

# DIWALI SALES OPTIMIZATION

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Enhancing Customer Targeting and  
Inventory Management

By Binoy Patra

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# INTRODUCTION

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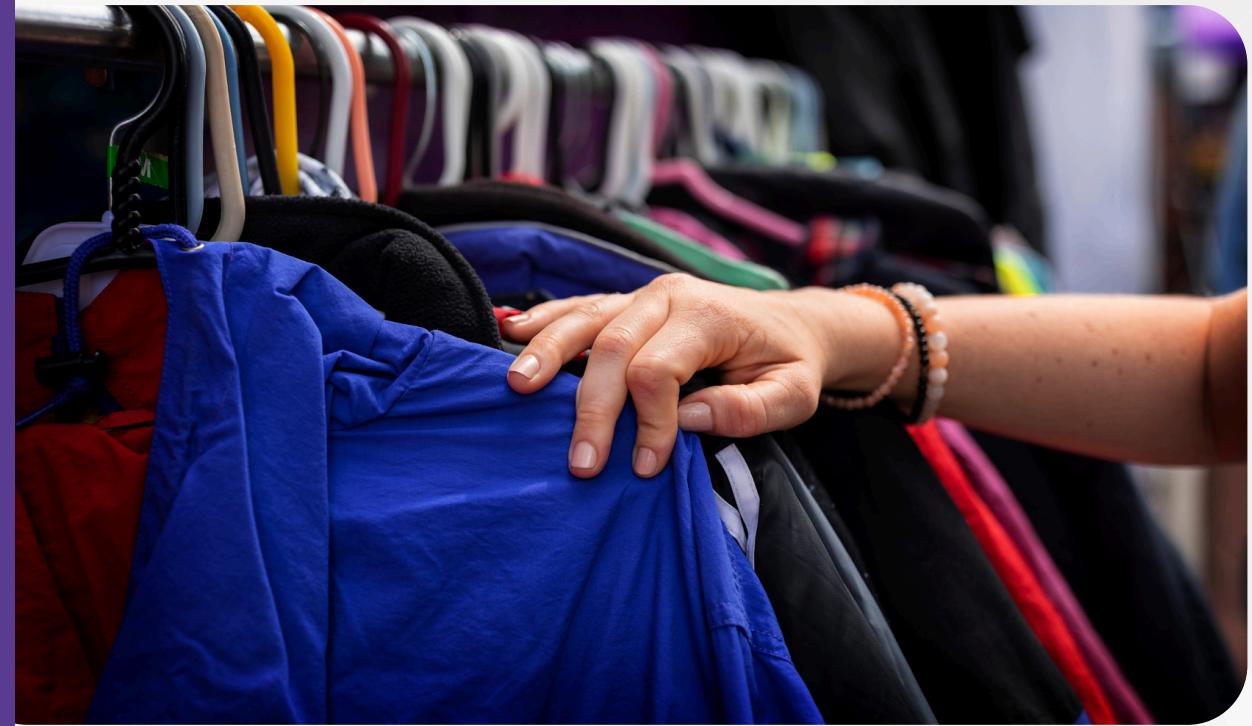
The Diwali festival period represents a significant opportunity for retailers in India, with increased consumer spending across various product categories. As a data analyst at VistaMart Analytics, I was tasked with analyzing Diwali sales data to uncover trends and insights that can help improve customer experience and drive revenue growth. Using exploratory data analysis (EDA), this report aims to shed light on customer behavior, product performance, and regional sales patterns, ultimately offering recommendations to enhance sales strategies during this festive period.



# BUSINESS PROBLEM

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The company seeks to optimize its Diwali sales strategy by identifying key customer segments, top-performing products, and under performing regions. Currently, there is a need to better understand how demographic factors like gender, age, occupation, and geography impact sales performance. Additionally, some product categories and regions are under performing, and the company requires insights to address these challenges and maximize revenue potential.



# OBJECTIVE

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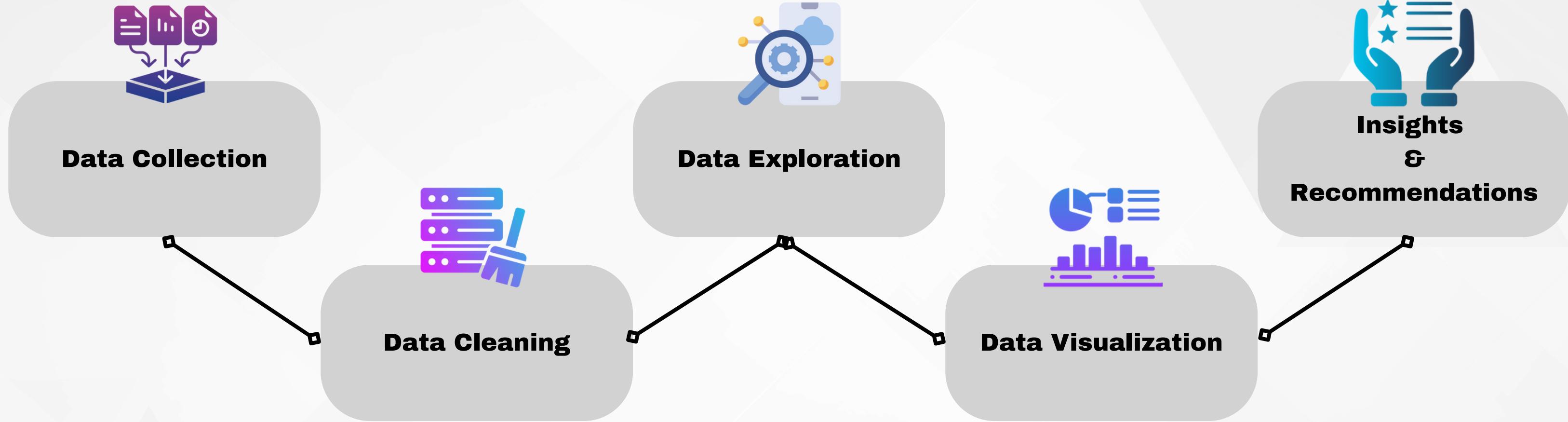
The primary objective of this analysis is to:

1. Improve Customer Experience: By identifying key customer segments based on demographics such as age, gender, occupation, and state, enabling targeted marketing efforts.
2. Increase Revenue: By identifying the top-performing product categories and sales channels, as well as under performing areas, to optimize inventory management, marketing strategies, and product promotions for maximizing sales during the Diwali period.



