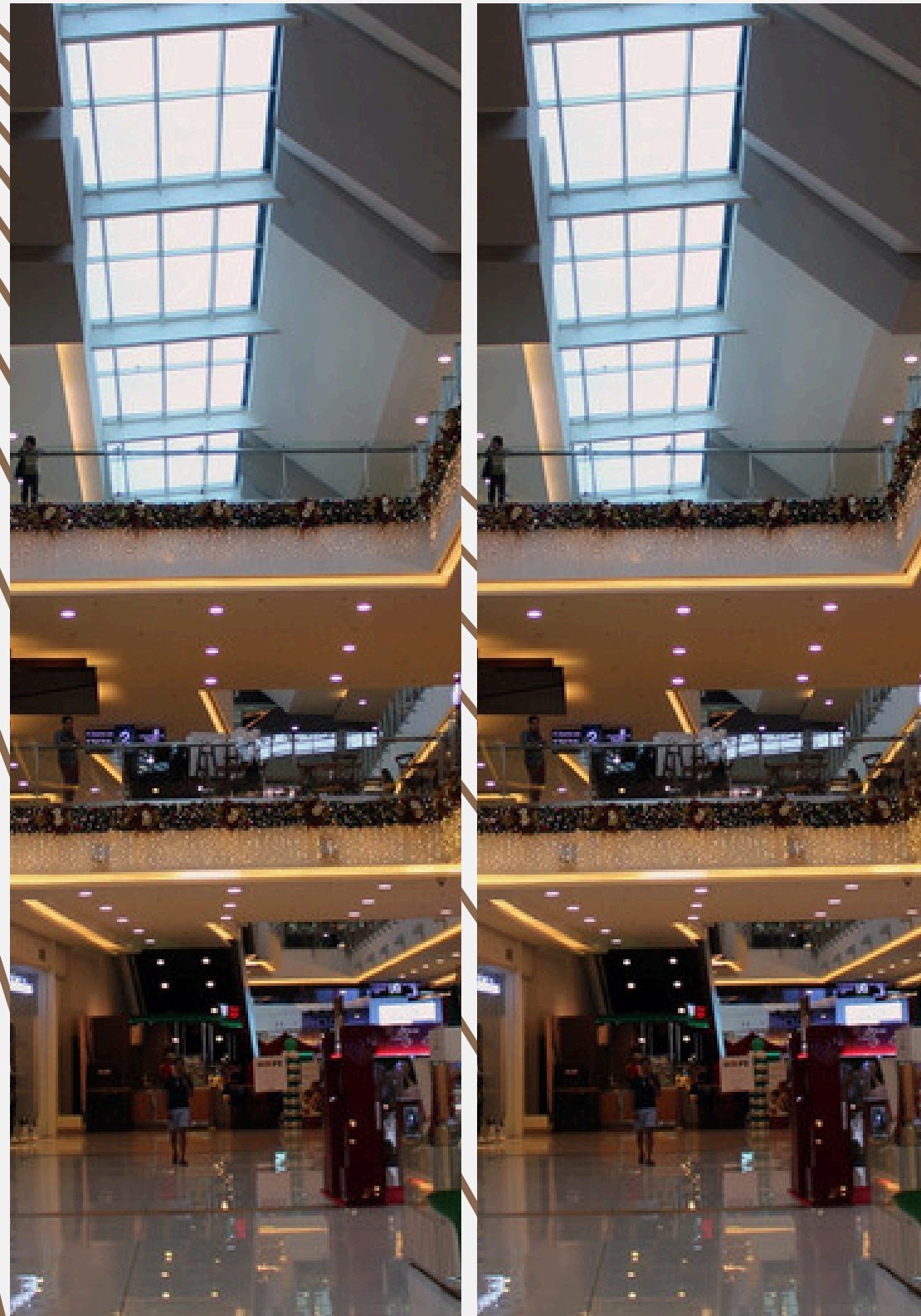
DATA
OVERVIEW

DATA
PRE PROCESSING

KEY
INSIGHT

CONCLUSION

RECOMMENDATION



BUSINESS CONTEXT

CALIFORNIA MALL DATASET → DATA
TRANSAKSI RETAIL MULTI-MALL

Tujuan: memahami customer behavior & mall
performance.

Pertanyaan bisnis:

1. Bagaimana segmentasi customer (RFM)?
2. Mall mana yang berkontribusi terbesar pada sales?
3. Apa hubungan customer dengan produk yang mereka beli?

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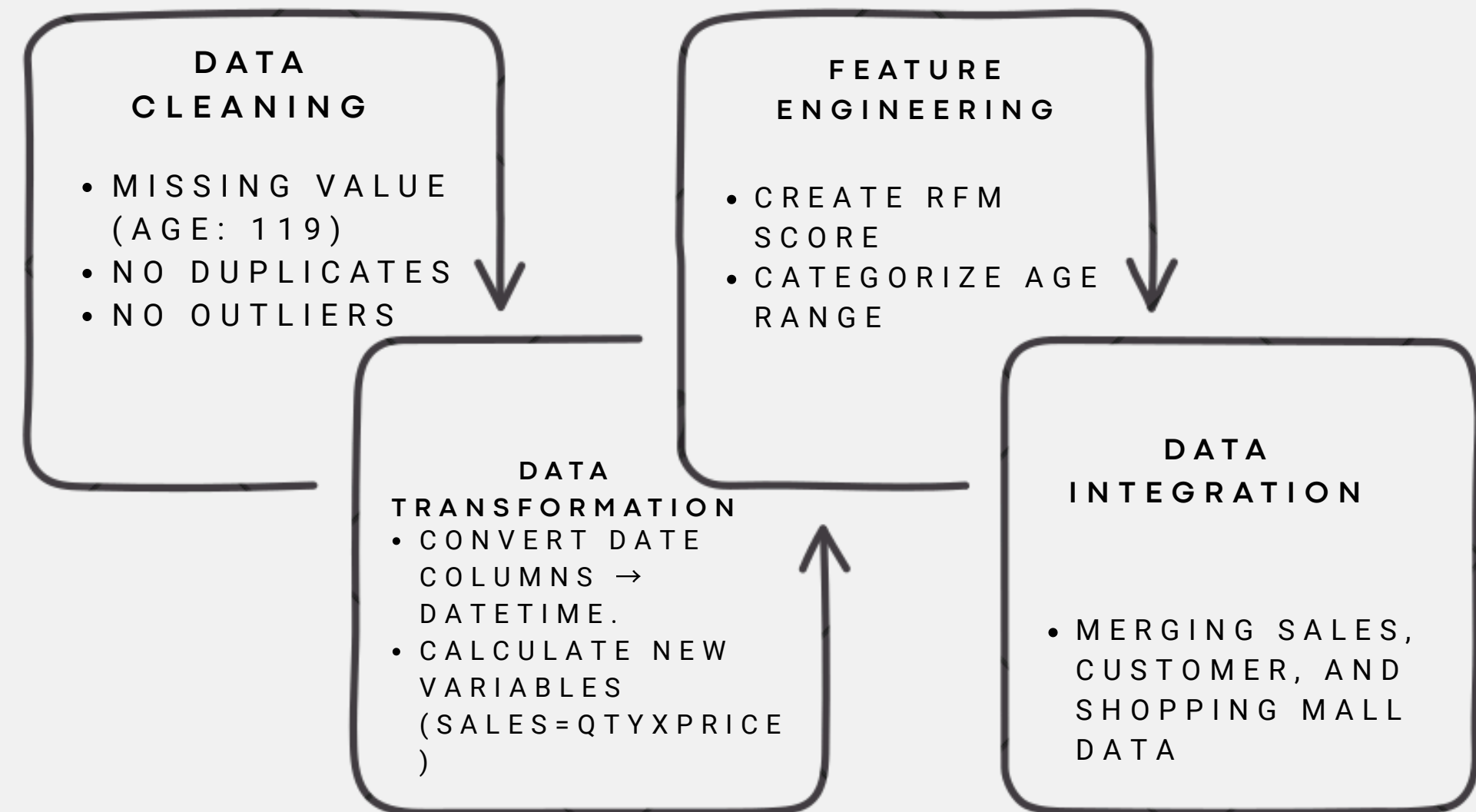
DATA OVERVIEW



