



SYAMSUL RIZAL FANY

E-COMMERCE FASHION BUSINESS ANALYSIS

UNVEILING SALES, CUSTOMER TRENDS,
AND PRODUCT INSIGHTS



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INTRODUCTION OF THE PROJECT

In the modern digital era, data plays a crucial role in driving business growth, especially for e-commerce companies. This project focuses on analyzing an online fashion business that produces and sells various fashion items through its online platform. Recognizing the importance of data, the company systematically stores its sales history, along with detailed information on products and customers, in a structured database.



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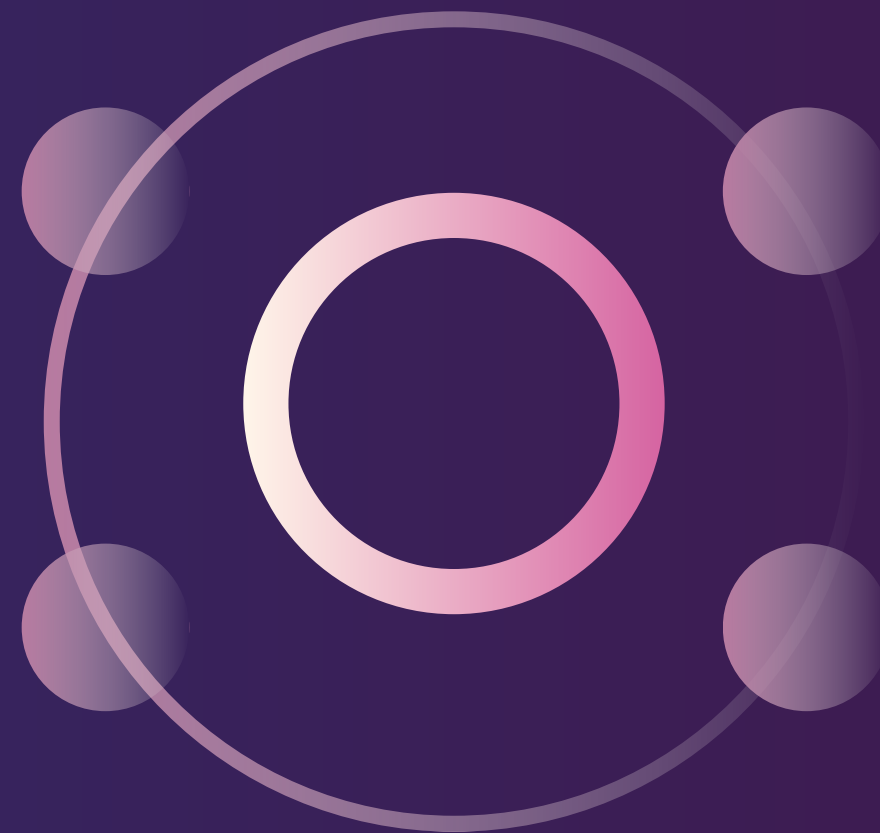


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OBJECTIVES OF THE PROJECT

Identify best-selling & least-selling products

Understand customer demographics



Segment customers using RFM Analysis

Provide data-driven business recommendations



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4 KEY TABLES OF THE DATABASE



Customers

Contains customer-related details such as customer ID, name, gender, age, home address, zip code, city, state, and country.



Orders

Stores order information, including order ID, customer ID, order date, and delivery date.



Products

Holds product details such as product ID, type, name, size, color, price, quantity, and description.



Sales

Captures sales transactions with sales ID, order ID, product ID, price per unit, quantity, and total price.