# METHODOLOGY

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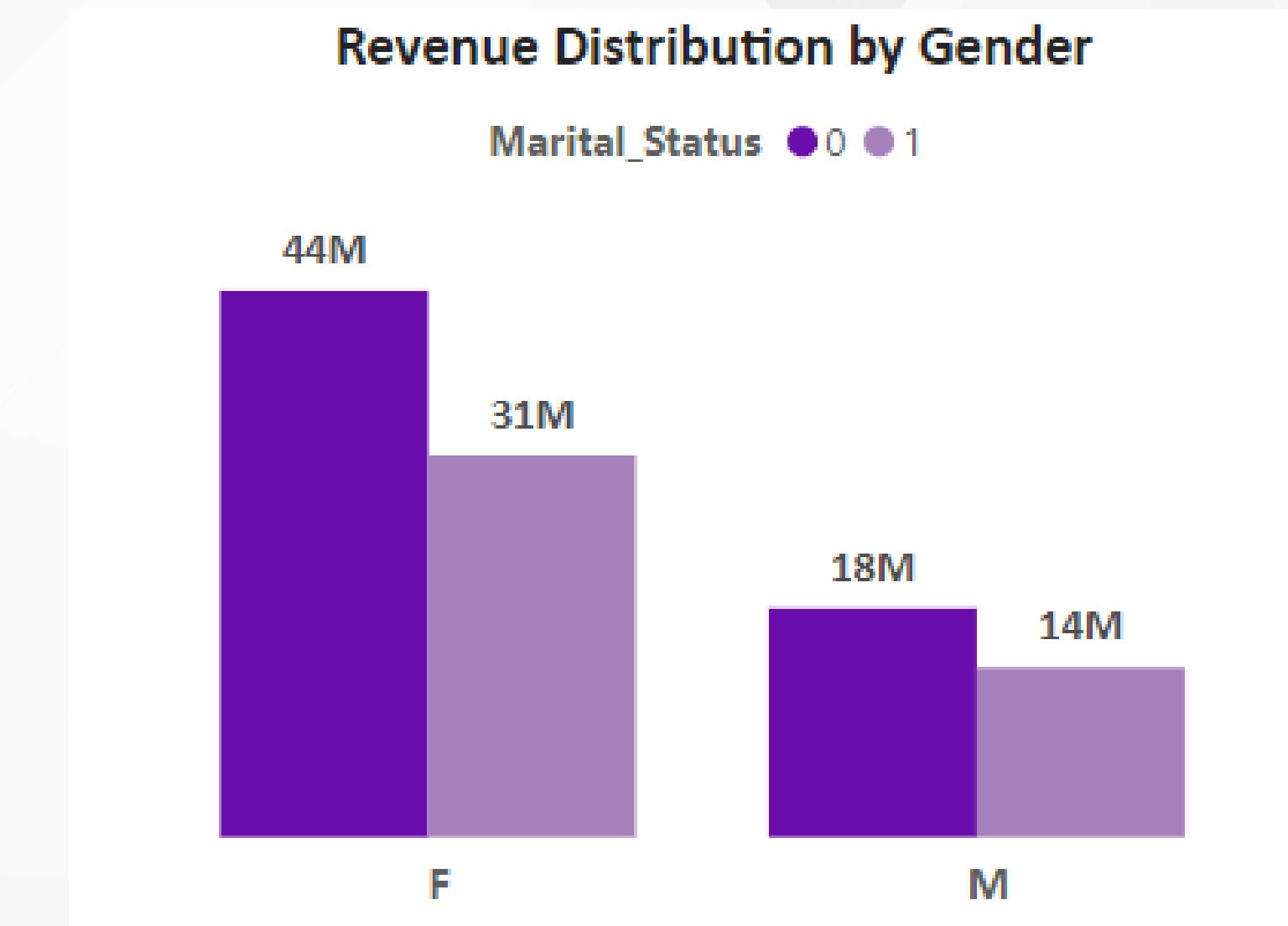
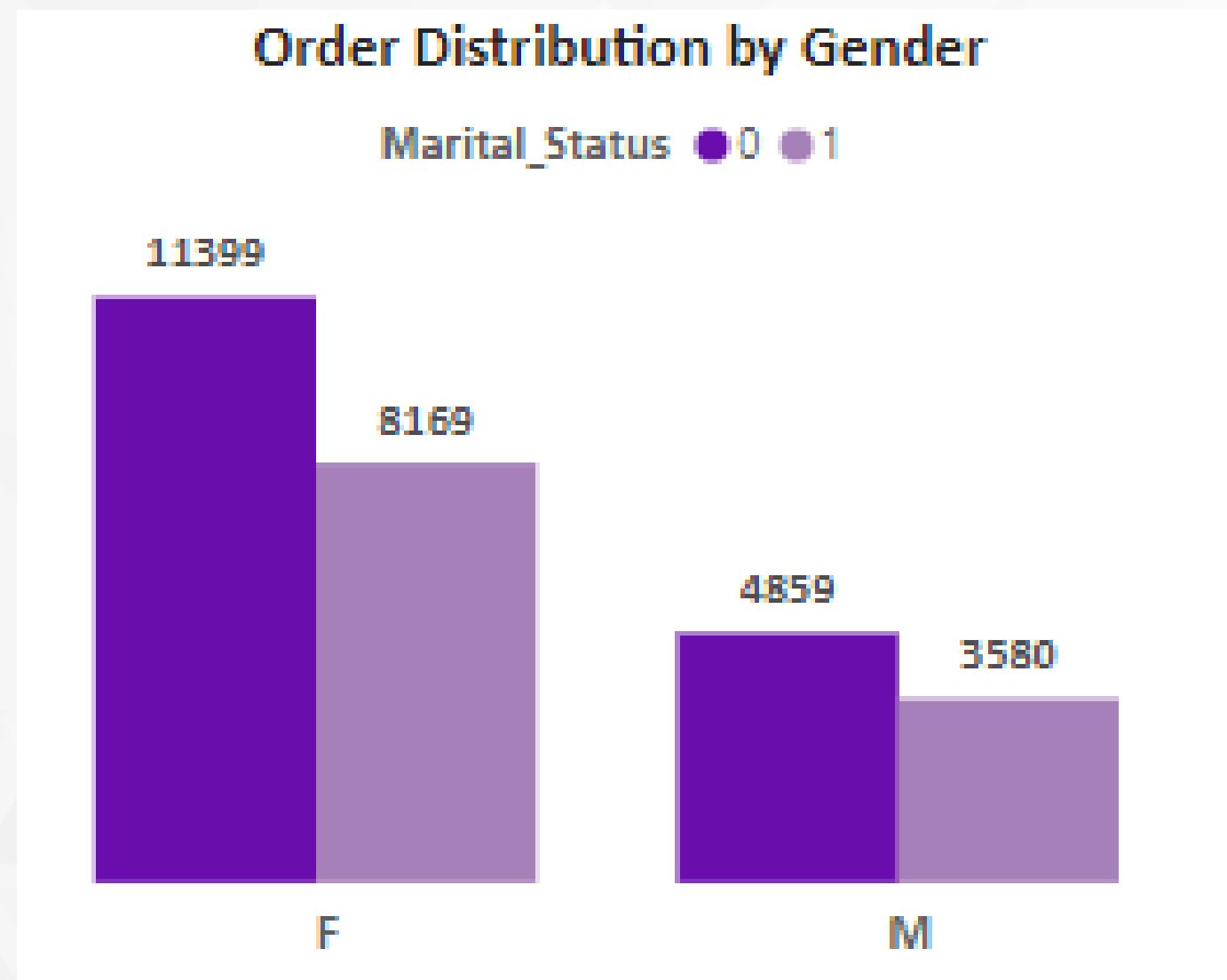
# DATASET OVERVIEW

