

Optimizing Sales Through Customers Behaviour Analysis

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Hi!

I'm Tyas, I'm a data analyst graduate of hacktiv8 who has handled many company problems that require data analysis and modeling using machine learning to deep learning.

Background

Our company's currently exhibits a significant customers gender imbalance, with a notable lack of female customers. This issue has been identified by the marketing department as an obstacle to sales growth. They ask me to do analysis of customer behaviour to optimize sales performance for upcoming April 2024.

Problem Statement

**Optimizing Female customers sales performance through
customers behavior analysis to provide actionable insight and
strategic recommendations for April 2024.**

Outline.

01

Our Dataset

02

Our Process

03

Customers Behaviour Analysis

04

Our Strategy



Our Dataset.

The dataset contains age, gender, location and product purchased information.

3.900 Data

5 Cities in USA

Montana, Illinois, California,
Idaho, Nevada

Our Process



Using Apache Airflow

Kibana

Airflow

The screenshot shows the Airflow web interface at `localhost:8080/dags/MyDBdag/grid`. The top navigation bar includes links for Airflow, DAGs, Security, Browse, Admin, and Docs. The current view is the Grid tab, which is highlighted in blue. Other tabs include Graph, Calendar, Task Duration, Task Tries, Landing Times, Gantt, Details, and Code. Below the tabs is an Audit Log section. The main content area displays the DAG details for **MyDBdag**, including its duration (00:00:41) and a timeline chart showing task execution. The DAG runs summary indicates 3 total runs, all of which were successful. The first and last run started at 2024-03-23, 03:33:22 UTC.

23/03/2024 17.03.07 25 All Run Types All Run States Clear Filters

Duration: 00:00:41

Auto-refresh

DAG MyDBdag

DAG Details

DAG Runs Summary

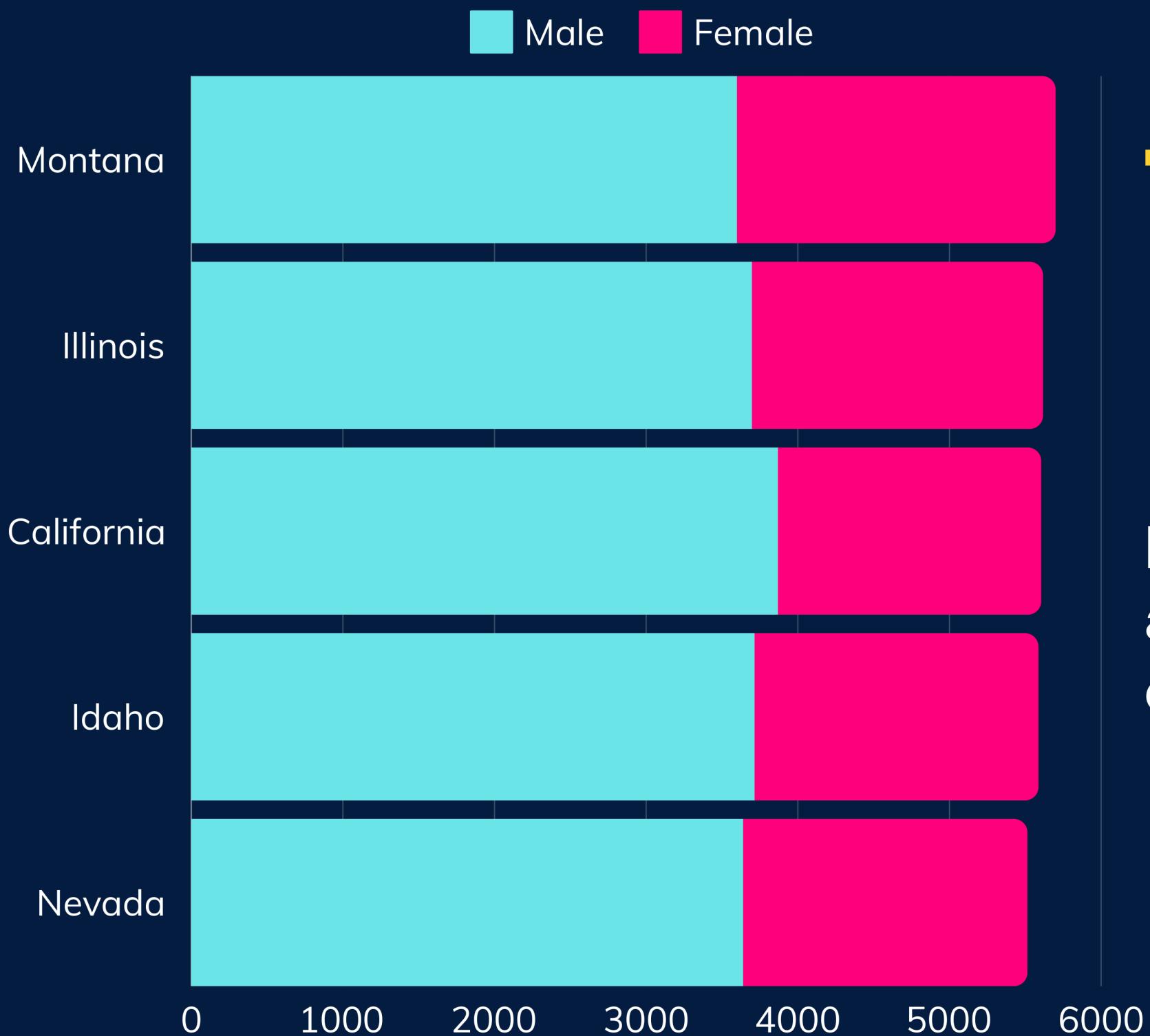
Total Runs Displayed	3
■ Total success	3