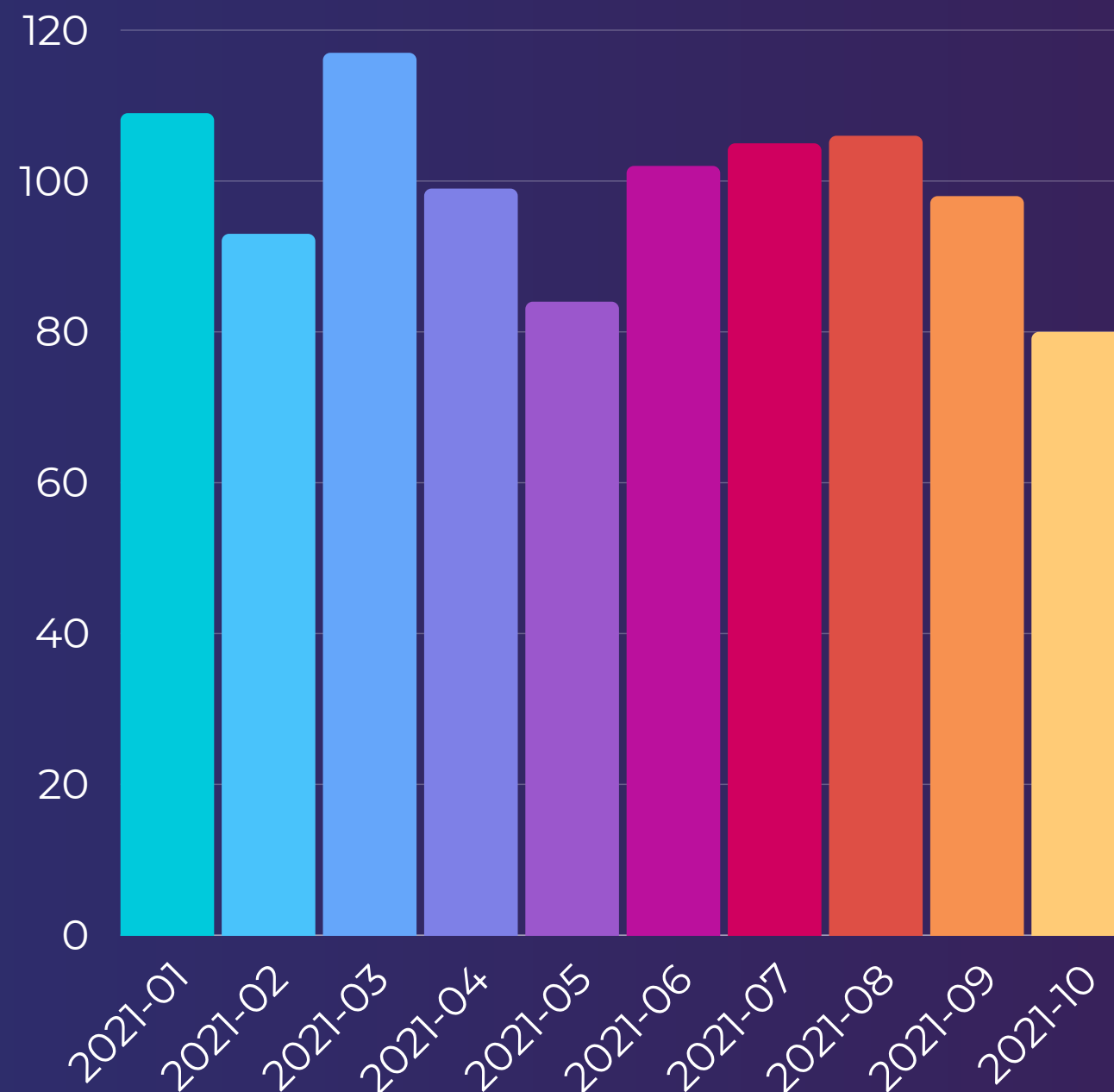
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NUMBER OF ORDERS PER MONTH