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- Source: Kaggle
- Coverage: Diwali festival sales data from a retail store in India.
- Key Fields:
  - Product ID: Unique product identifier
  - Product Category: Categories like electronics, clothing, home decor
  - Sales Channel: Online, in-store
  - Customer Demographics: Gender, marital status, state, occupation
  - Sales Details: Date, time, sale price, quantity
- Sample Size: 10,000 rows

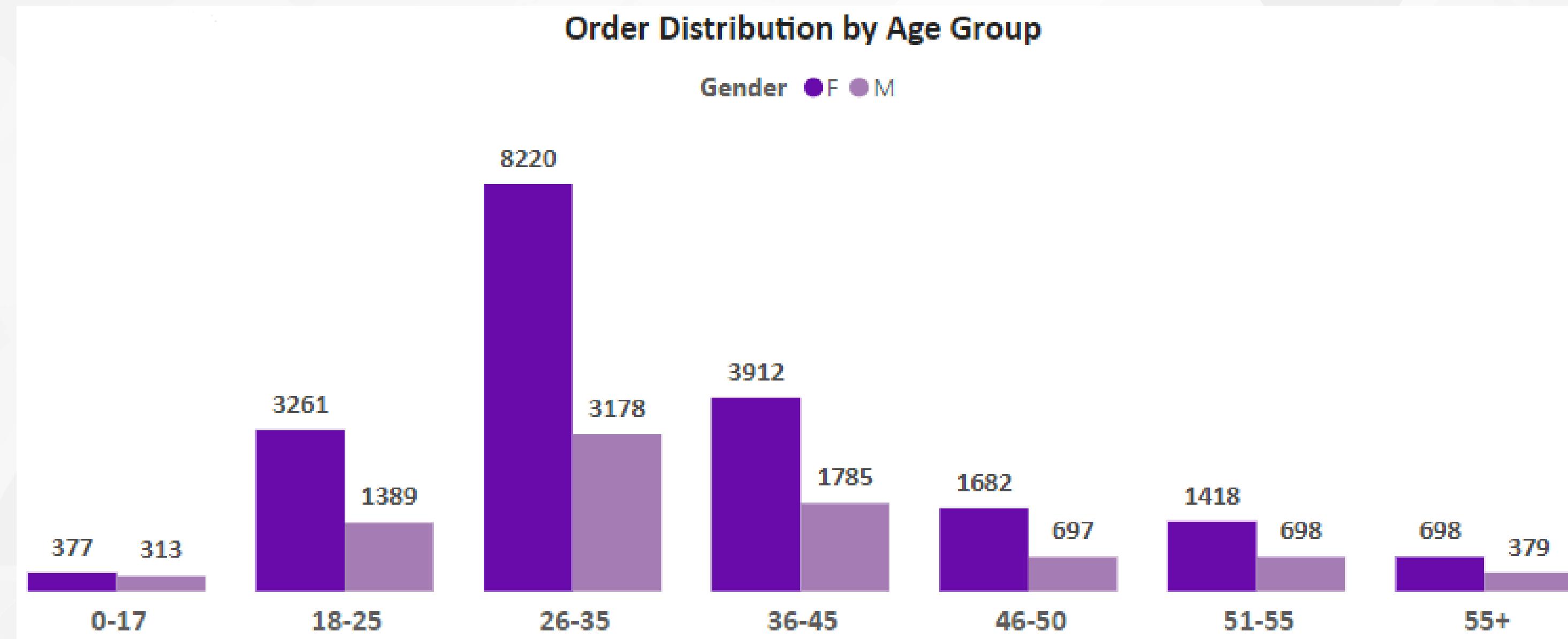
# CUSTOMER DEMOGRAPHIC ANALYSIS

Female customers are dominating in terms of order placement and revenue. However married females contribute significantly higher revenue than other groups.



# CUSTOMER DEMOGRAPHIC ANALYSIS

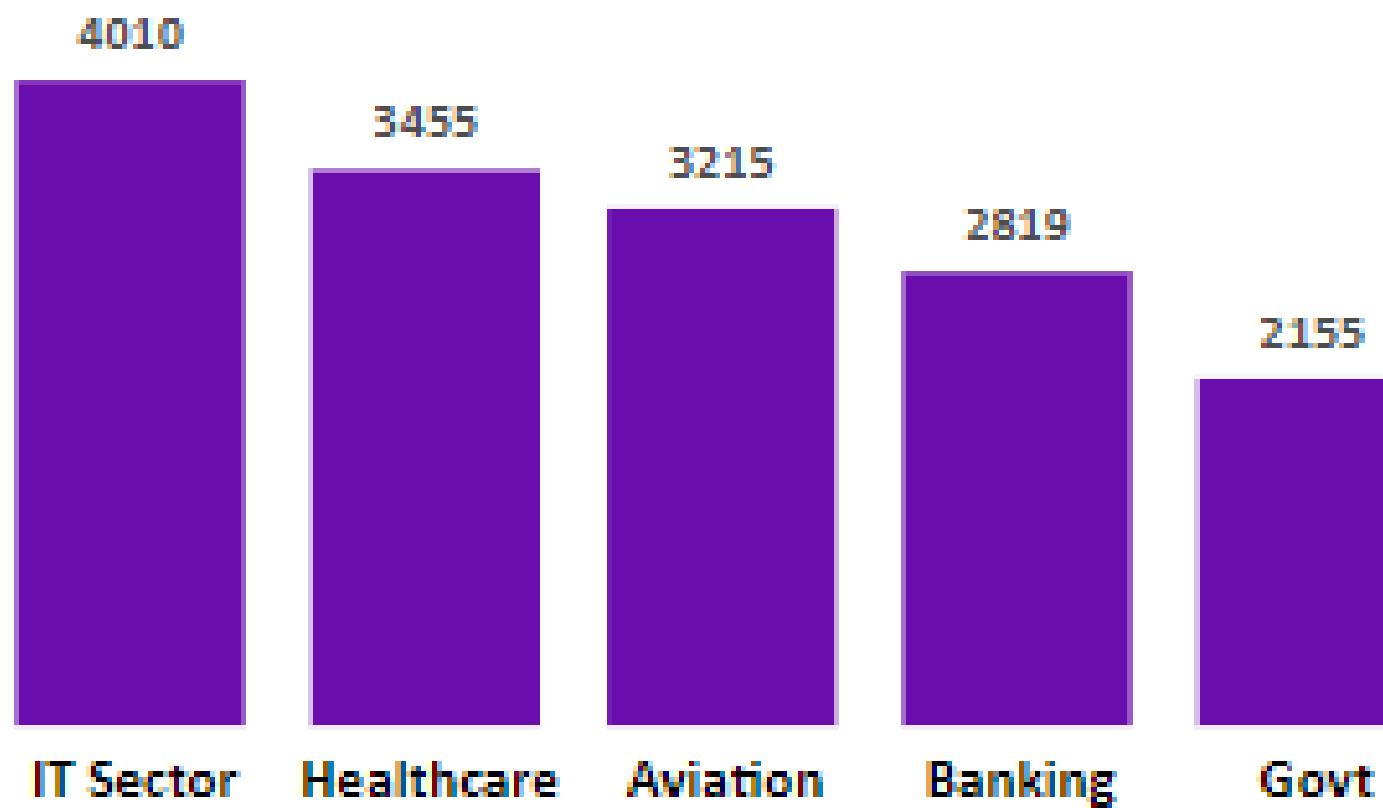
The age group 26-35 shows the highest number of orders as well as revenue, especially among females.