This analysis involves three main datasets—**Sales Data**, **Customer Data**, and **Shopping Mall Data**. Merge all and the total data are **15 columns** and **99457 rows**

Date range **2021 -2023**

PRE PROCESSING DATA



RFM ANALYSIS FOR CUSTOMER SEGMENTATION

RFM (Recency, Frequency, Monetary) is a method used to segment customers based on their purchasing behavior:

RFM Segmentation Process

1. Calculate R, F, M

- R = Days since last purchase
- F = Number of transactions
- M = Total spending

2. Assign Scores (1–5)

- 5 = Best, 1 = Lowest

3. Combine Scores

- Example: R=5, F=5, M=5 → “555”

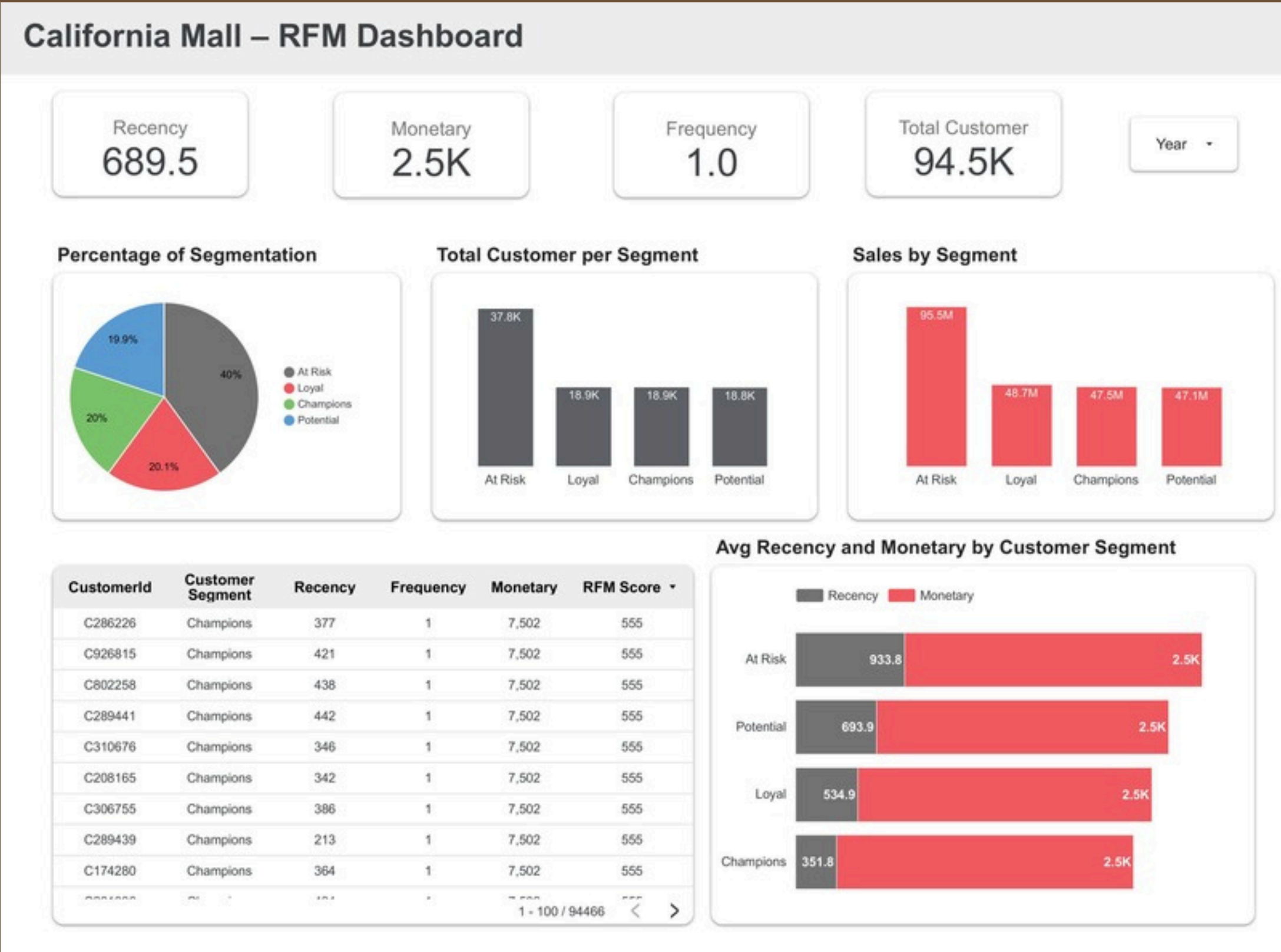
4. Map to Segments

- Example: 555 = Champion, low scores = Lost

By combining these three dimensions, we can classify customers into groups such as Champions, Loyal, At Risk, or Lost, which provides a foundation for deeper insights in the upcoming dashboards.

