# SHOPPING BEHAVIOR ANALISYS

Convenience at Your Fingertips

Leveraging 3,900 transactions to decode purchasing patterns and optimize business strategies

# INTRODUCTION

## Understanding Consumer Behavior Through Data

In today's competitive retail landscape, understanding customer purchasing behavior is crucial for business success. However, many companies struggle to identify clear patterns in how different demographic segments make purchasing decisions.

# METHODOLOGY

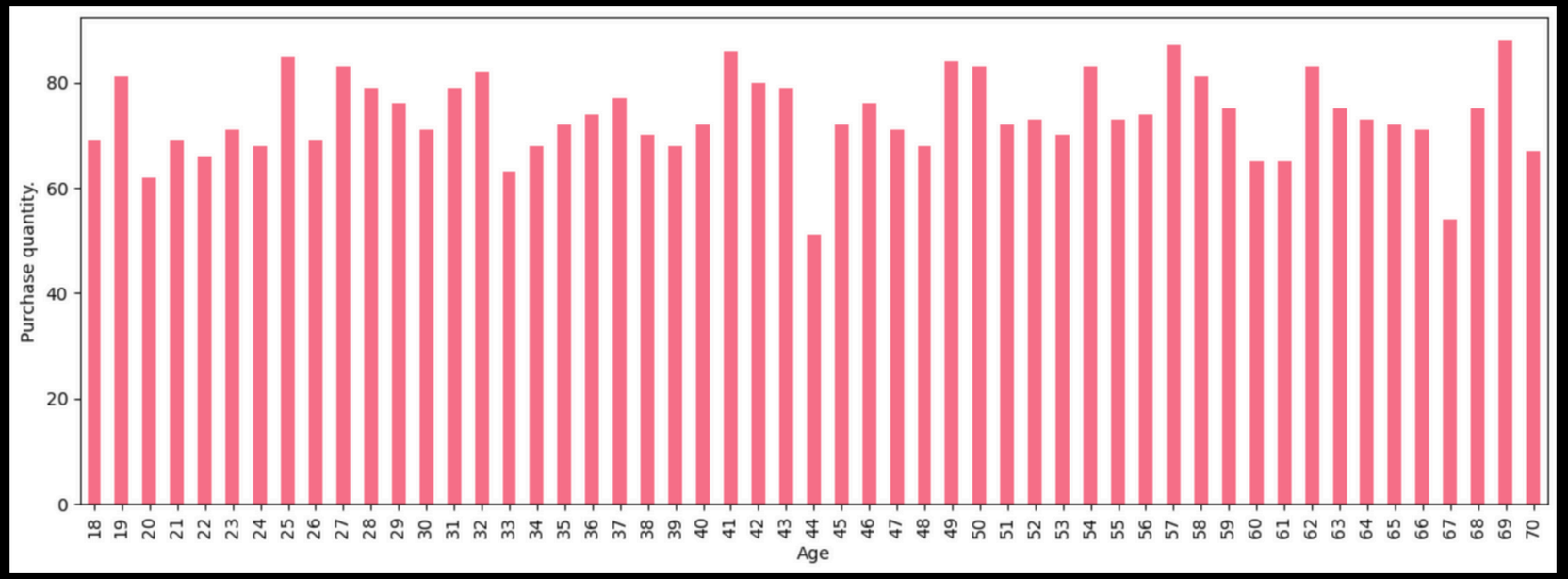
## How we conducted the analysis

- Dataset: 3,900 purchase transactions
- Key variables: Age, Gender, Purchase Amount
- Techniques: Statistical analysis and data visualization
- Objective: Identify patterns for strategic segmentation