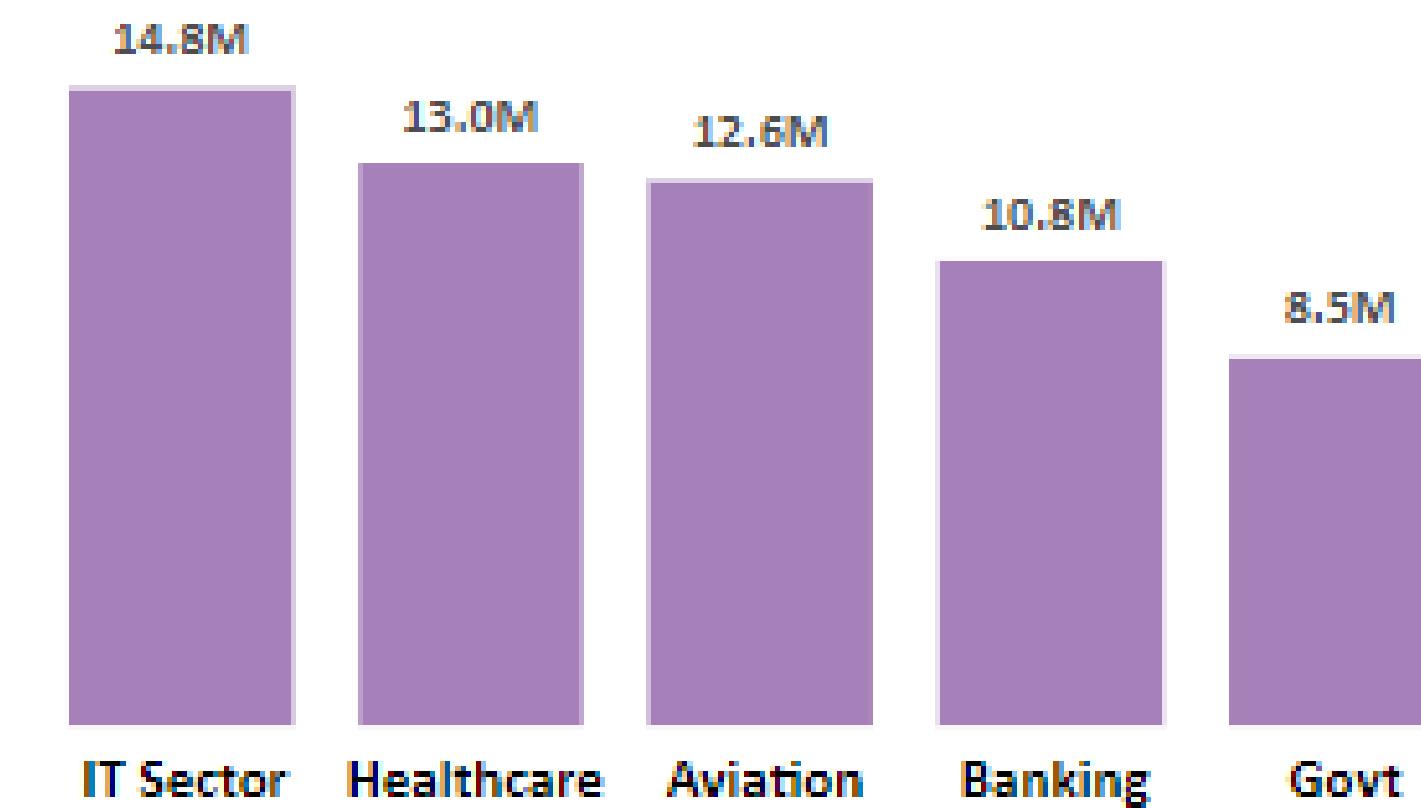
# OCCUPATION-WISE PERFORMANCE

IT professionals generate the highest orders and revenue followed by Healthcare and Aviation professionals.

