

# Customer Behavior Analysis

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## Problem Statement

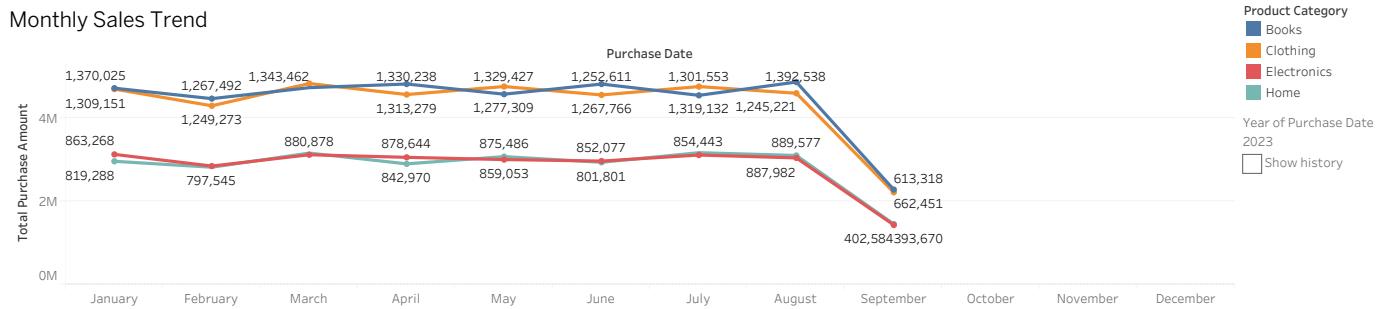
- Sales Trend Over Time
- Customer Age Distribution (Histogram)
- Customer Gender Distribution
- Sales by Product Category
- Quantity Sold per Category
- Average Purchase Amount by Payment Method
- Payment Method Distribution
- Churned vs Active Customer Count
- Avg Purchase Amount by Churn Status
- Monthly Sales Trend
- Sales Trend
- Total Returns By Product Category
- Returns vs Total Purchases
- Total 10 customer Spending category wise
- Age vs Total Purchase Amount
- Product Category preference by Gender