# AGE

## Analyzing Data

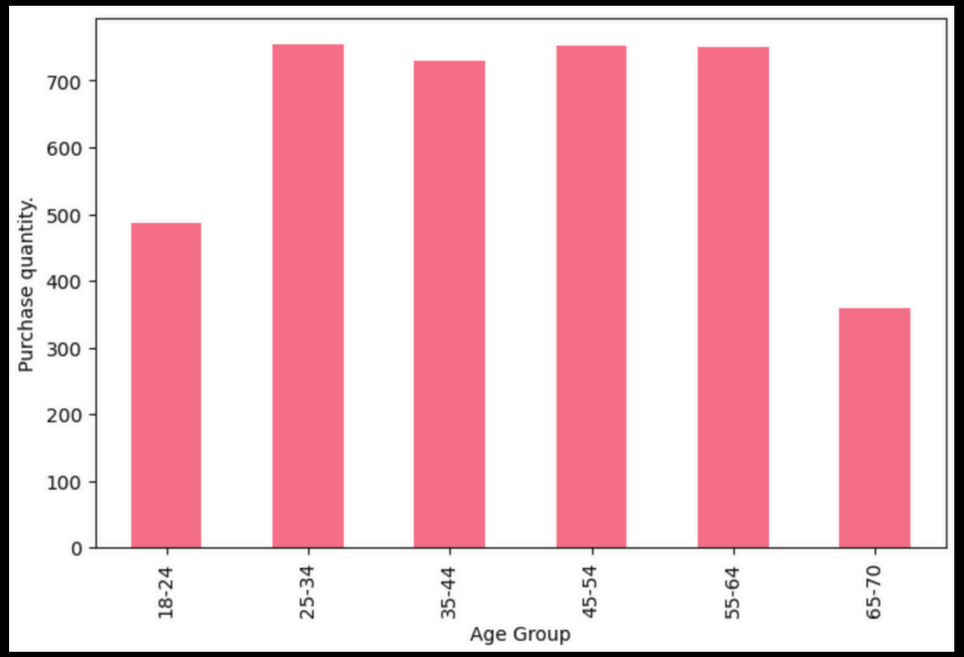
- In this first analysis, I identified the number of items purchased by age.
- As we can see, this type of visualization generates a very cluttered graph, and while easy to understand, it's not very pleasing to the eye.



# AGE

## Analyzing Data

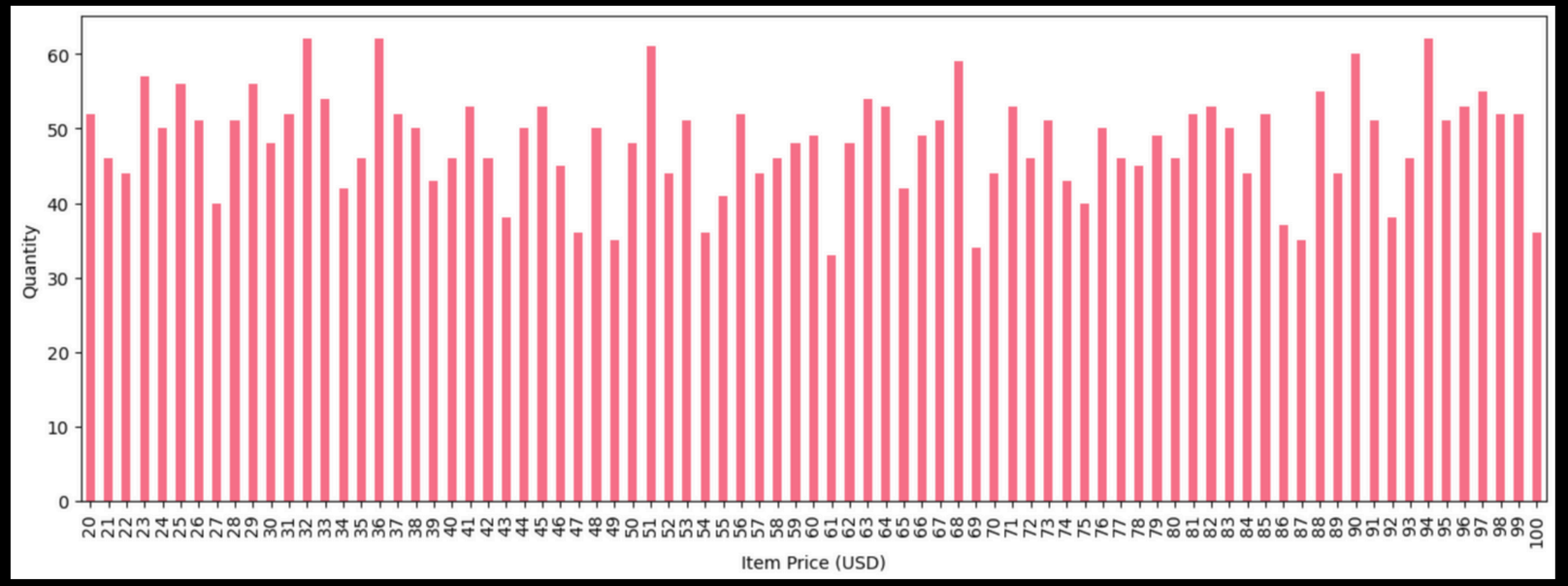
- Therefore, I created an analysis based on age groups, which generates a more visual graph and will help with future analyses.
- Here we can see that, in the early years of adulthood, the number of items purchased is lower compared to later years.
- We can also see that in the 65-70 age group, the number of purchases also drops significantly.