First Run Start: 2024-03-23, 03:33:22 UTC

Last Run Start: 2024-03-23, 03:33:22 UTC

QueryPostgreSQL
cleaningData
InsertDataElasticsearch

Total Sales Per Location By Gender

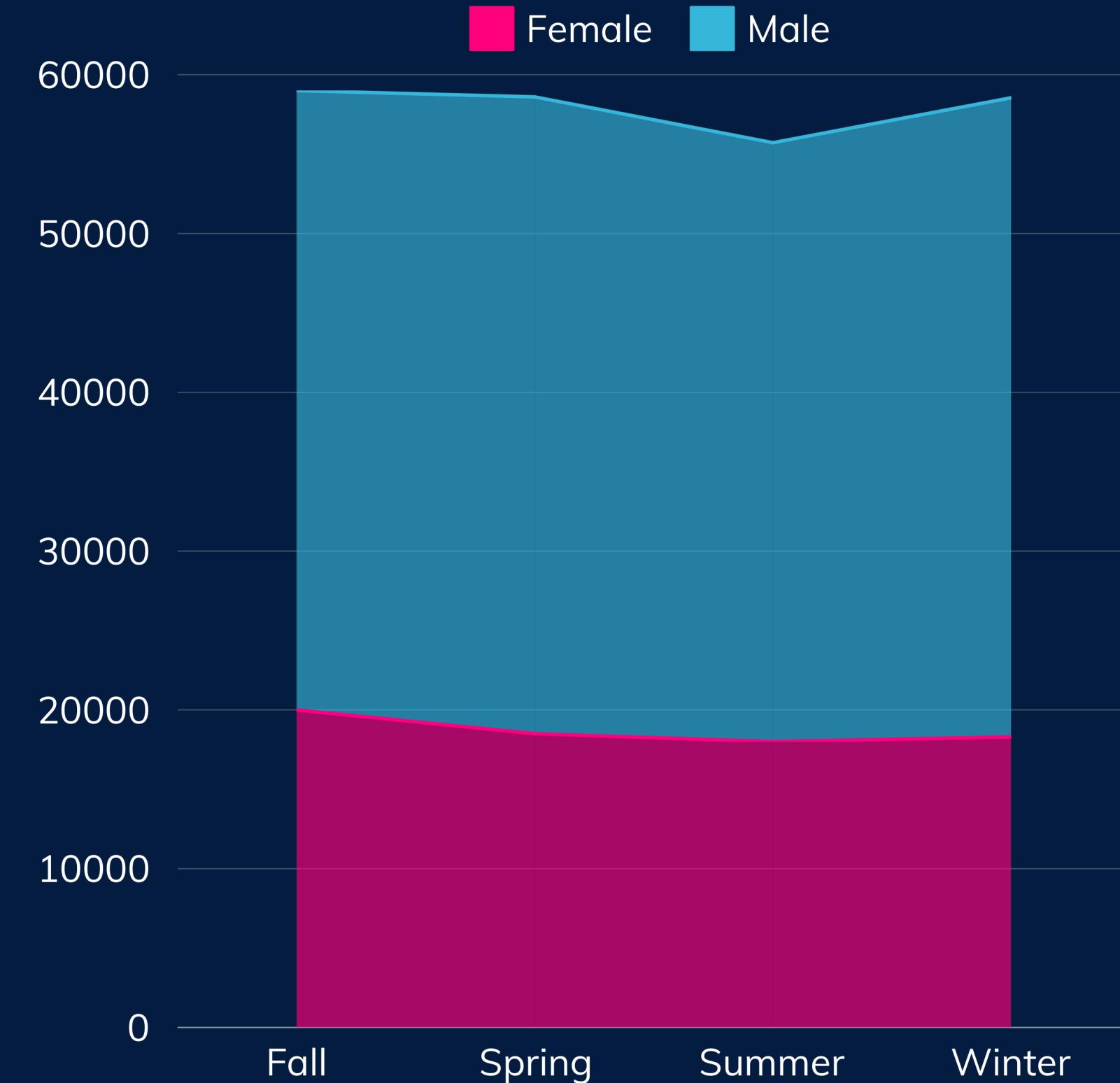


Male consistently **have higher total sales** across all locations (\$ 3,600 per location) compared to women (\$ 1,800 per location)