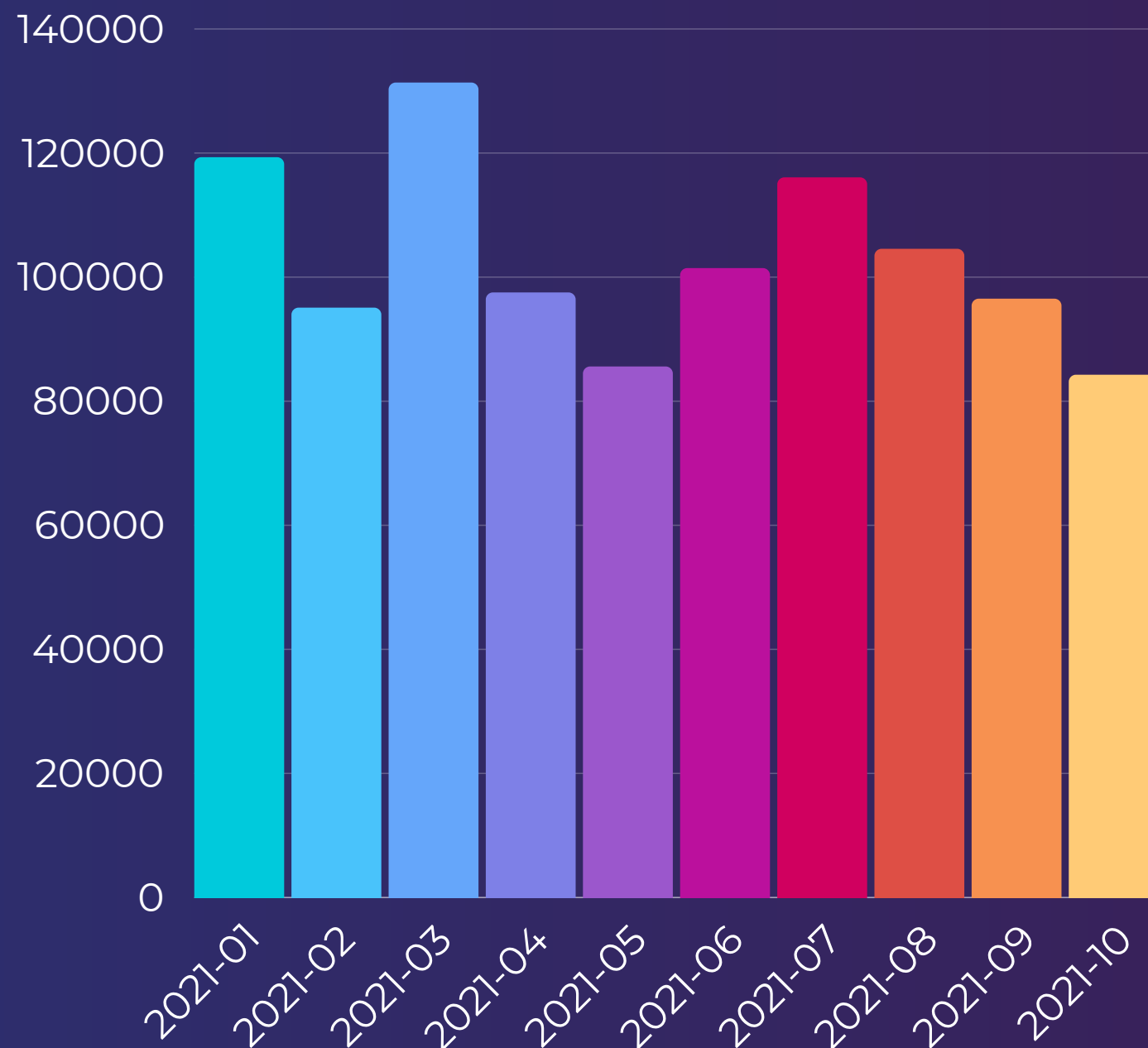
We can observe that the **highest number of orders occurred in March (117)**. However, there was a **significant decline in orders during February (93), May (84), and October (80)**. This decline is likely to impact the company's total revenue.



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TOTAL REVENUE PER MONTH

We can observe that the **highest total revenue occurred in March (\$131,364)**. The **sharp decline in order volume during February (\$95,080), May (\$85,597), and October (\$84,266)** has directly contributed to a **drop in revenue** during these months. Identifying the reasons behind these fluctuations can help in formulating strategies to boost sales during low-performing months.