CALIFORNIA MALL – RFM DASHBOARD

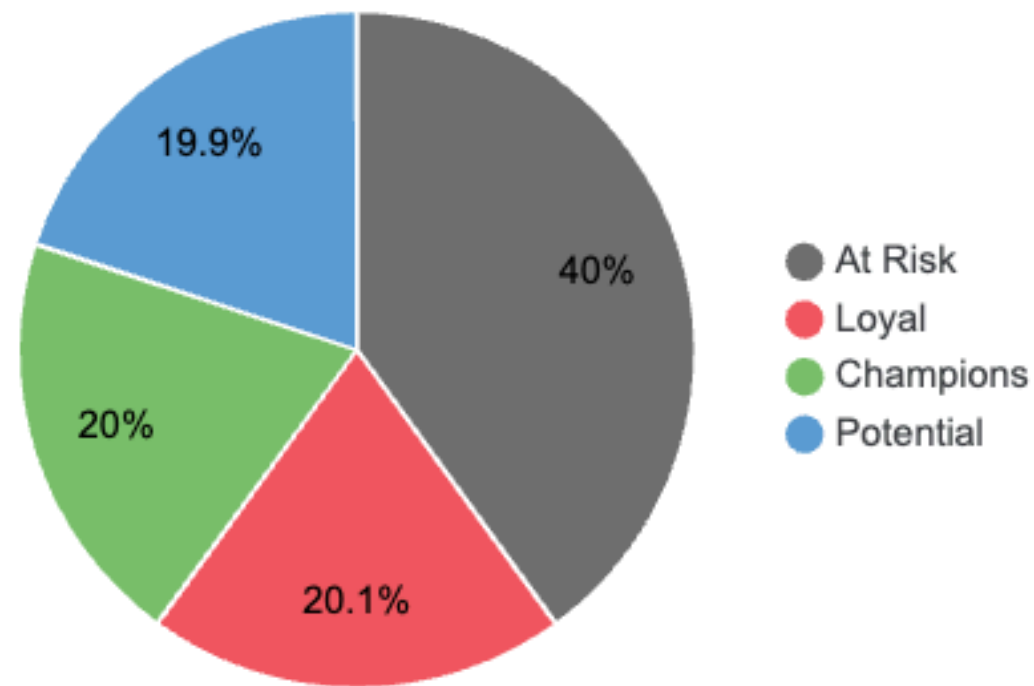
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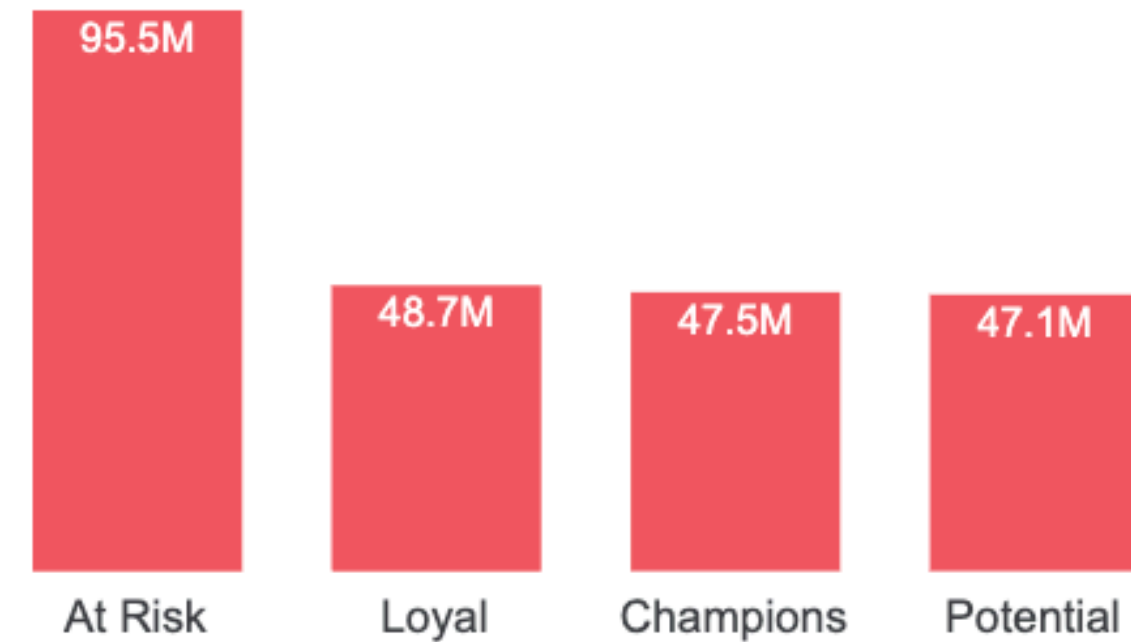
CUSTOMER SEGMENTATION INSIGHTS

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Percentage of Segmentation



Sales by Segment



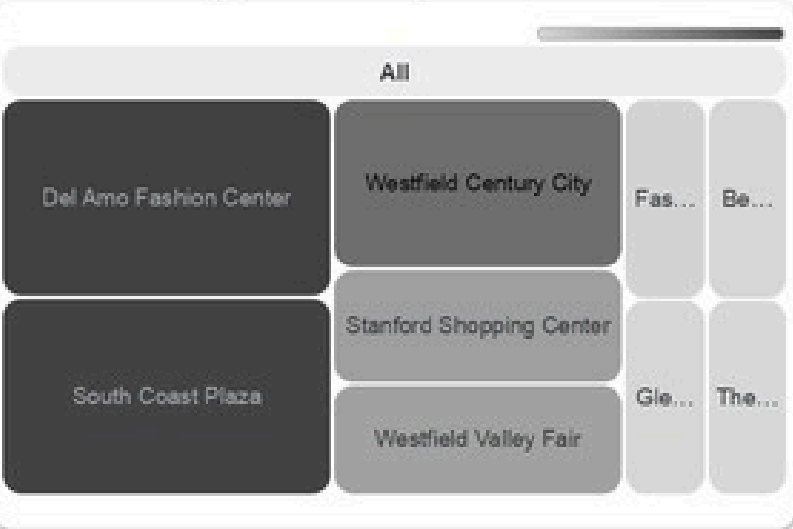
- At Risk = 40% of customers (37.8K), contributing the highest sales of 95.5M.
- Champions = 20% of customers, contributing 47.5M in sales.
- Loyal and Potential segments = around 20% each, with almost the same sales contribution (~47M).
- The At Risk segment, despite its high sales contribution, shows high recency and is at risk of churn.