## Story 1



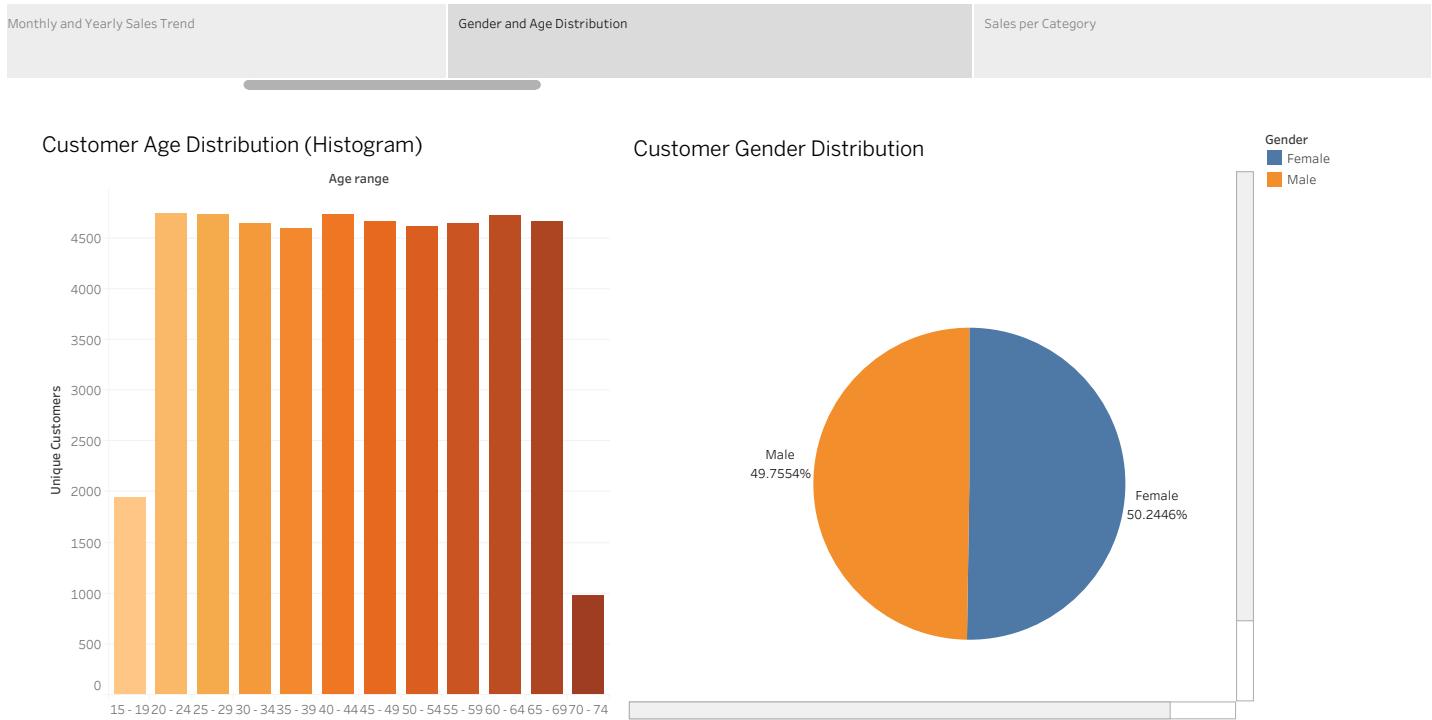
### Monthly Sales Trend



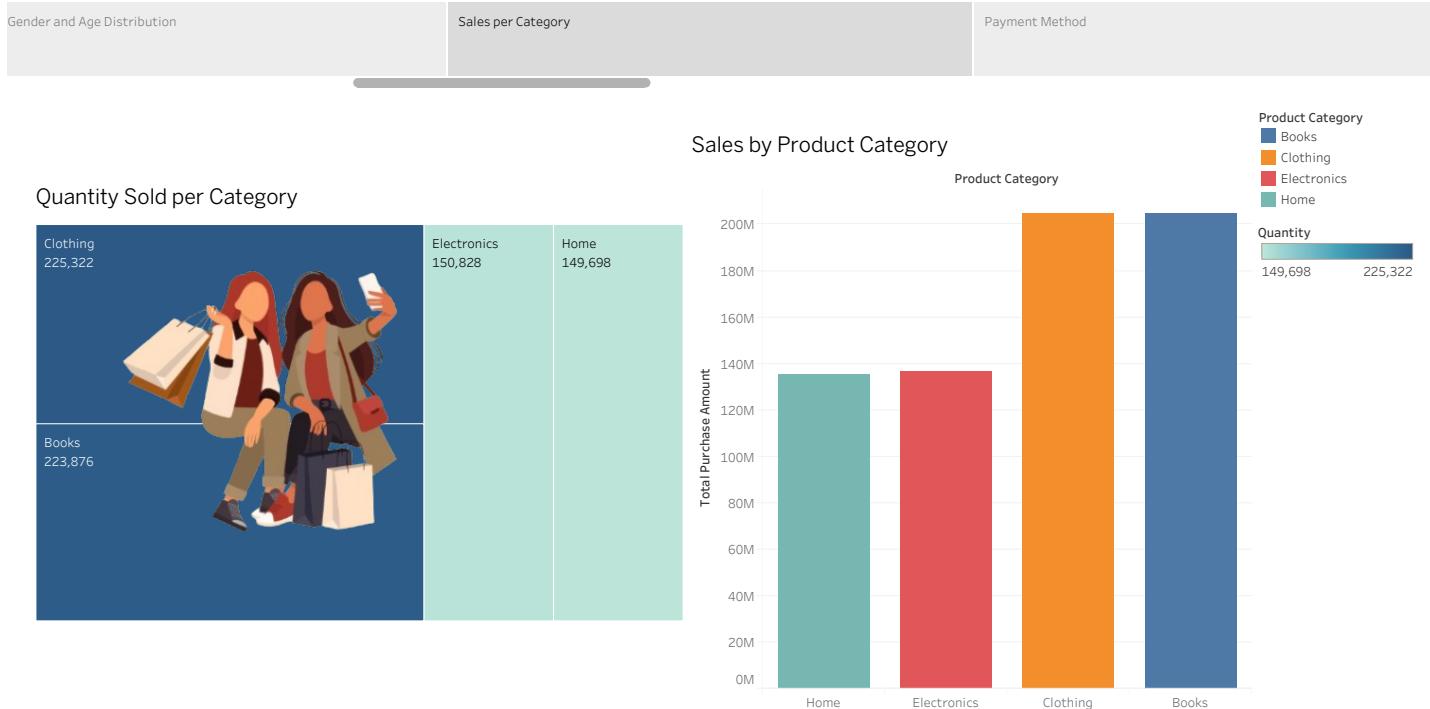