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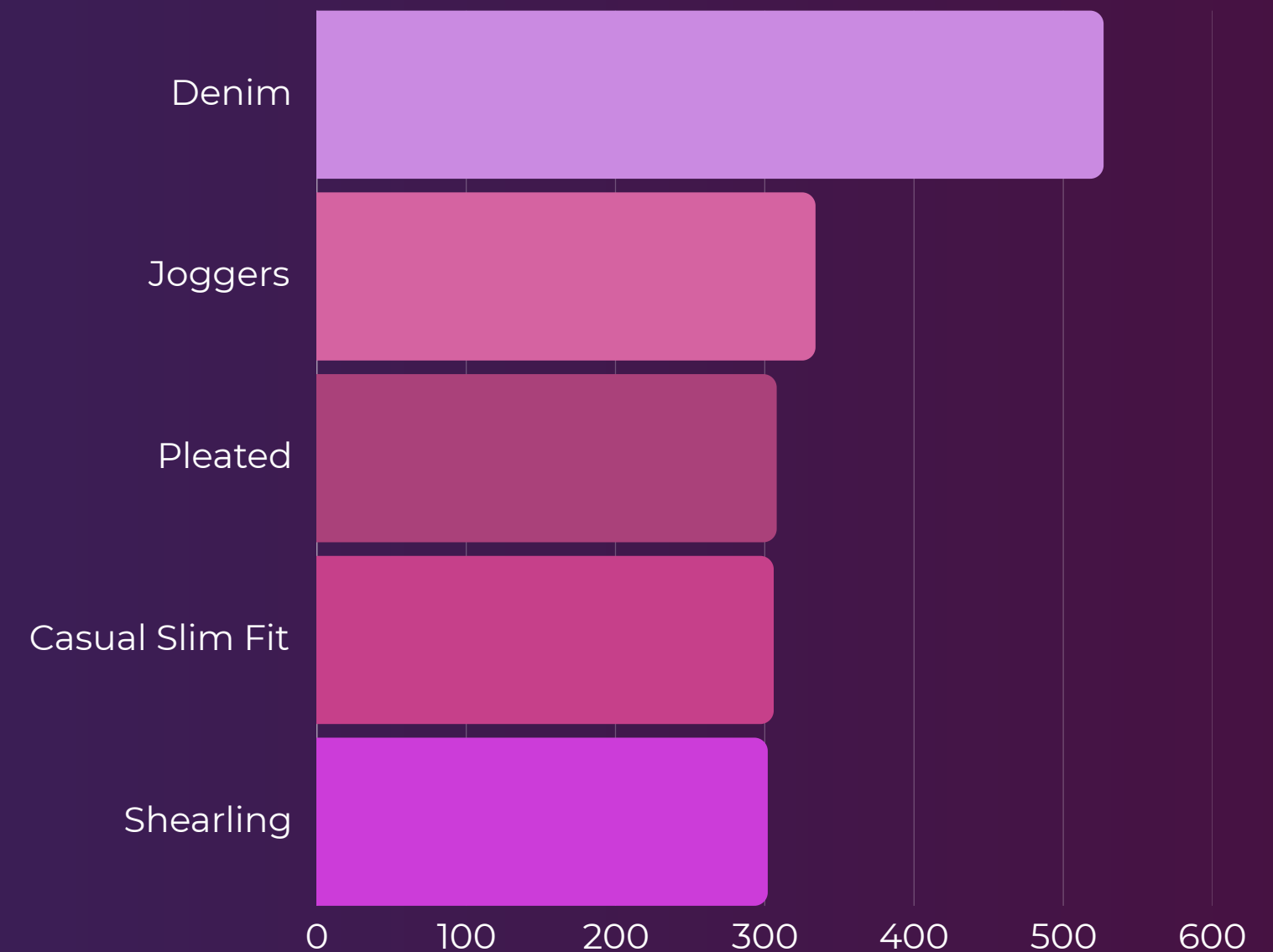




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TOP 5 BEST-SELLING PRODUCTS

Denim is the **best-selling product**, indicating high customer demand for this item.



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TOP 5 LEAST-SELLING PRODUCTS

Mandarin Collar is the **least-selling product**, suggesting it may require better marketing strategies, pricing adjustments, or design improvements to boost sales.