PROFILE BY MALL, GENDER, SEGMENT, AND AGE GROUP

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California Mall – Customer Dashboard

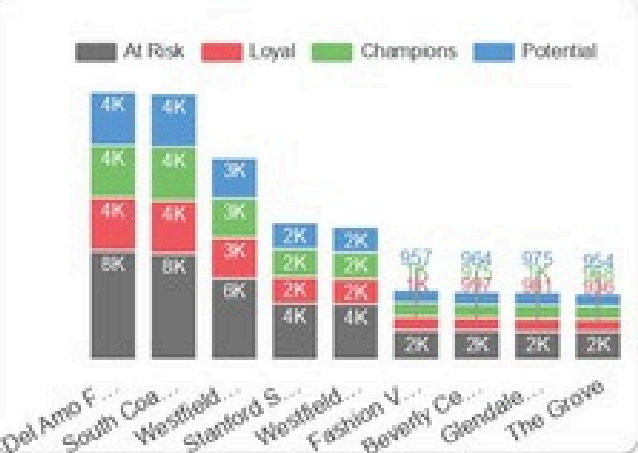
Customer Segmentation per Mall Area



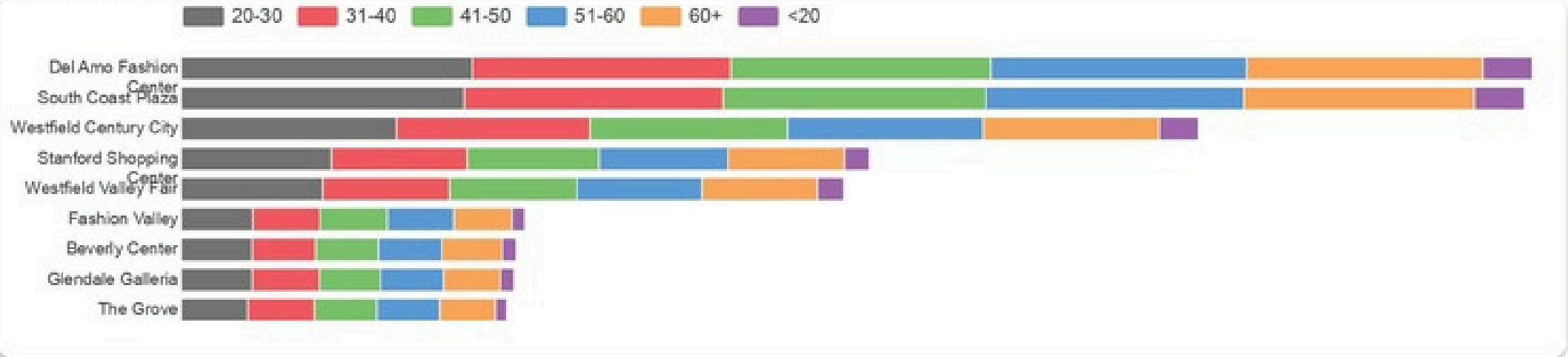
Customer by Gender and Shopping Mall



Customer by Mall and Customer Segment

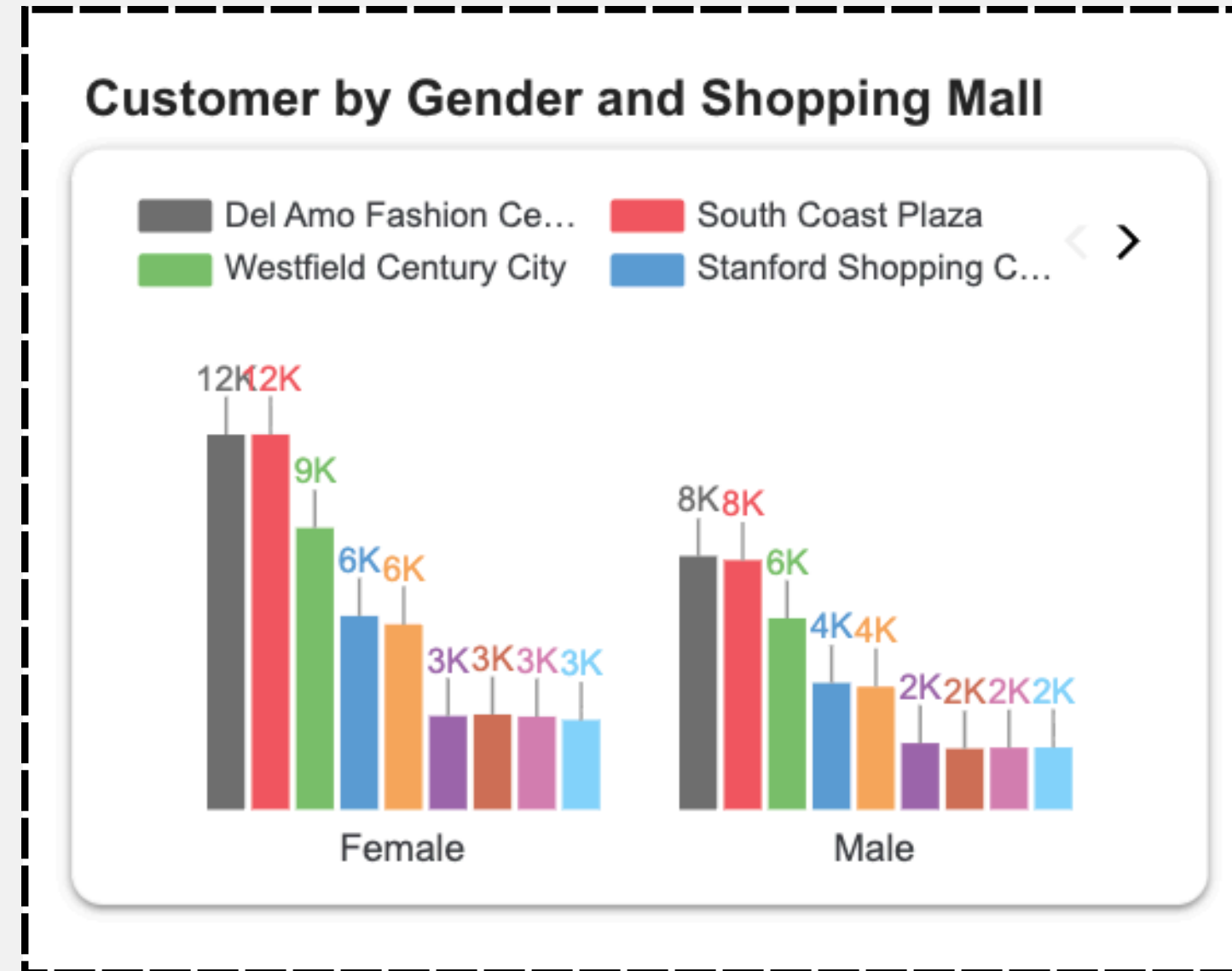


Age range per Shopping Mall



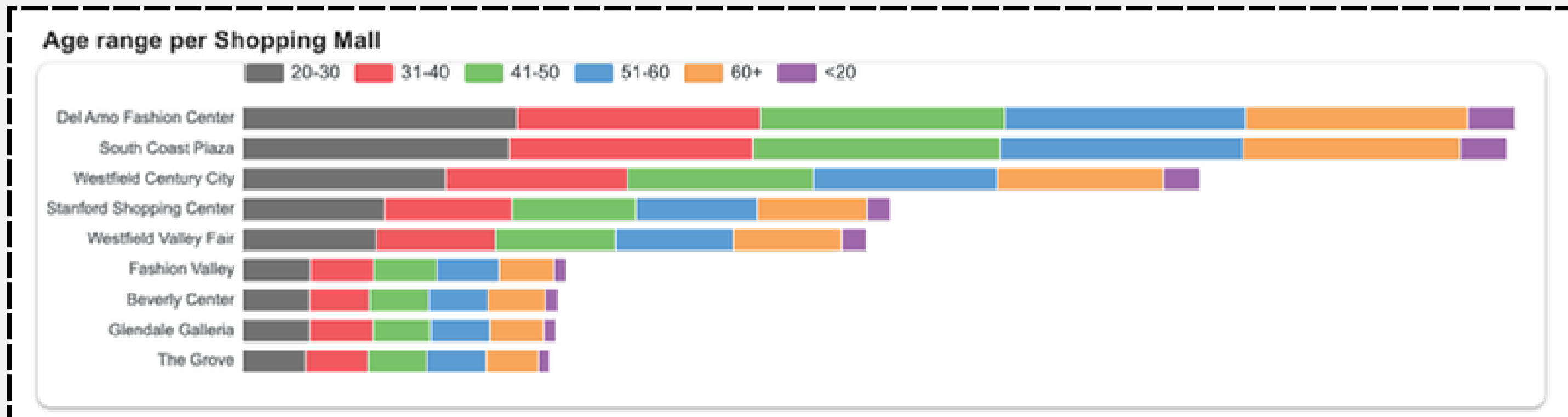
Customer Id	Shopping Mall	Customer Segment	Purchased