**Top 5 Occupations by Orders**

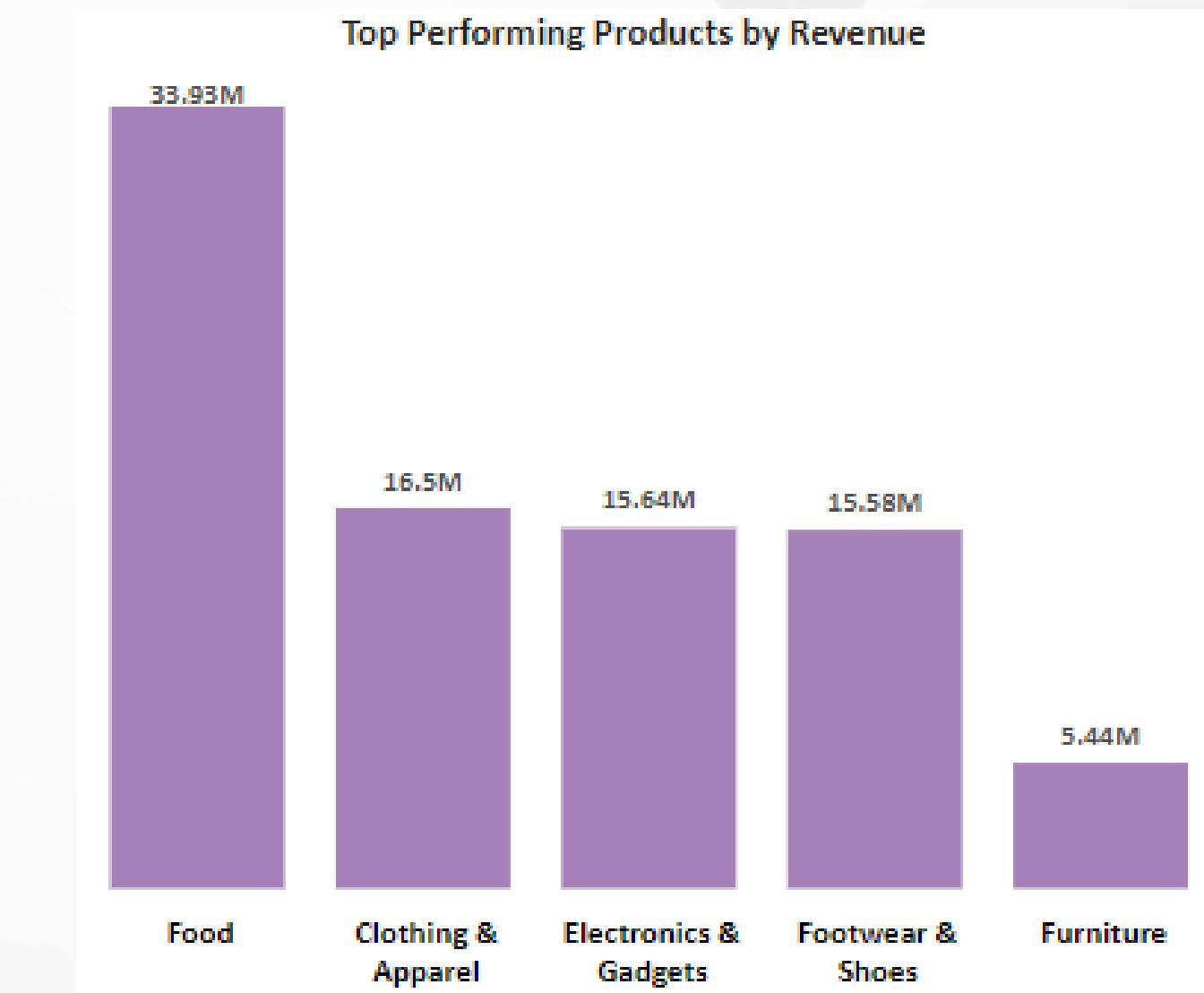
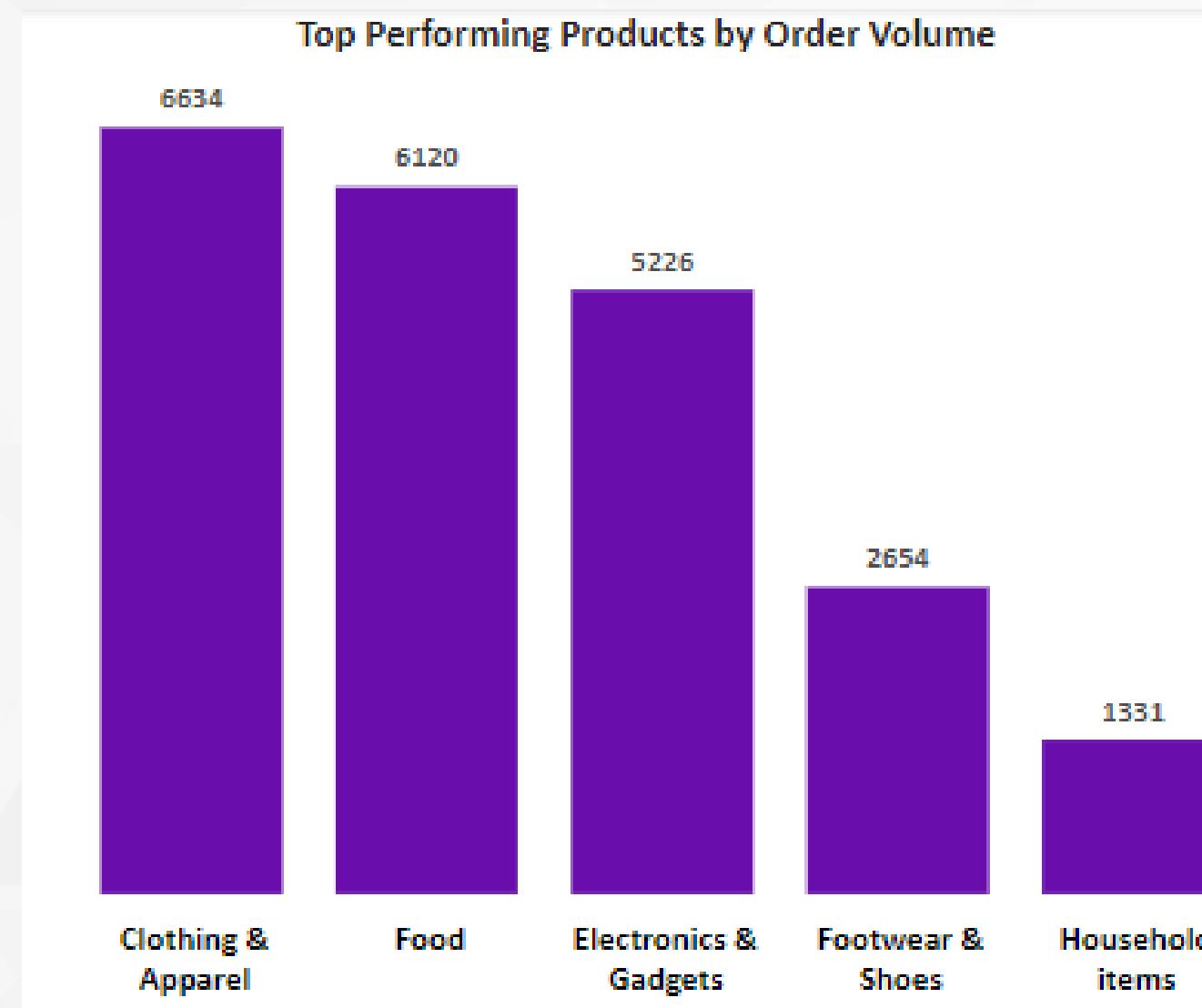


**Top 5 Occupations by Revenue**



# PRODUCT PERFORMANCE

Clothing & Apparel is the top category by number of orders.  
Food products drive the highest revenue.