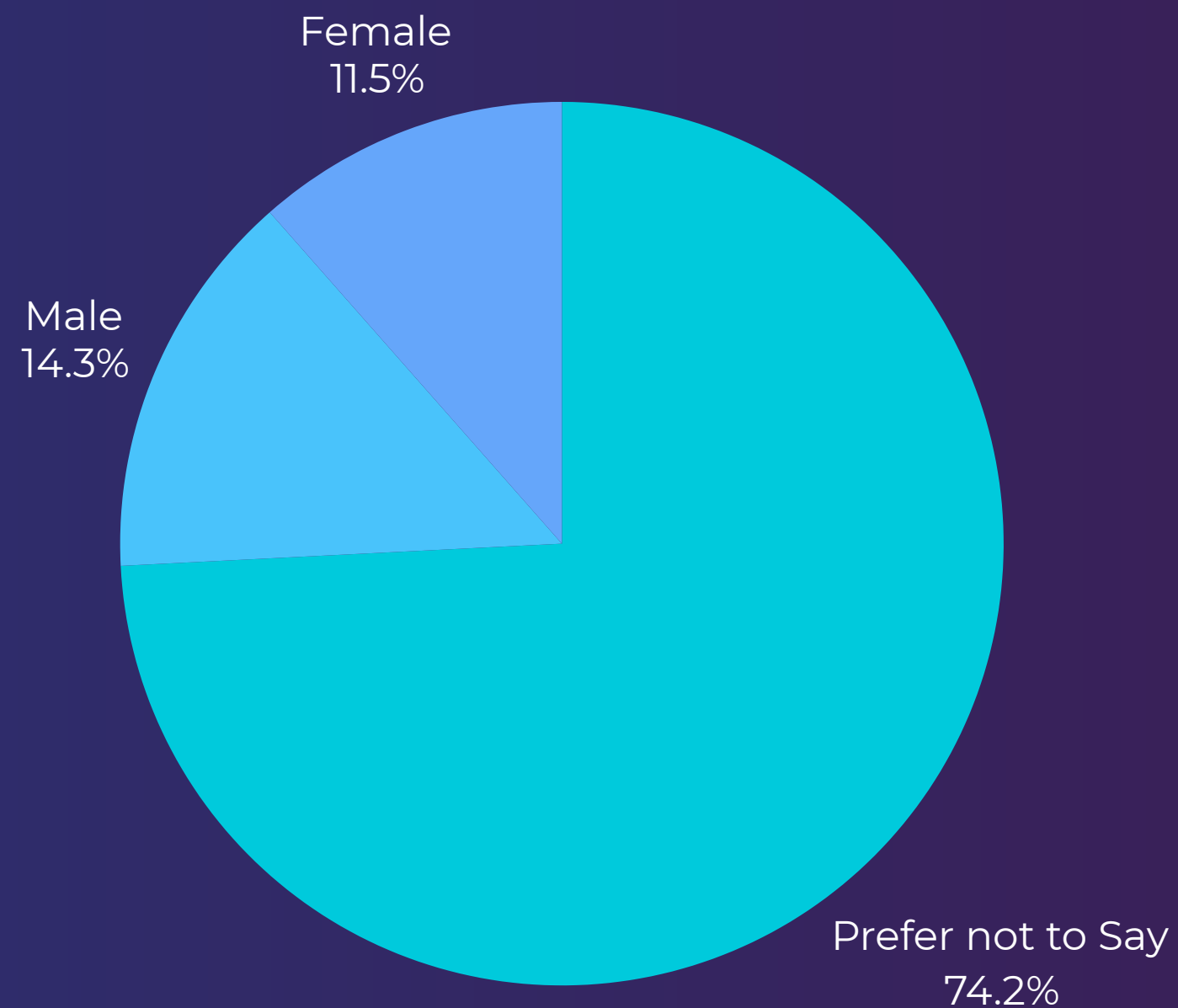
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CUSTOMER DEMOGRAPHICS BY GENDER

The majority of customers have their gender listed as **"Prefer not to say"**, they chose not to disclose their gender. This could indicate privacy concerns or a preference for anonymity when shopping.