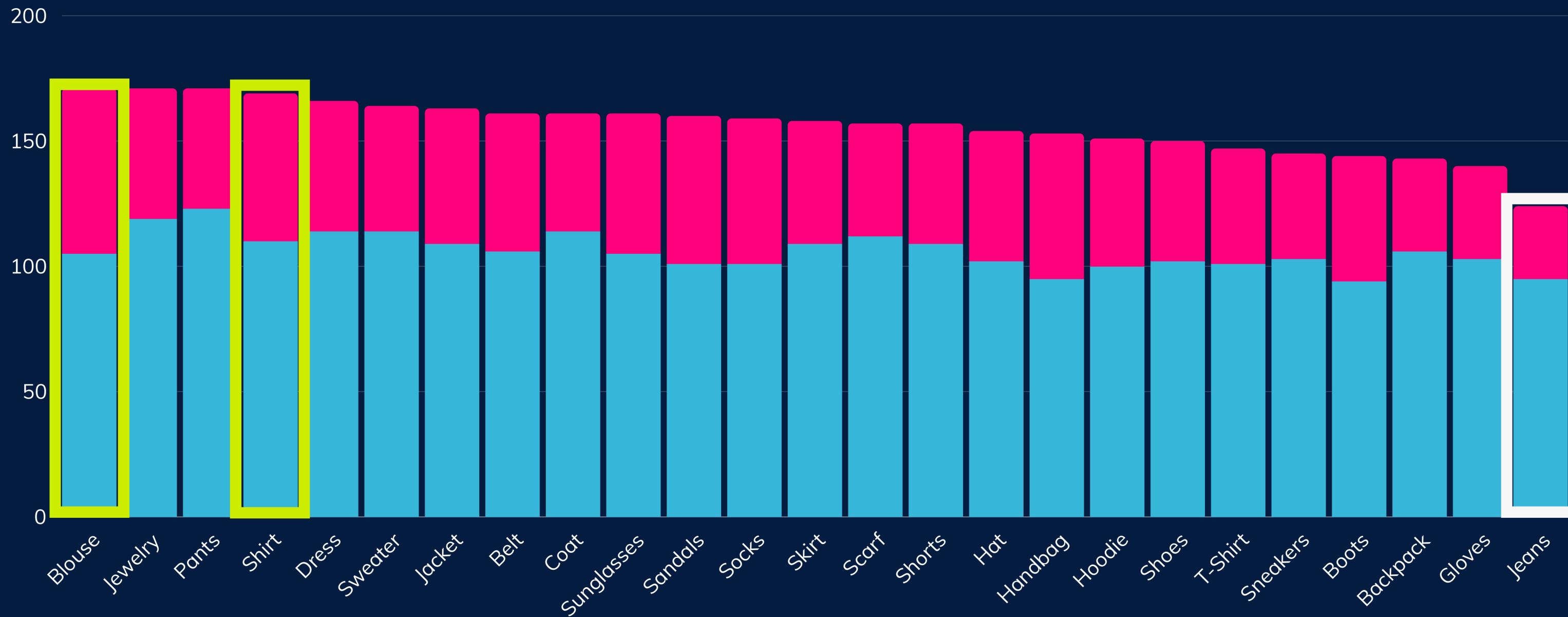
Total Sales Per Season By Gender

Male consistently have higher total sales across all seasons (\$37,000 - \$40,000) compared to women (\$18,000 - \$20,000)