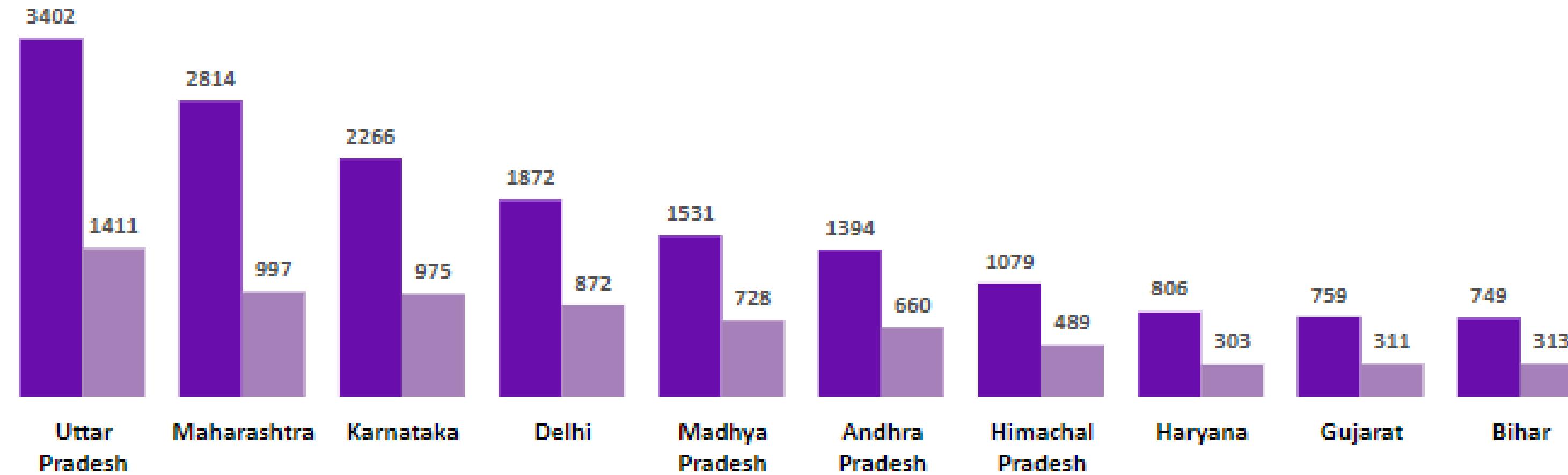


# STATE-WISE PERFORMANCE

Female customers drive more orders in almost every state, Specially Uttar Pradesh, Maharashtra and Karnataka.

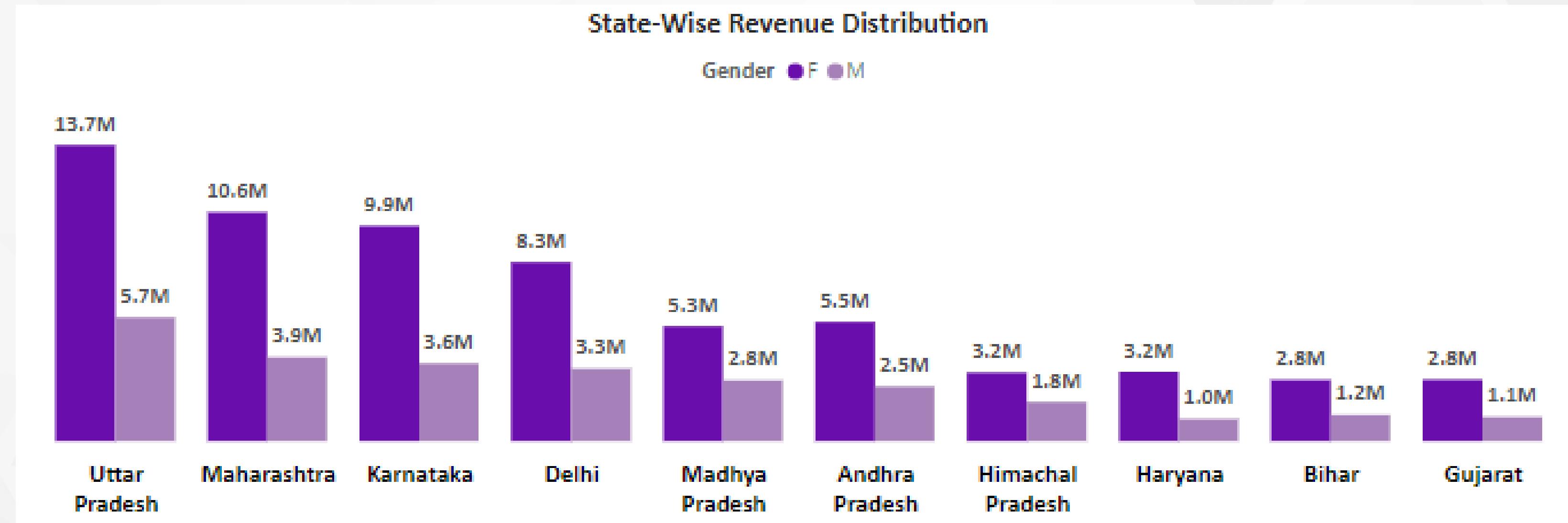
State-Wise Order Distribution

Gender ♂ F ♀ M



# STATE-WISE PERFORMANCE

Uttar Pradesh contributes the highest revenue, driven primarily by female customers, followed by Maharashtra and Karnataka.