Recommendation:

✓ Encourage Gender Disclosure

Offer incentives (discounts, loyalty points) to customers who complete their profile, helping improve data accuracy for targeted marketing.



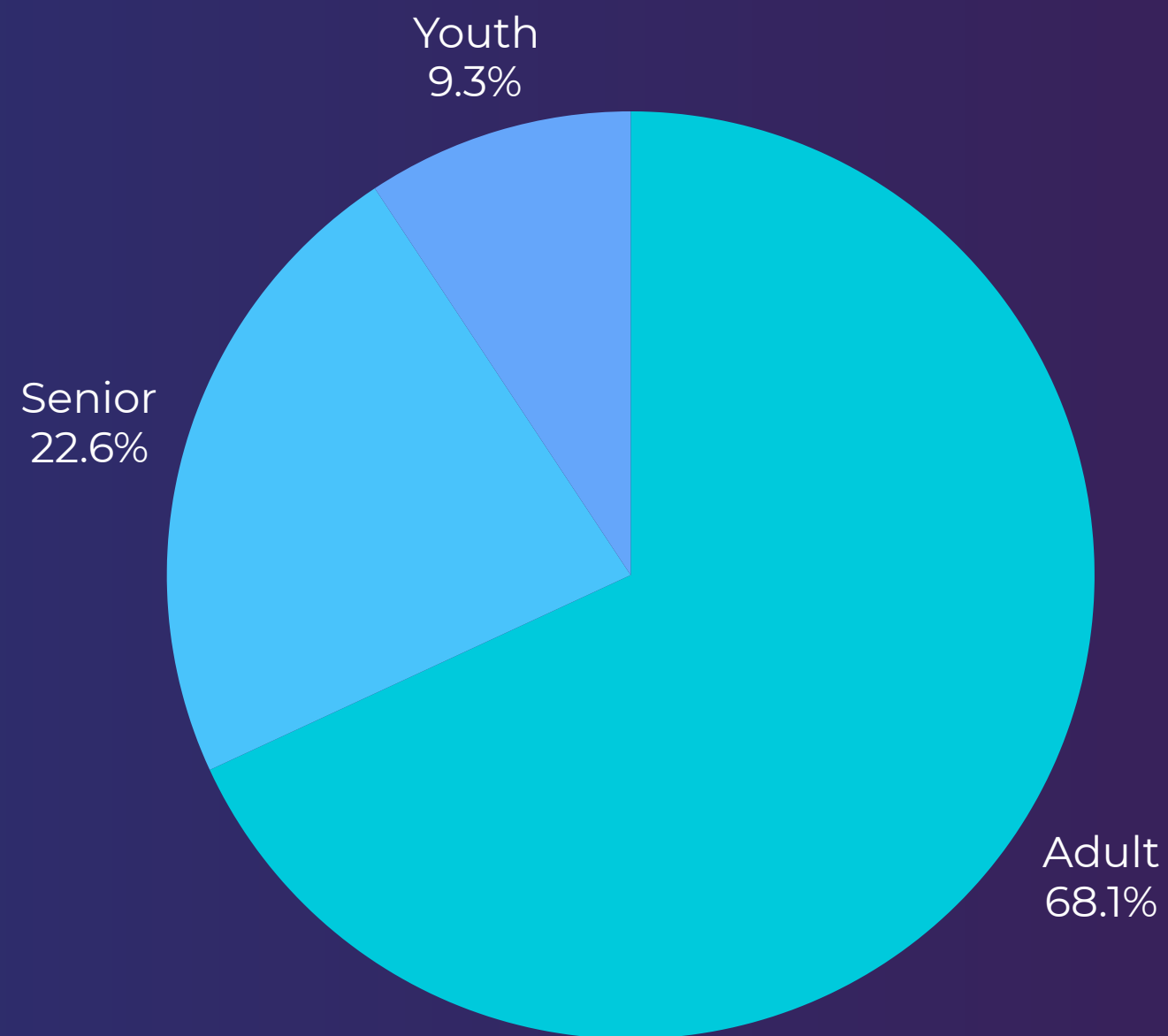
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CUSTOMER DEMOGRAPHICS BY AGE GROUP

The **Adult age group (25-64 years old)** placed the **highest number of orders**. This suggests that the company's products appeal more to adults rather than younger (<25 years old) or senior (>64 years old) customers.