Seasonal Sales Trends:
Fall has the highest total sales, while summer has the lowest.

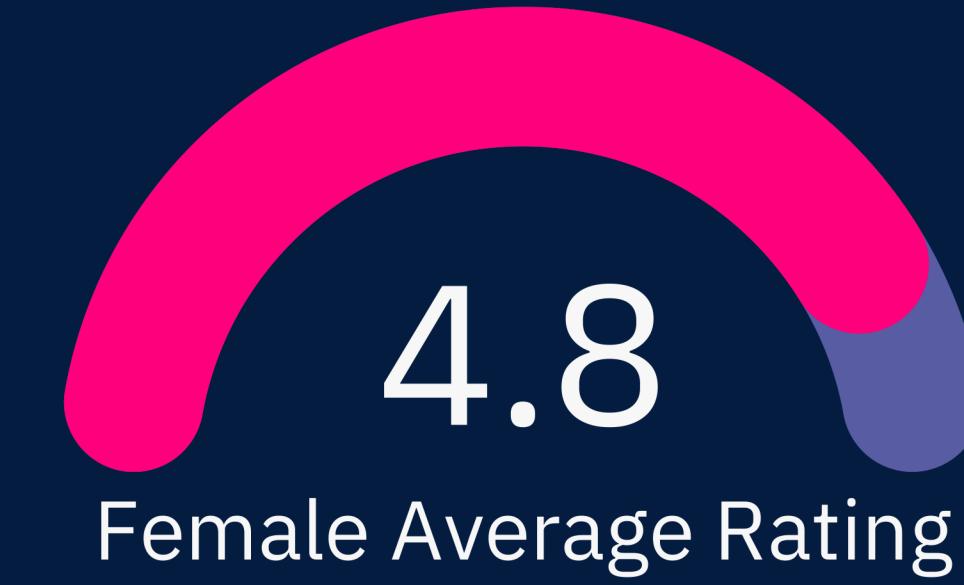
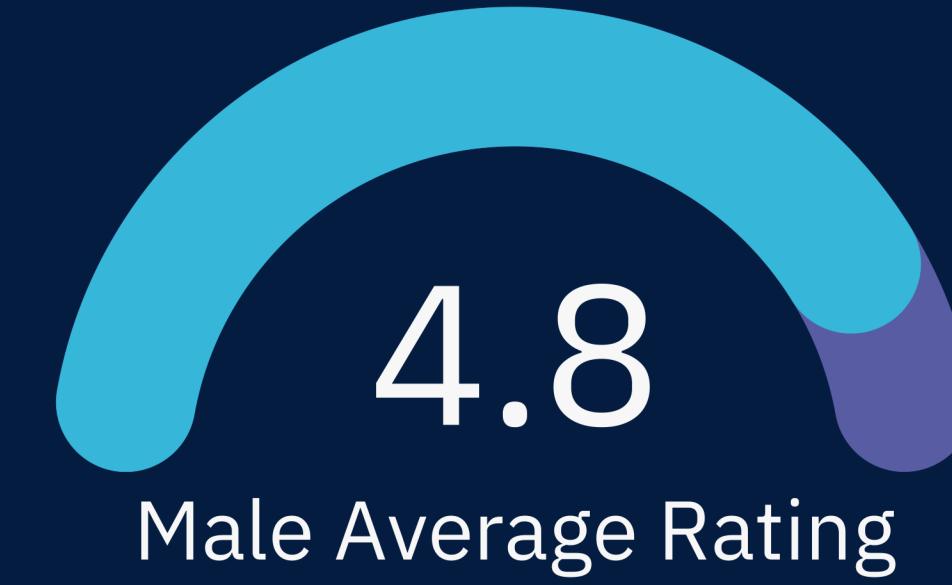