# PURCHASE VALUE

## Analyzing Data

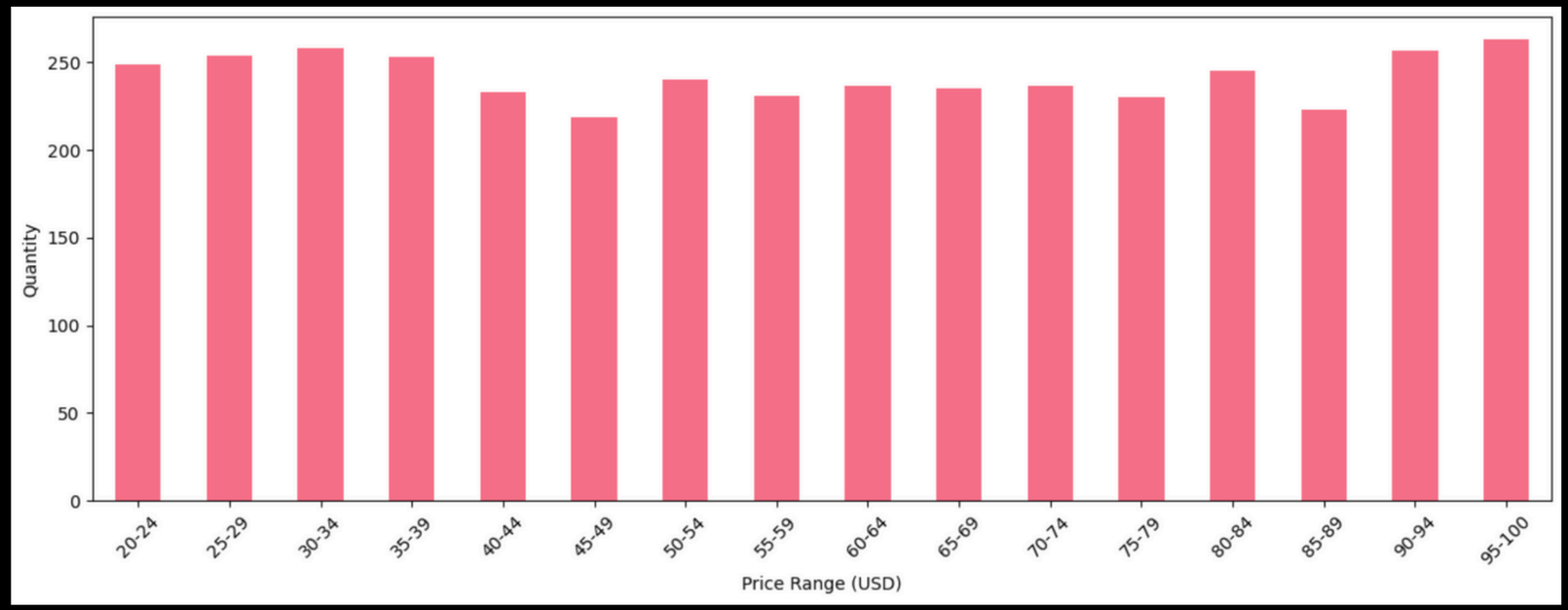
- The same happens when we analyze the value of each item purchased. A graph cluttered with too much information.
- I created a graph that plots item prices by the number of times items with that value were purchased.



# PURCHASE VALUE

## Analyzing Data

- By generating a graph with price ranges, we can better observe that even with some minimal variation, the quantity of items purchased does not seem to be affected by the sales price.