C266589	Westfield Century City	At Risk	300.1
C189076	South Coast Plaza	At Risk	242.4
C657758	Beverly Center	At Risk	7.5K
C151197	Westfield Valley Fair	Loyal	40.7
C159642	Westfield Century City	At Risk	2.7K

CUSTOMER BY GENDER AND SHOPPING MALL



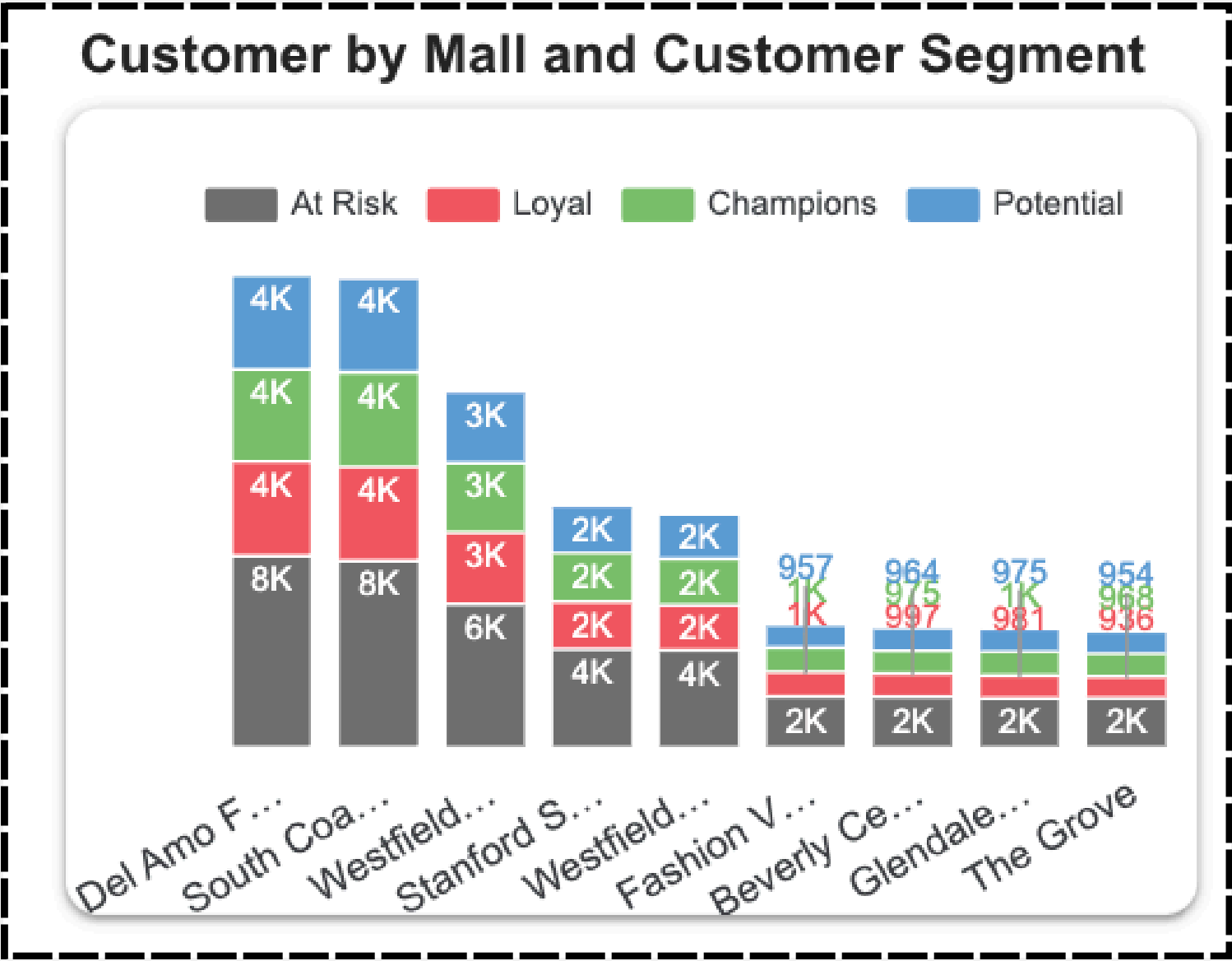
- Most customers come from Del Amo Fashion Center and Westfield Century City.
- Gender distribution is relatively balanced, with a slight dominance of female customers in major malls.