Recommendation:

✓ Target Adult Demographics

Focus on marketing strategies tailored to adults (e.g., personalized promotions, relevant product recommendations).



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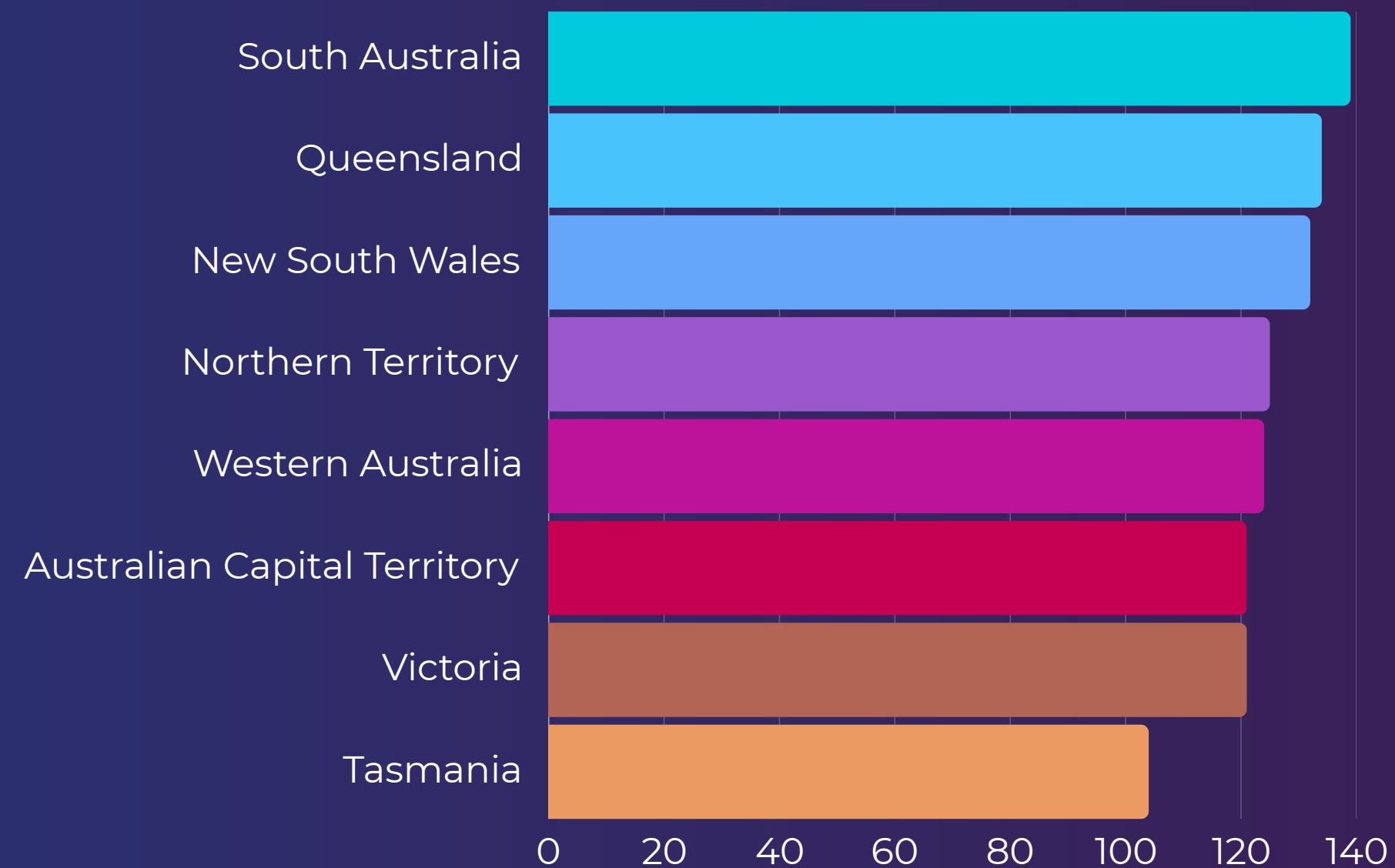




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CUSTOMER DEMOGRAPHICS BY STATE

The **majority of customers are from South Australia**. But, the difference in customer count across states is not significantly large, and there are no extreme gaps between them.