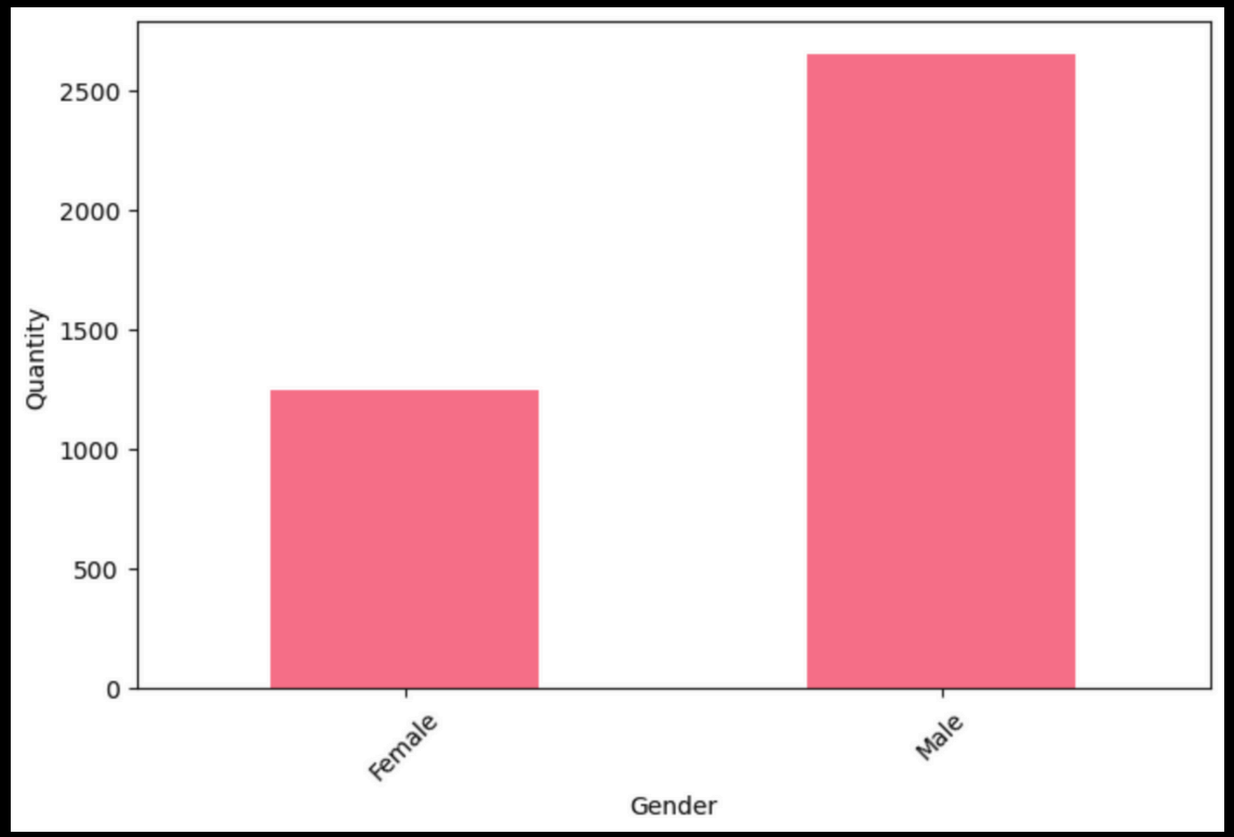


# GENDER

## Analyzing Data

- We can see that, in this analyzed data, men are responsible for 68% of purchases, an total of 2,652 units.

- Women are responsible for the remaining 22%, representing an total of 1,248.



# BIVARIATE ANALYSIS

## Comparing Categories

After analyzing the categories individually, we'll begin comparing them to see if there's any correlation between them.