### Sales Trend



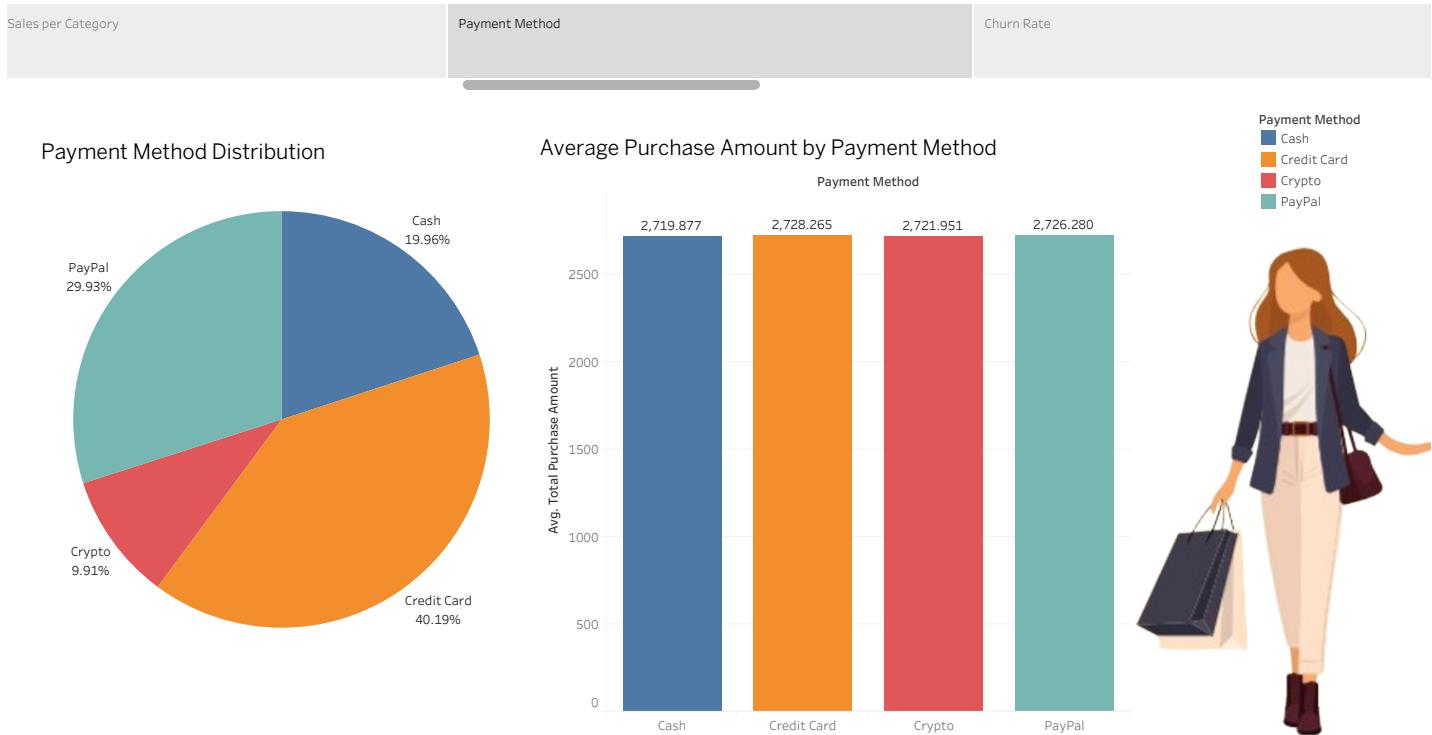
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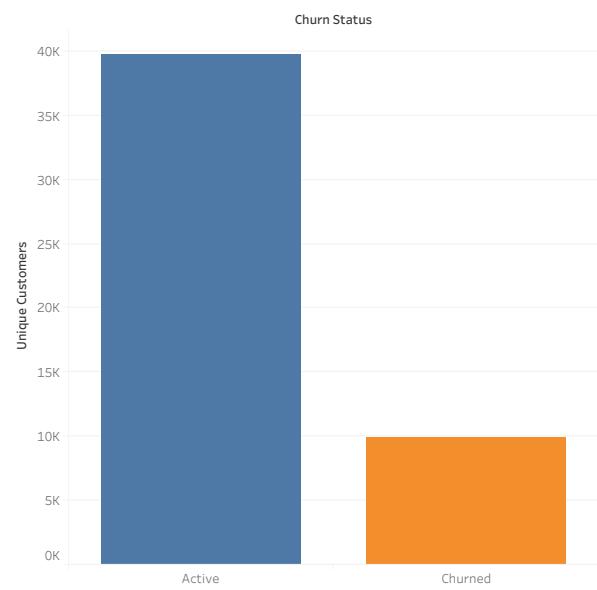
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Churned vs Active Customer Count