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CUSTOMER DEMOGRAPHICS BY STATE

RECOMMENDATIONS

Uniform Marketing Strategy – Since customer distribution is relatively even, ensure consistent branding and promotions across all regions.

Localized Campaigns – Although differences are small, slight regional preferences might exist. Conduct regional surveys or A/B testing for marketing effectiveness.

Expand Market Reach – Instead of focusing on just one state, implement a broad approach to capture more customers across all regions.

Improve Customer Engagement – Encourage referrals, loyalty programs, or targeted discounts to boost customer numbers in states with slightly lower engagement.



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RFM ANALYSIS

(RECENCY, FREQUENCY, AND MONETARY)

Recency

Measures how recently a customer made their last purchase

Frequency

Identifies how often a customer makes purchases

Monetary

Determines the total revenue generated by a customer



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RFM ANALYSIS

Recency, Frequency, Monetary (RFM) Segmentation identified **five key customer segments**:

- **Top Customers** (RFM Score > 4.5) – 35 customers
- **High-Value Customers** ($4.0 < \text{RFM Score} \leq 4.5$) – 50 customers
- **Medium-Value Customers** ($3.0 < \text{RFM Score} \leq 4.0$) – 137 customers
- **Low-Value Customers** ($1.6 < \text{RFM Score} \leq 3.0$) – 204 customers
- **Lost Customers** (RFM Score ≤ 1.6) – 190 customers



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RFM ANALYSIS

Recommendations

✓ Engage "Top" and "High-Value Customers"

- Provide exclusive offers, early access to sales, and VIP treatment to retain these high-spending customers.

✓ Increase Retention for Medium-Value Customers

- Implement a loyalty program encouraging repeat purchases (e.g., discounts after multiple purchases).

✓ Reactivate "Lost Customers"

- Launch a win-back campaign with targeted emails offering personalized discounts or re-engagement incentives.
- Analyze why they stopped purchasing (pricing, product relevance, competition).

✓ Improve Low-Value Customer Engagement

- Offer bundled deals or subscription-based models to encourage more frequent purchases.



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BUSINESS STRATEGY BASED ON INSIGHT

KEY TAKEAWAYS



Revenue is driven by a small group of **high-value customers**, so **retention strategies** should be a priority.



Adult customers **dominate the market**, suggesting that products, promotions, and messaging should cater to their preferences.



Customer drop-off **needs attention**—with nearly 190 "Lost Customers," retention efforts should focus on preventing churn.





BUSINESS STRATEGY BASED ON INSIGHT

STRATEGIC RECOMMENDATIONS



Personalized Marketing & Customer Segmentation

- Use **RFM segmentation** to **create personalized offers** for each group.
- High-value customers → VIP benefits
- Medium-value customers → Exclusive discounts
- Lost customers → Win-back incentives



Enhance Customer Experience

- Simplify checkout, improve website UX, and provide **better customer support** to increase retention.



Experiment with Pricing & Promotions

- Offer **seasonal discounts, limited-time bundles, and loyalty rewards** to boost engagement.



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FINAL THOUGHTS

This analysis **provides a solid foundation** for understanding customer behavior and improving customer engagement strategies. By focusing on **high-value retention, targeted marketing, and reactivating lost customers**, the business can maximize revenue and sustain long-term growth.



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FURTHER DETAILS & FULL ANALYSIS

The dataset, analysis process, and complete results
are available on GitHub.

https://github.com/Saemfany/ecommerce_fashion_business_analysis



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CONTACT & COLLABORATION

For further discussions, insights, or collaboration opportunities, feel free to connect with me:

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THANK YOU!

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GROWTH AND SUCCESS!



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