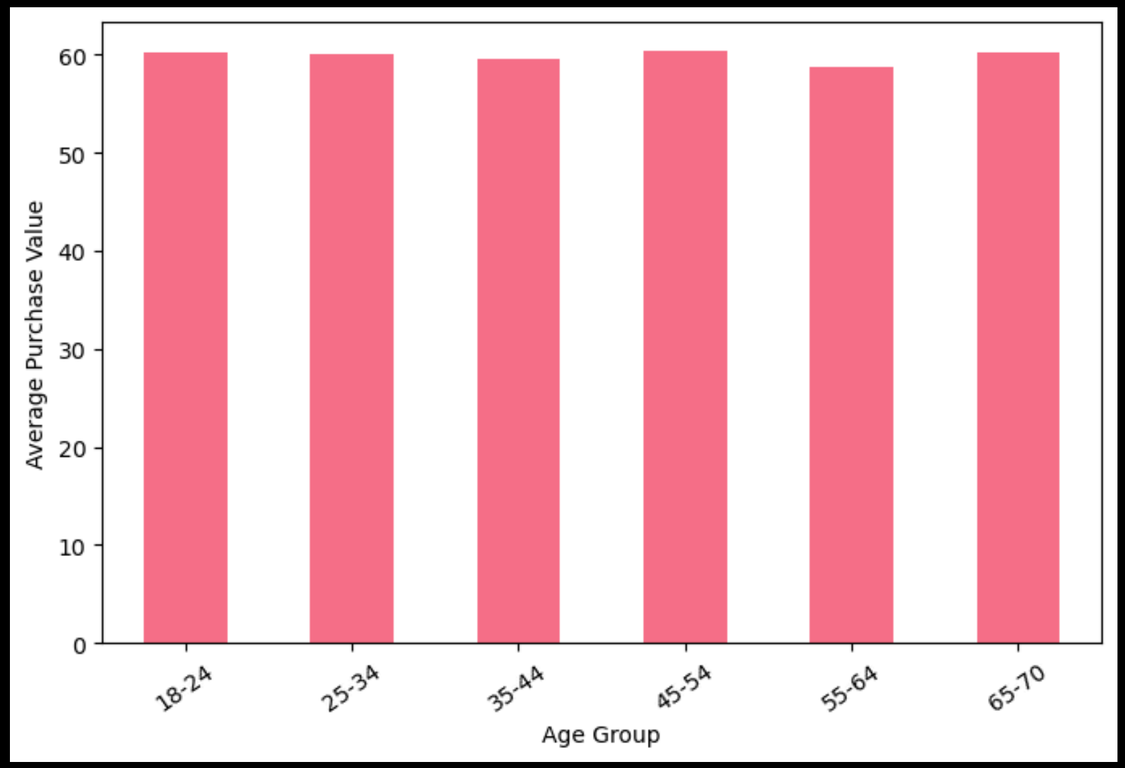
These will be:

- Age Impact on Spending (Age x Purchased  Values)
- Age and Gender Distribution (Age x Gender)
- Gender-Based Behavior (Gender x Purchased Values)

# AGE IMPACT ON SPENDING

## Analyzing Data

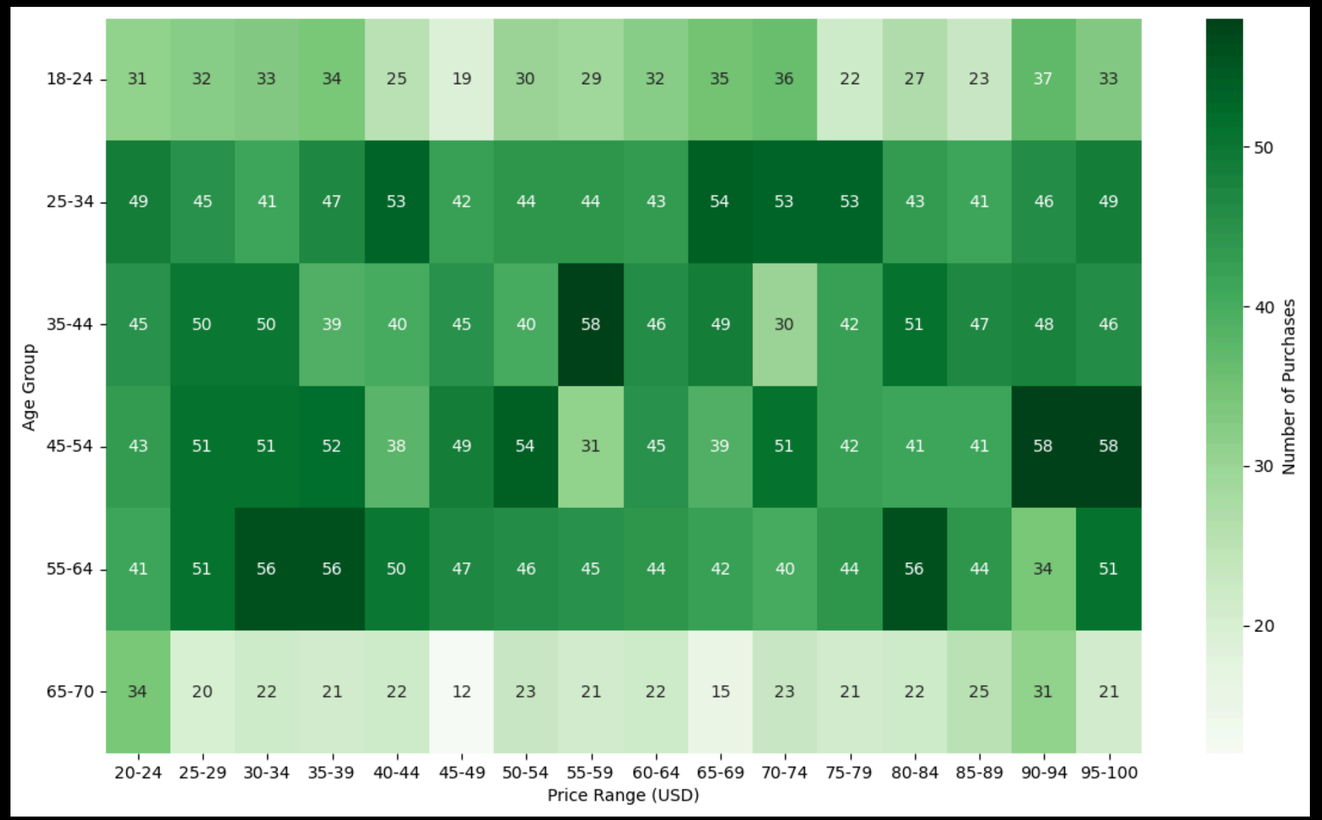
- We can see that the average purchase value remains practically the same in all age groups