KEY INSIGHTS FROM CUSTOMER ANALYSIS



- The 20–30 and 31–40 age groups dominate across almost all malls, indicating young customers are the most active segment.

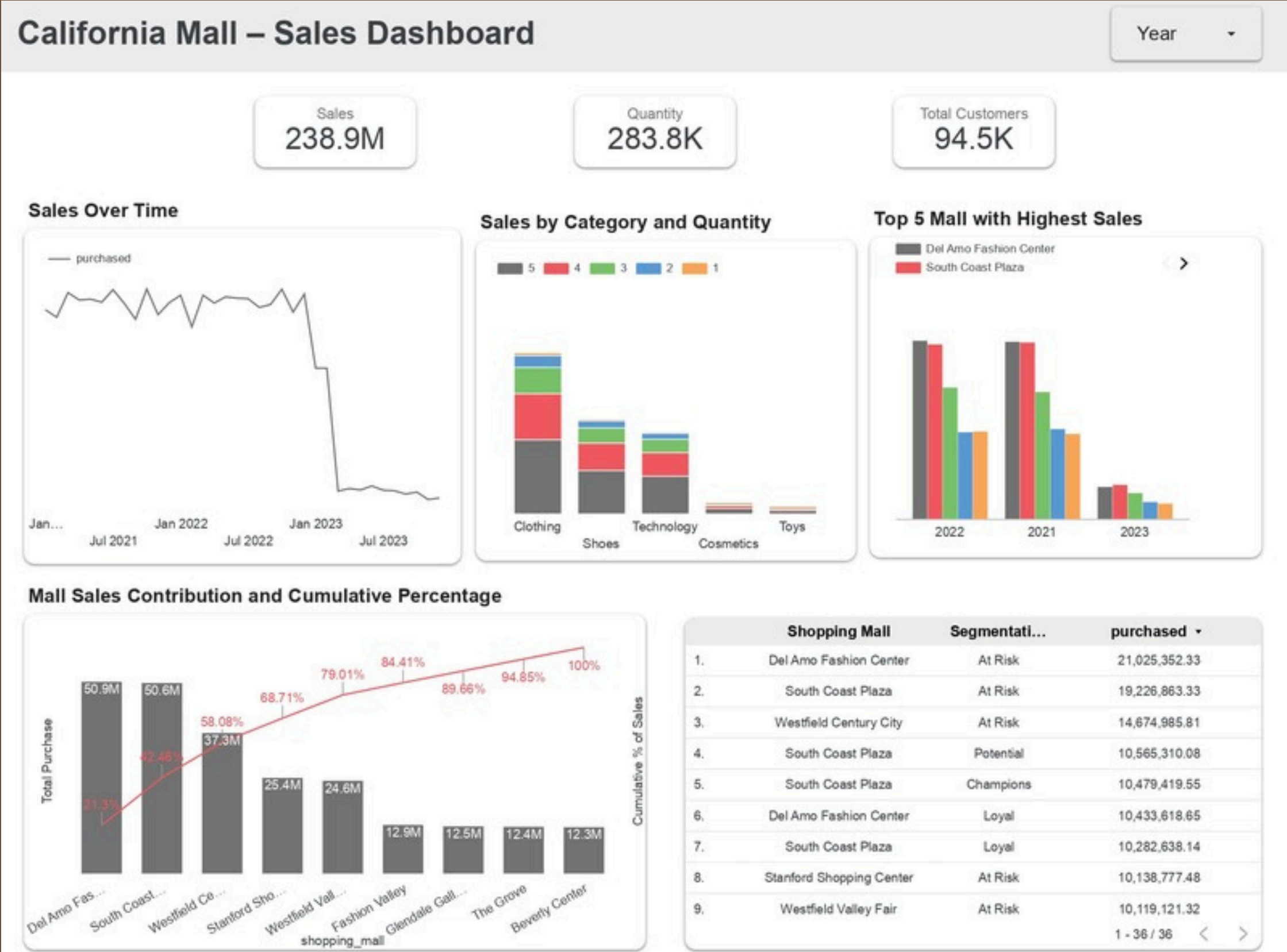
KEY INSIGHTS FROM CUSTOMER ANALYSIS



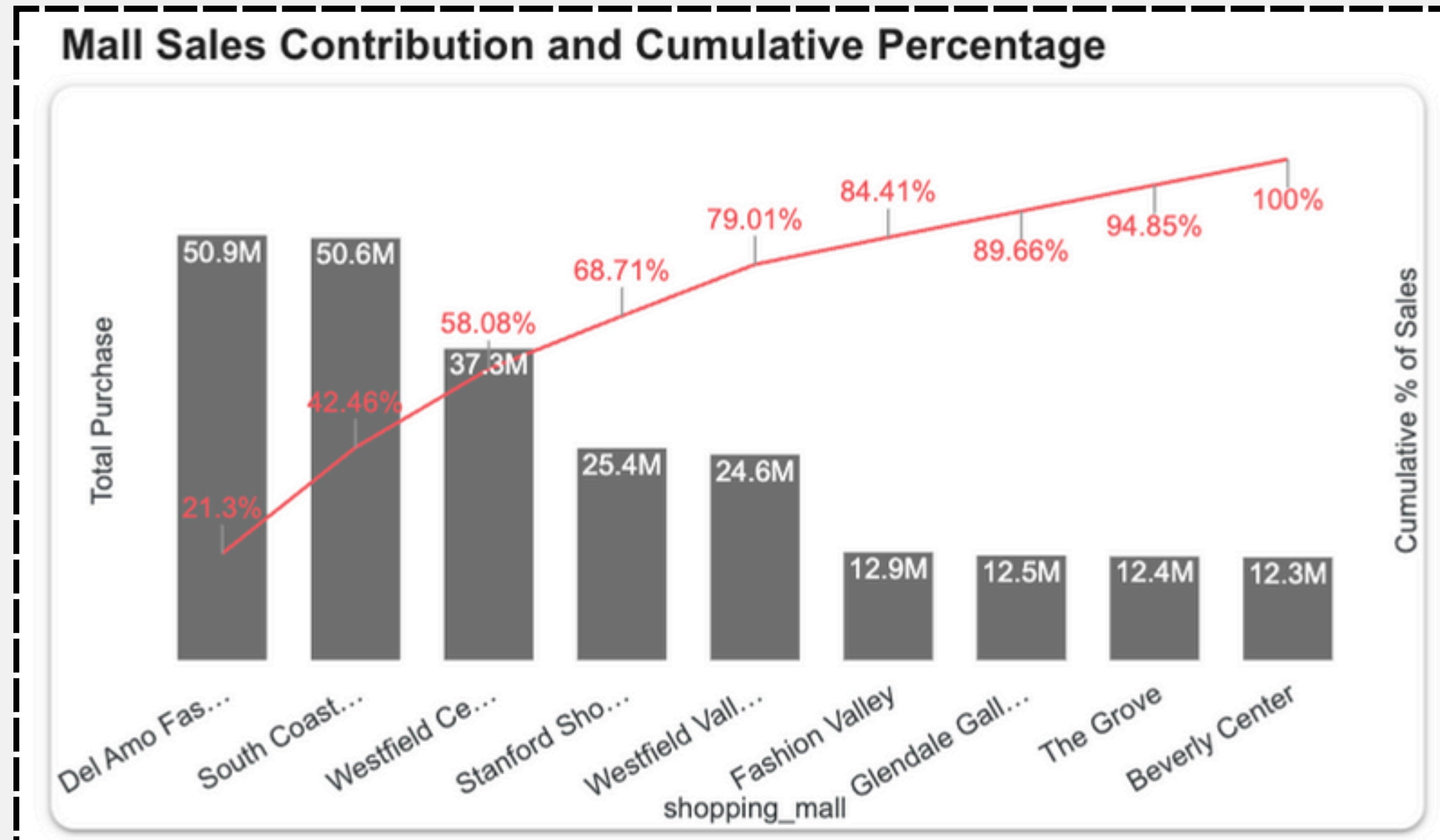
The At Risk segment is notably dominant in several major malls, suggesting a considerable churn potential in high-traffic locations.