Total Product Purchased By Gender



Women's Top Products are Blouses (66 items) and Shirts (59 items),
with Jeans (29 items) seeing the least purchases.

Average Rating by Gender

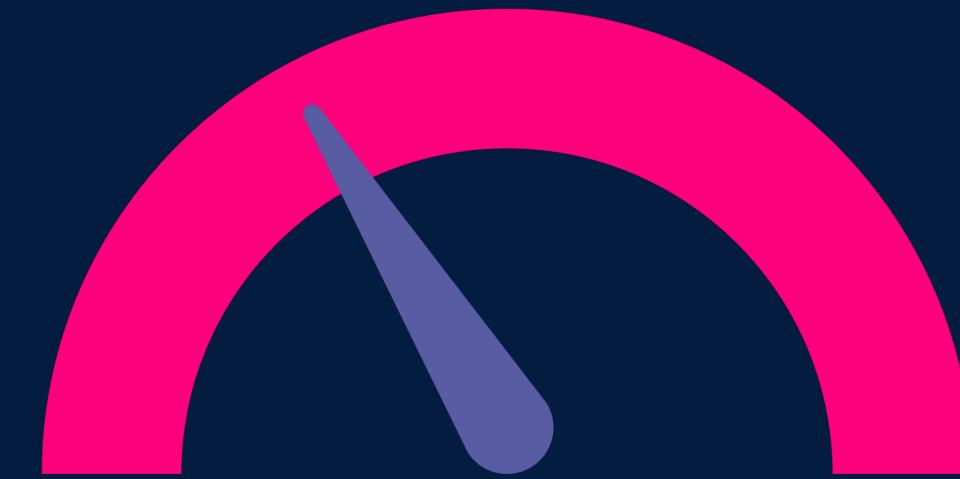


Both genders are highly satisfied, with average rating of 4.8.