# AGE IMPACT ON SPENDING

## Analyzing Data

- This heatmap shows a clear trend between age and spending. Younger and middle-aged groups (18-64) favor mid-range prices, while the oldest segment (65-70) consistently prefers the lowest prices.



# AGE AND GENDER DISTRIBUTION

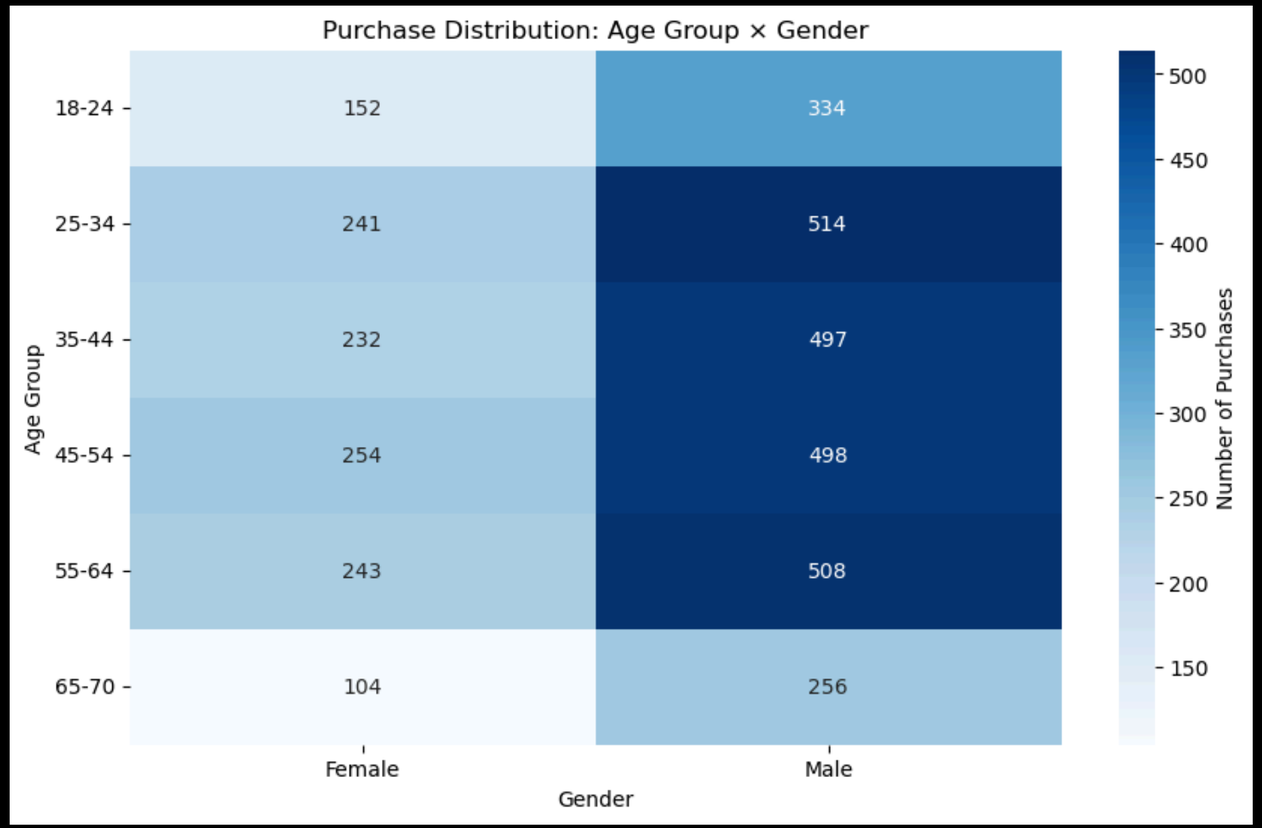
## Analyzing Data

- Here we can see that even within age groups, men are responsible for the majority of purchases made in this store.