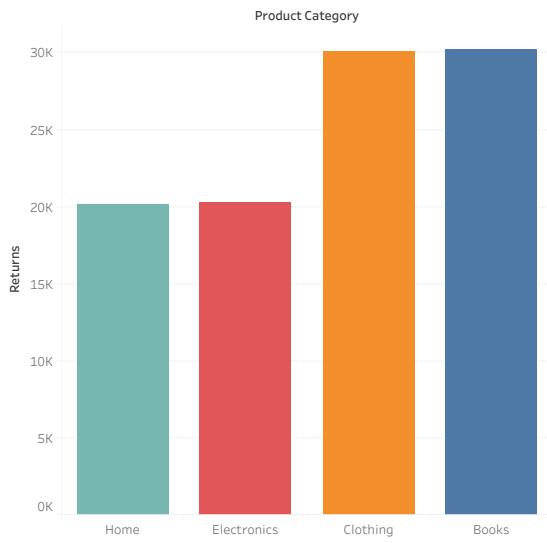


Churn Status  
Active  
Churned

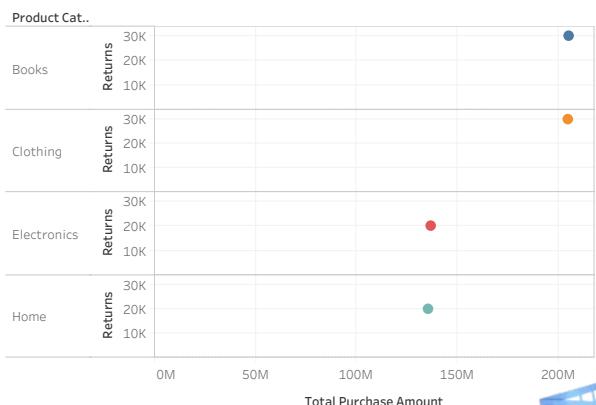
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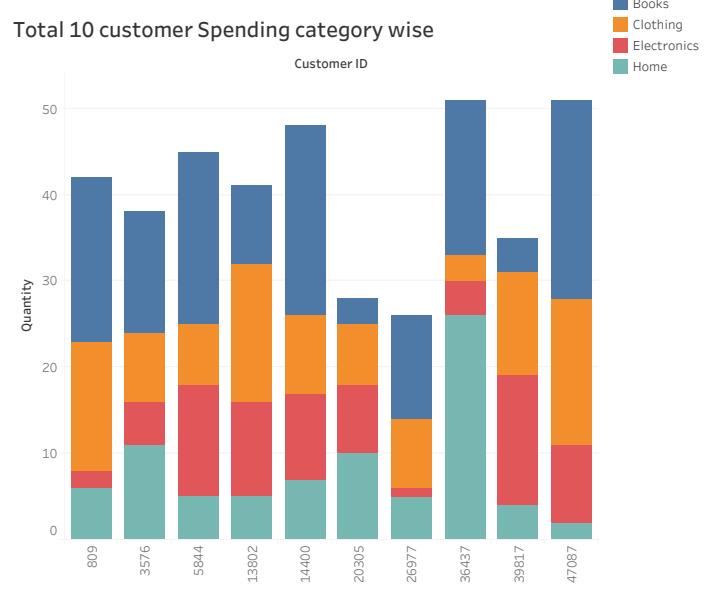
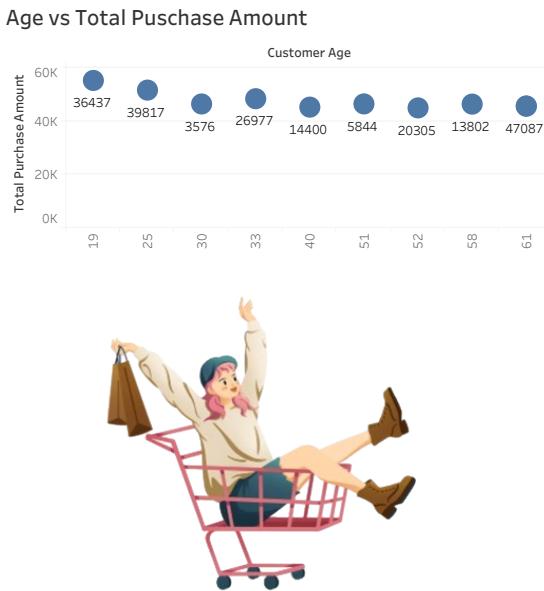
Total Returns By Product Category