SALES TRENDS, MALL CONTRIBUTION, AND
PRODUCT CATEGORIES

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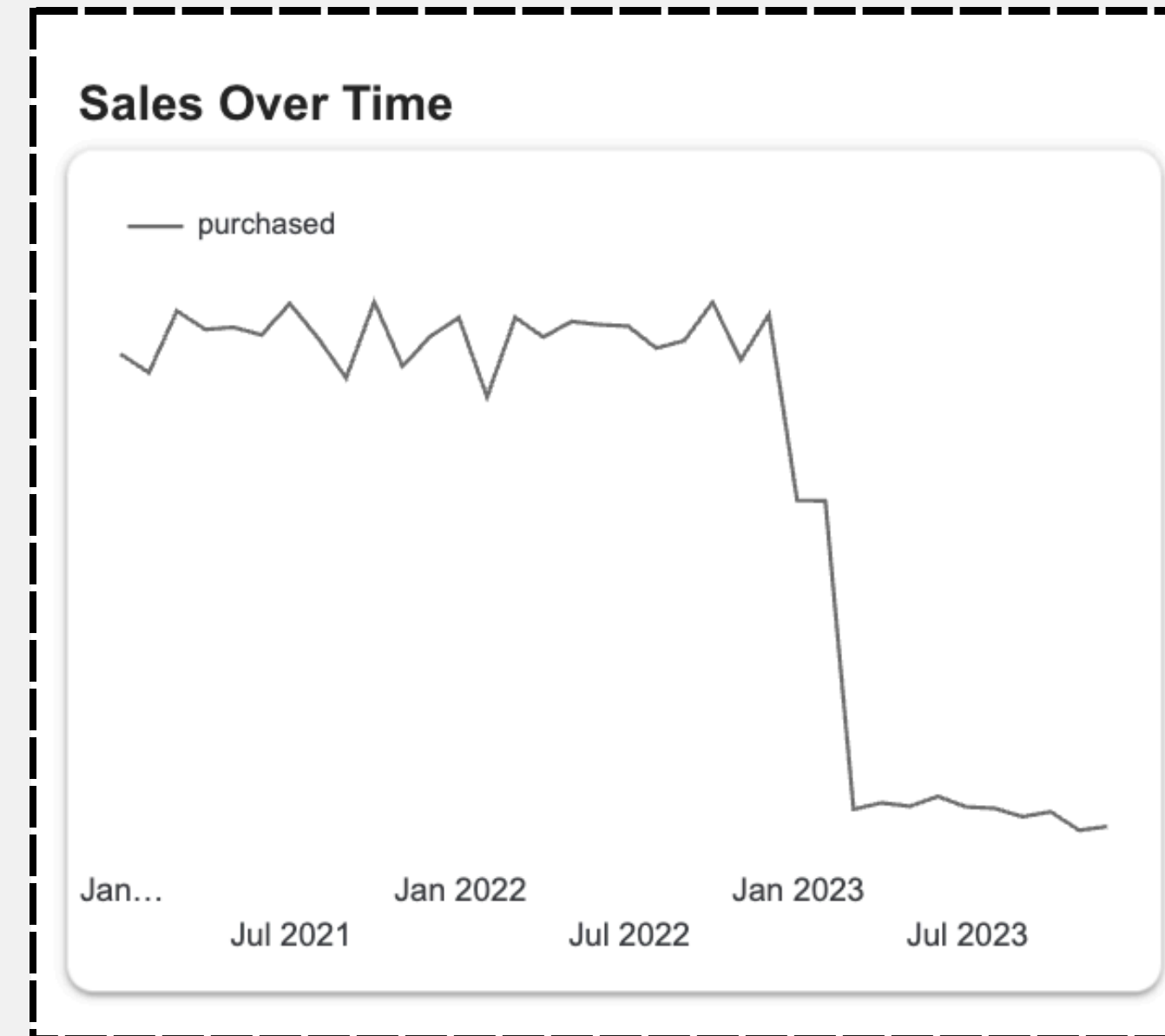
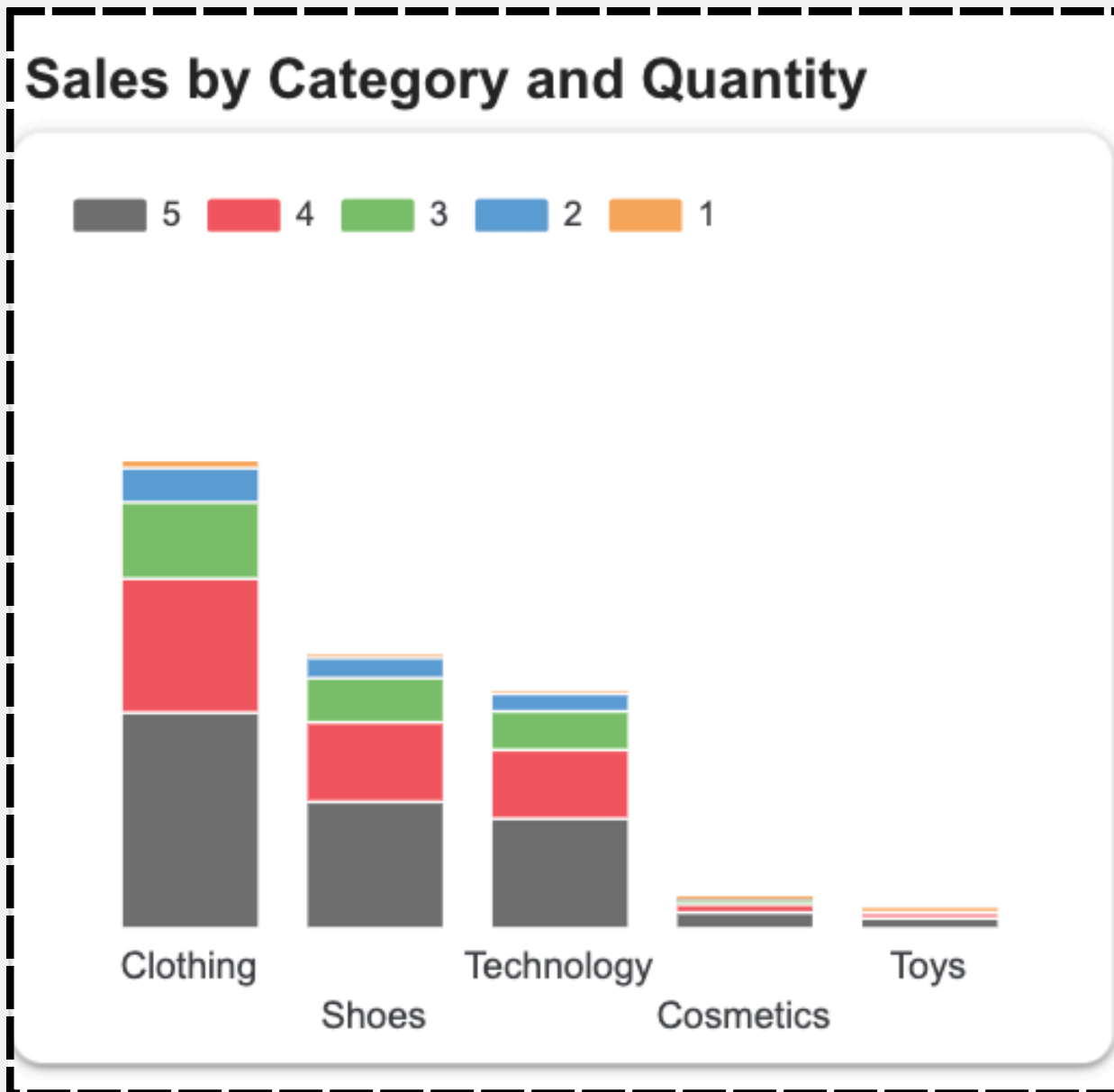