# AGE AND GENDER DISTRIBUTION

## Analyzing Data

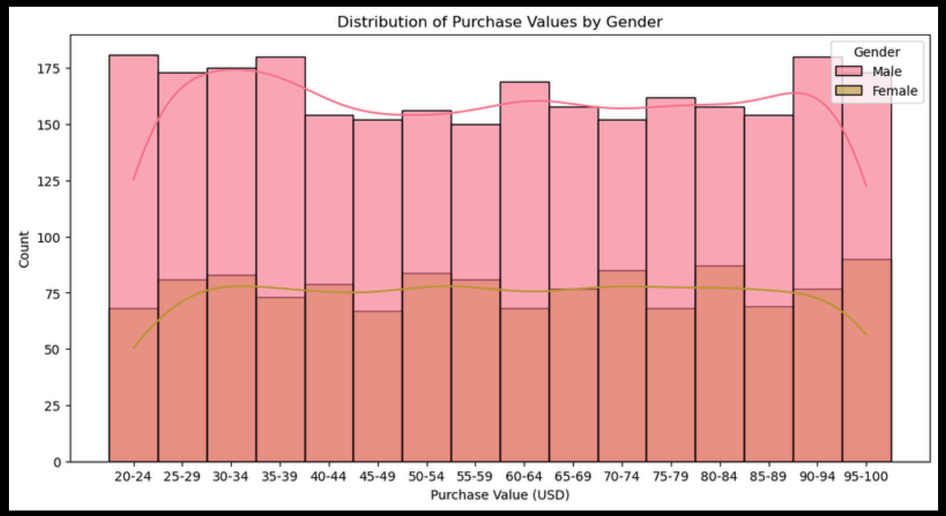
- And from this heatmap, we can see that most of this store's customers are men between the ages of 25 and 64.

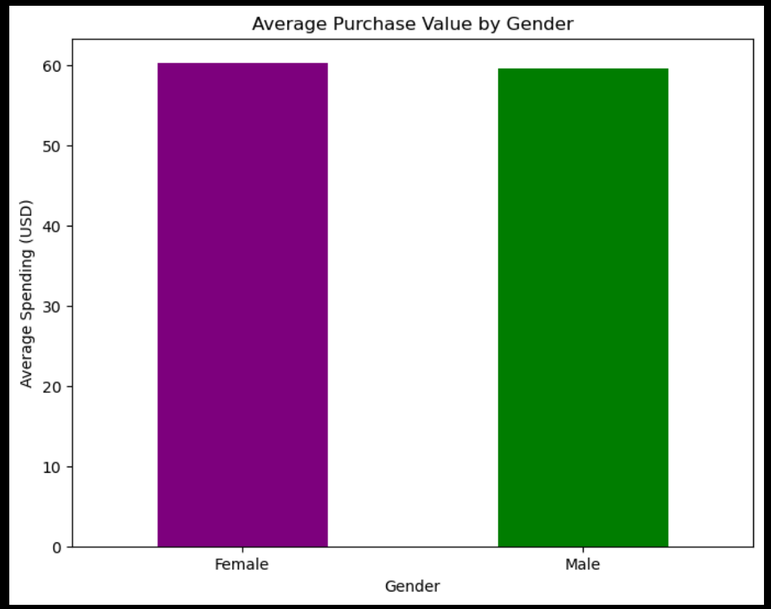


# GENDER-BASED BEHAVIOR

## Analyzing Data

- Comparing these two graphs below we can see that, even though men are responsible for the majority of purchases, the value of the items purchased is practically the same for both genders analyzed.