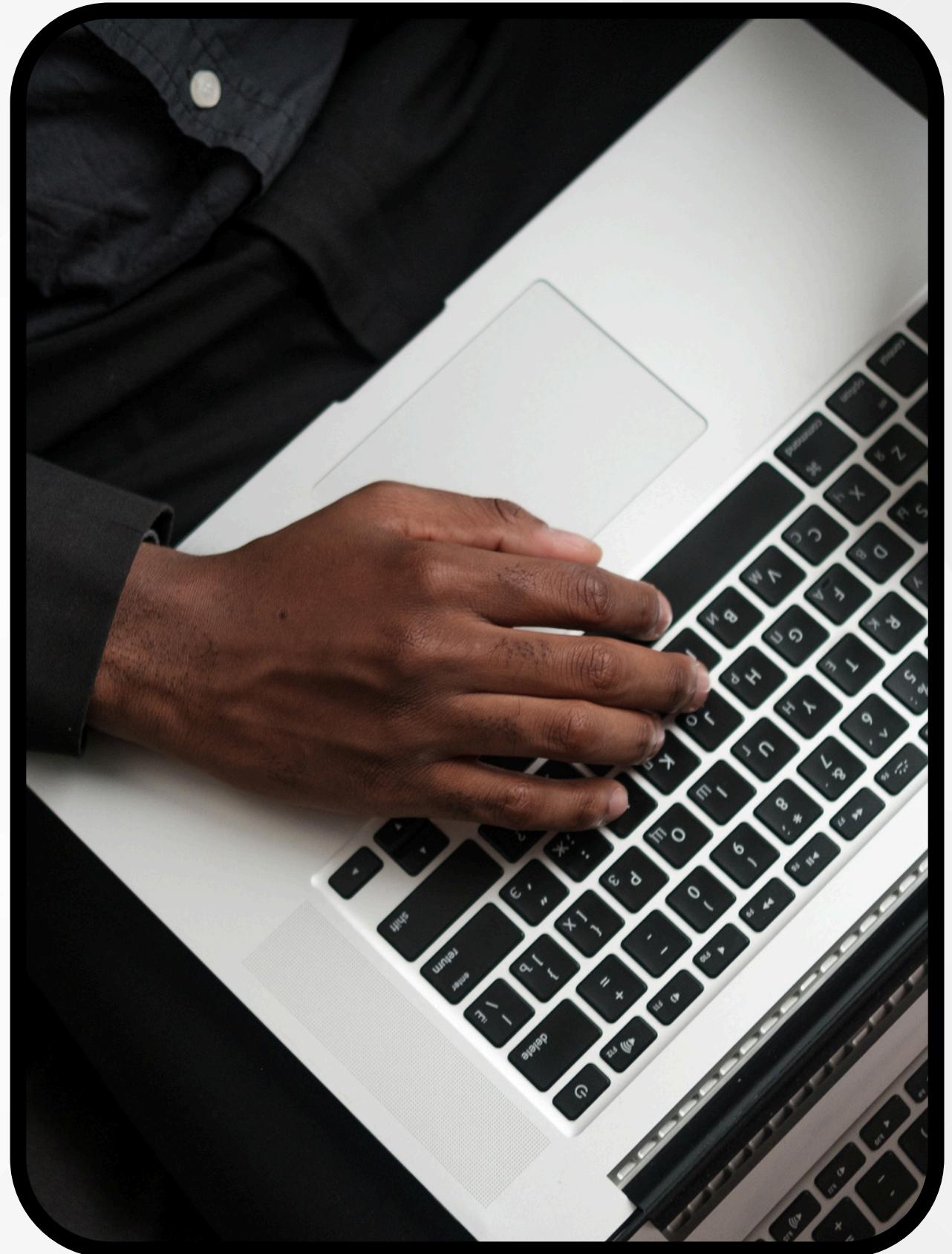
# KEY FINDINGS

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## Customer Demographics:

- Married females, especially aged 26-35, are the top revenue generators, contributing ₹44M to total sales.
- The highest number of orders came from the 26-35 age group, particularly from female customers.
- IT professionals place the most orders (4,010) and generate the highest revenue (₹14.8M).

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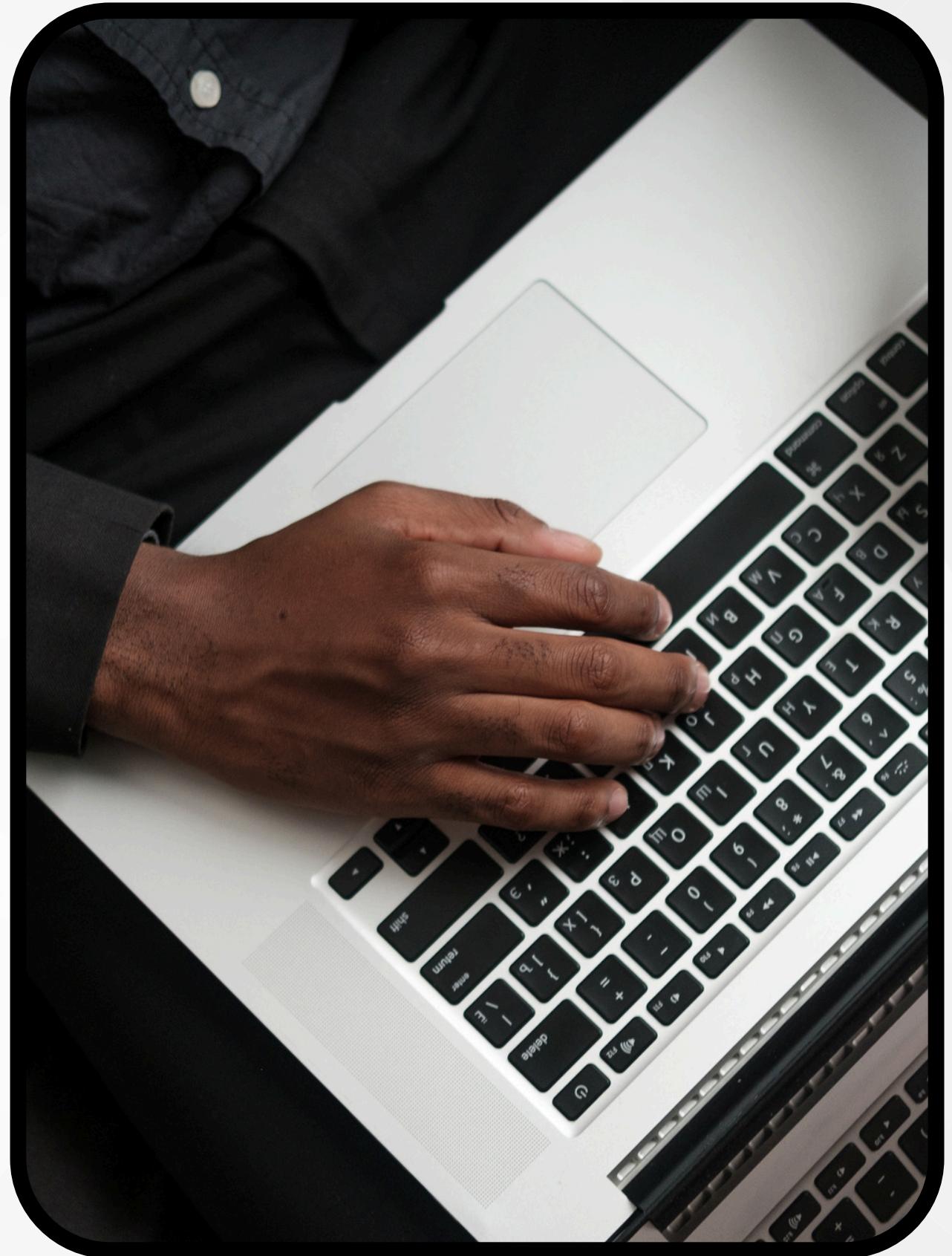


# KEY FINDINGS

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## Product Performance:

- Clothing & Apparel is the most ordered category (6,634 orders), while Food products drive the highest revenue (₹33.93M).