Average Purchased Frequency by Gender



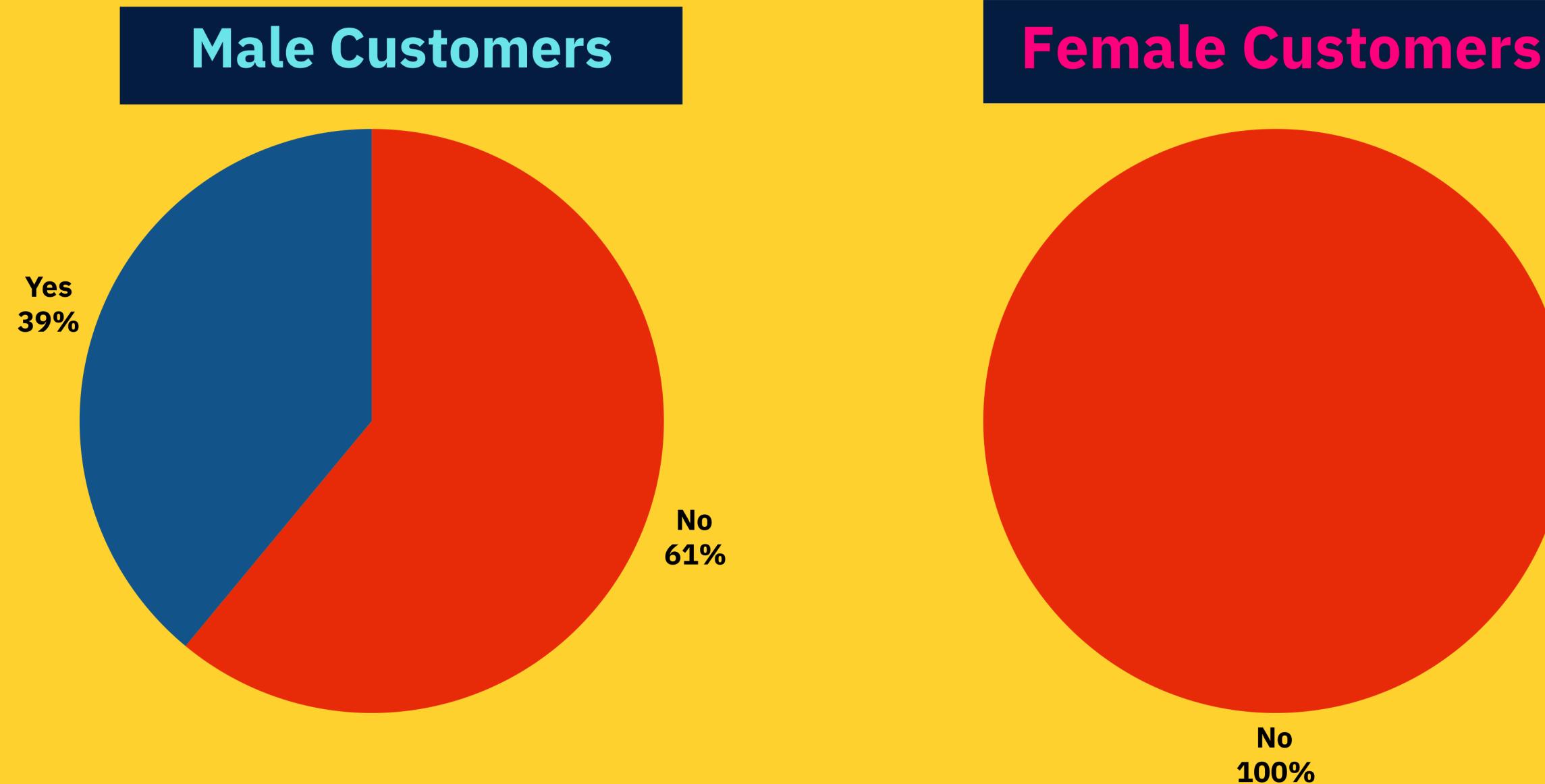
32 times Male Average
Purchased Frequency



17 times Female Average
Purchased Frequency

Male customers has a significantly higher purchase frequency
than female customers.

Percentage Membership by Gender



**There's a extremely gender gap in membership,
with there is no female customers become our member.**

Recap.

Key Characteristics of Our Female Customers:

- Low total sales in all location and all season
- Loves to buy our blouse and shirt
- Average repeat purchased by 17 times
- Average rating given by 4.8
- No female customers have memberships

Our Strategy

Strategic recommendations to improve sales performance among female customers in April 2024:

- Targeted Promotion & Product Bundles

1. Focus on Female Top Products (Blouse & Shirt)
2. Create Female oriented bundles

- Membership for Female Benefits

1. Offer a signup bonus
2. Develop a loyalty program

- Encourage Repeat Purchases

1. Targeted email campaign
2. Offered discount who haven't purchased in a while

- Content Marketing Strategy for Female

1. Showcase outfit inspiration
2. Highlight customers review

- Analyze Shopping Preferences

1. Identify preferred styles and colors
2. Track website activity

Thank You!