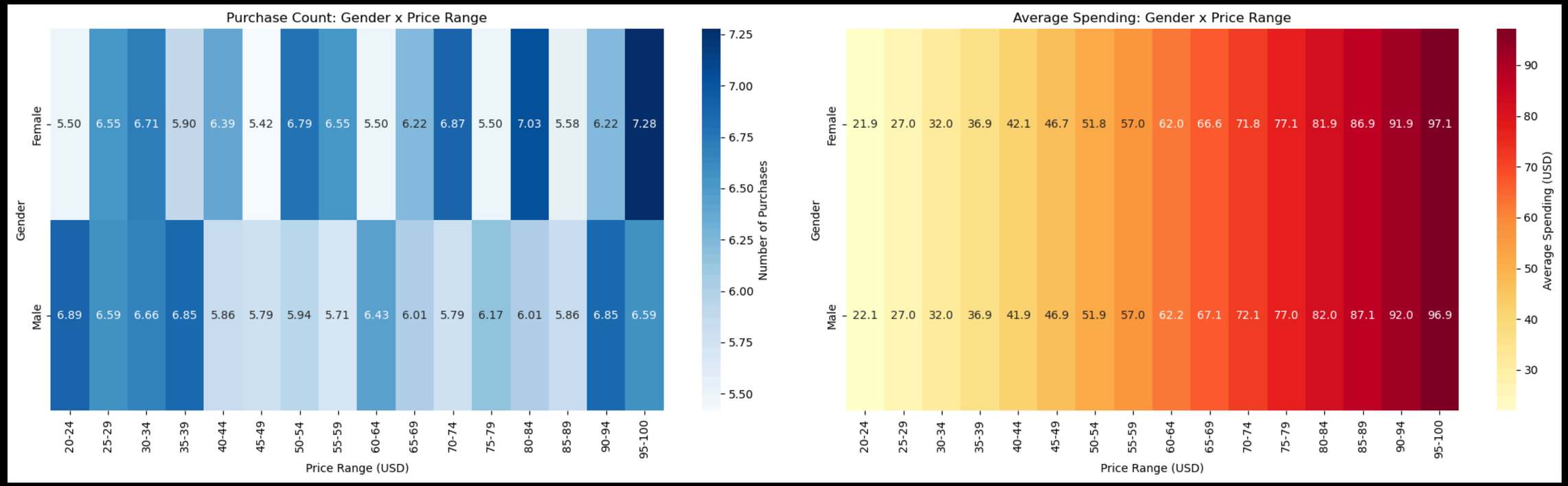



# GENDER-BASED BEHAVIOR

## Analyzing Data

- In the heatmap on the left, we can see the comparison between price ranges and genders. Within each space, we see the percentage in which these price ranges appear for each gender.

- In the heatmap on the right, we also see the comparison between price ranges and genders, but this time we observe the average value within each price range.



# FINAL CONCLUSIONS

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1. Age Impact on Purchasing Behavior

- Optimal segment: Customers aged 45-64 show the highest average spending
- Younger demographics: 18-24 age group has the lowest purchasing power
- Senior decline: Spending decreases after 65, likely due to retirement and changing needs

2.Gender-Based Patterns

- Remarkable similarity: Male and female customers show very comparable spending behaviors
- Consistent distributions: Both genders follow similar patterns across price ranges
- Minor variations: Small differences exist but no significant gender-based spending gaps

# FINAL CONCLUSIONS

3. Combined Demographic Insights

- Homogeneous behavior: Age and gender interactions show consistent patterns
- Price sensitivity: All demographic segments respond well to mid-range products ($45-89 USD)
- Lack of extreme segmentation: No radical differences in purchasing behavior across groups

4. High-Value Customer Identification

- Primary target: 45-64 age range represents the most valuable customer segment
- Stable base: 25-54 age groups provide consistent purchasing volume
- Growth opportunity: Younger demographics (18-24) offer potential for loyalty development

# THANK YOU