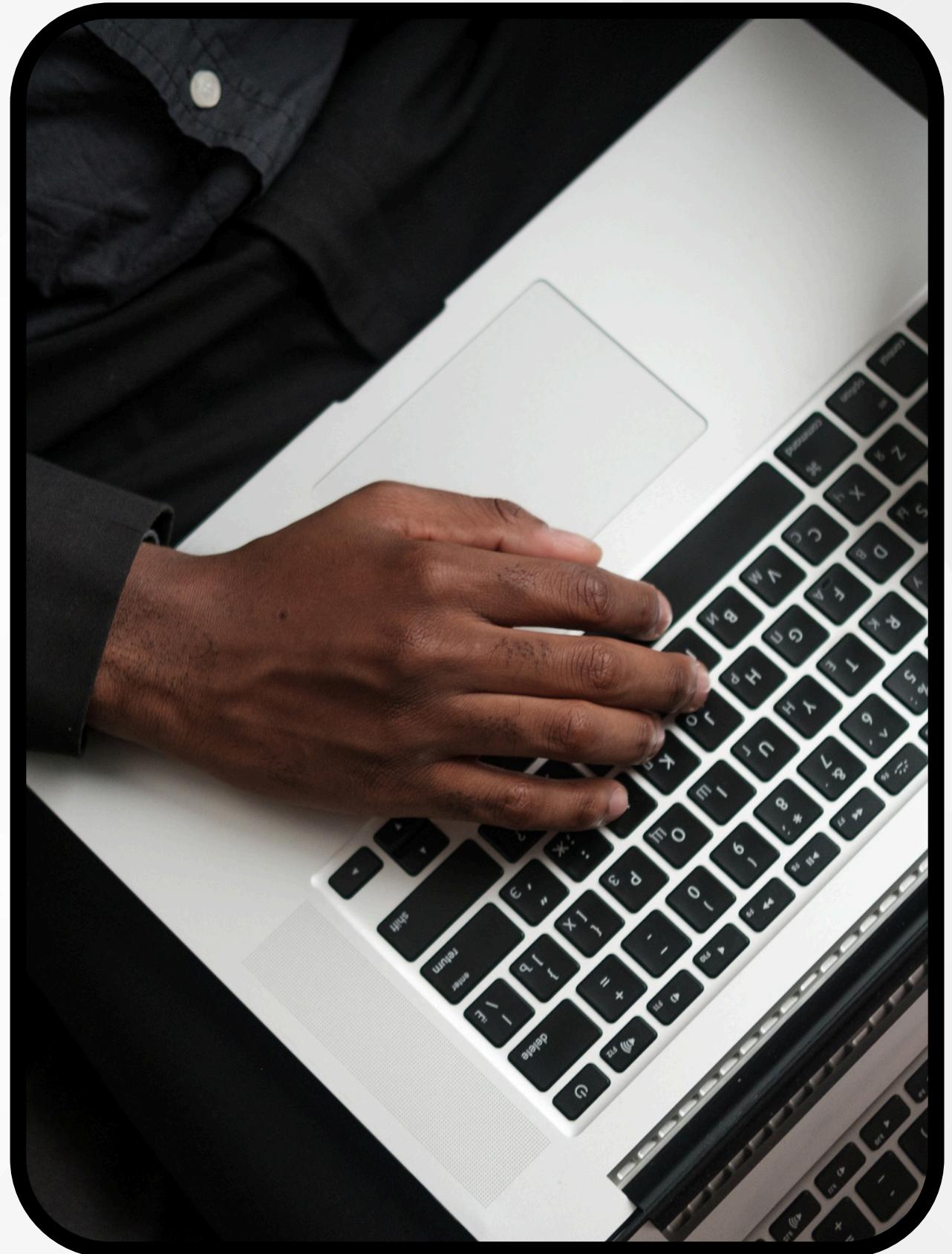


# KEY FINDINGS

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## State-Wise Performance:

- Uttar Pradesh leads in both orders (3,420 female, 1,411 male) and revenue (₹13.7M female, ₹5.7M male).
- Maharashtra and Karnataka also show strong performance in terms of both orders and revenue.



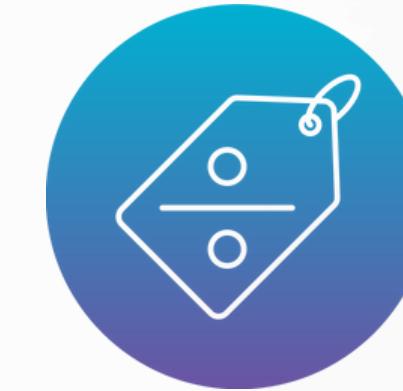
# RECOMMENDATIONS

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## TARGETED MARKETING

- Focus marketing campaigns on married females aged 26-35, especially in Uttar Pradesh, Maharashtra, and Karnataka.
- Promote high-revenue categories such as Food, Clothing & Apparel, and Electronics to this target segment.

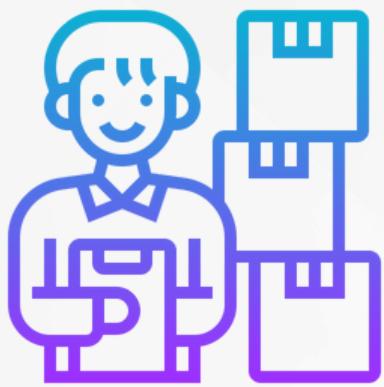


## OCCUPATION-BASED OFFERS

- Tailor offers for professionals in the IT, Healthcare, and Aviation sectors, as these groups drive significant sales.

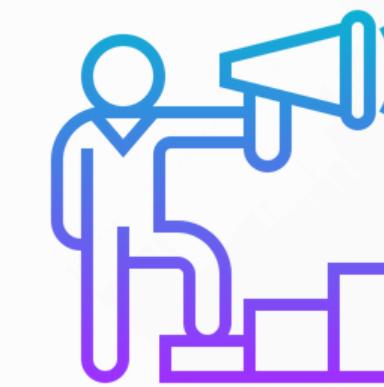
# RECOMMENDATIONS

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## INVENTORY MANAGEMENT

- Ensure adequate stock of top-performing product categories such as Food and Clothing & Apparel, especially during high-demand periods like Diwali.
- Monitor inventory levels in key regions like Uttar Pradesh and Maharashtra to meet demand.



## STATE-SPECIFIC PROMOTIONS

- Launch targeted promotions in top-performing states, with a focus on the highest revenue-generating products and categories.
- Consider region-specific offers to boost engagement in underperforming states like Gujarat and Bihar.

# CONCLUSION

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The Diwali Sales Analysis provided valuable insights into consumer behavior, product performance, and regional sales trends. By identifying key customer segments such as married women aged 26-35, high-performing products like Food and Clothing & Apparel, and top-performing states like Uttar Pradesh, businesses can make data-driven decisions to enhance marketing strategies and optimize inventory management. These findings, when implemented effectively, have the potential to boost customer satisfaction, streamline operations, and significantly increase revenue during key sales periods.



# THANK YOU

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We extend our sincere gratitude for your time and attention in reviewing this analysis. We hope the insights and recommendations presented in this report will contribute to improved decision-making and business outcomes. Should you have any questions or require further clarification, please feel free to reach out me at [binoypatra20@gmail.com](mailto:binoypatra20@gmail.com)

Thank you for your continued support and collaboration.