Returns vs Total Quantity sold per category



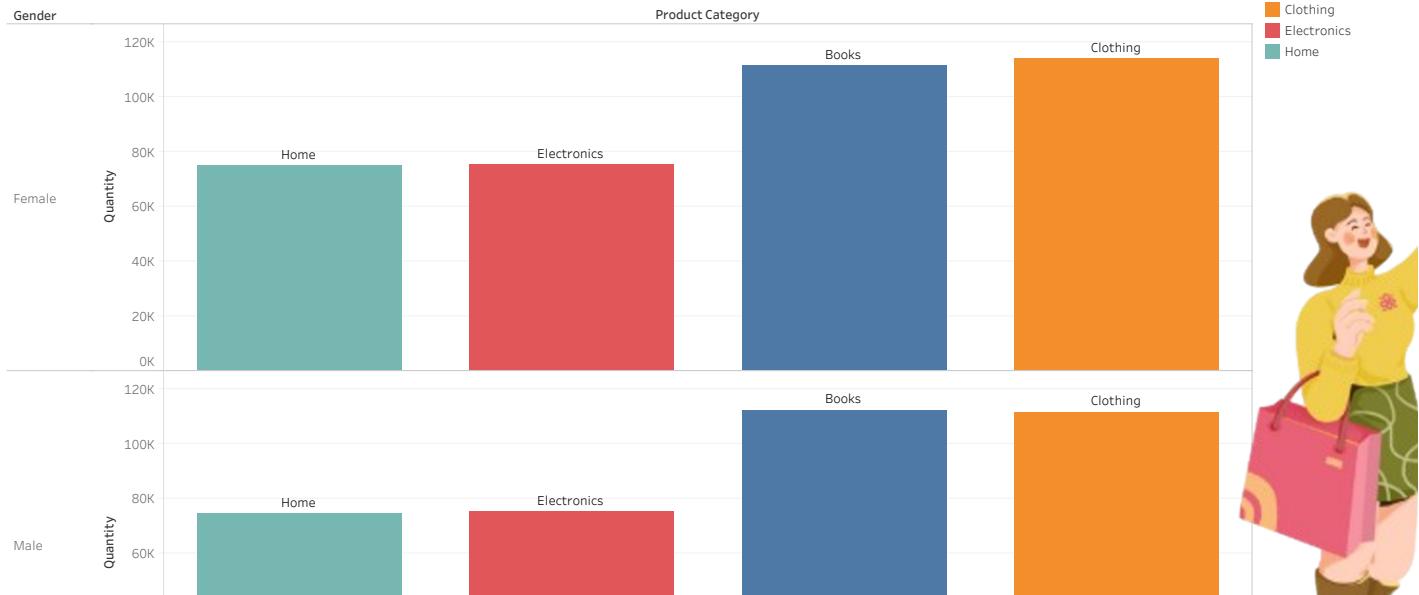
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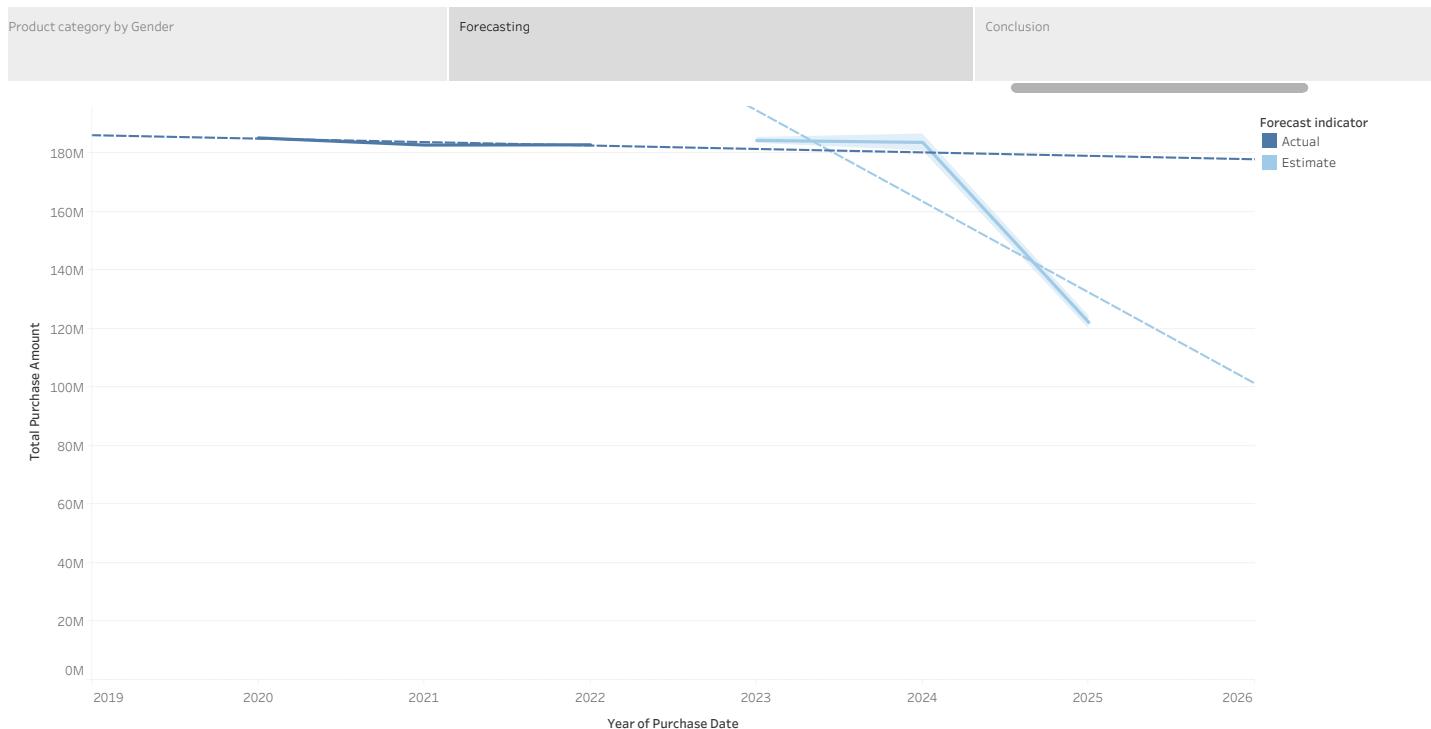
## Story 1



Product Category preference by Gender



## Story 1



## Conclusion

- Most Active Buyers: Customers aged 25–45 show the highest purchase activity.
- Top Categories: Home and Electronics products generate the most revenue.
- Preferred Payments: Credit Card and PayPal are the most used payment methods.
- Churn Insight: Active and churned customers spend almost equally — engagement drives retention more than spend.
- Seasonal Pattern: Sales dip from August to November and rise slightly in December (festive effect).
- Forecast Insight: A slight decline in sales by 2025 indicates a need for improved customer retention and marketing efforts.
- Overall: Visual analytics helped uncover key behaviour trends to support data-driven decisions for business growth.