KEY INSIGHTS FROM SALES ANALYSIS



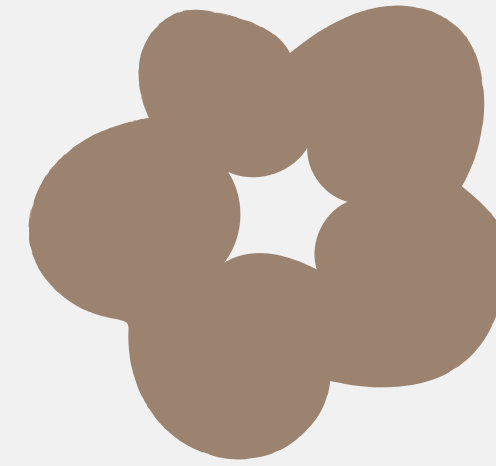
- Total sales = 238.9M, quantity = 283.8K, customers = 94.5K.
- Top 2 malls (Del Amo & South Coast Plaza) contribute more than 40% of total sales.
- Pareto principle applies → 20% of malls generate around 80% of sales.

KEY INSIGHTS FROM SALES ANALYSIS

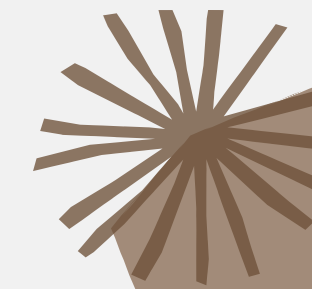


- Best-selling categories: Clothing & Shoes dominate both volume and revenue.
- Sales trend shows a sharp decline in the last year, indicating potential issues such as market saturation or external factors.

CONCLUSION



- **RFM Segmentation:** At Risk = 40% of customers (highest sales contribution), Champions = 20% of customers with strong sales, while Loyal & Potential each account for ~20% with balanced contributions.
- **Mall Contribution:** Del Amo Fashion Center and South Coast Plaza are the top two malls (40%+ of sales), with the Pareto principle applying—20% of malls generate ~80% of sales.
- **Customer-Product Relationship:** Clothing & Shoes dominate sales, especially among customers aged 20-40. Champions and Loyal segments tend to purchase higher-value fashion products



RECOMMENDATION

1. Customer Retention

Focus on the At Risk segment (40% of customers with the largest sales contribution).

Launch retention programs such as targeted promotions, cashback, or loyalty initiatives to prevent churn.

2. Loyalty Enhancement

Maintain the Champions segment (20% of customers with high sales) through exclusive programs—VIP access, member-only events, or early product launches.

Goal: increase Customer Lifetime Value (CLV).

3. Mall Strategy

Prioritize investment and campaigns in Del Amo Fashion Center and South Coast Plaza (the top two malls contributing >40% of sales).

Evaluate large malls with lower sales performance to adjust marketing strategy or improve efficiency.

4. Product Optimization

Expand assortment and stock for Clothing & Shoes (the best-selling category across all segments).

Tailor offerings to the 20–40 age group, the most dominant and active customer base.

5. Sales Recovery & Monitoring

Investigate the recent sales decline (consider external factors: market trends, seasonality, competitors).

Adopt strategies such as seasonal discounts or brand collaborations to boost sales momentum.



THANK
YOU



[linkedin.com/in/arwaly-haifa-salsabila](https://www.linkedin.com/in/arwaly-haifa-salsabila)



github.com/ahs1704/California-Mall_Customer-Sales-Analysis-Dashboard



[California Mall – Sales Dashboard](#)