

Amazon sales Analysis Project Report

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1. Introduction

This report presents an end-to-end analysis of **Amazon sales data**, covering overall performance, product preferences, fulfillment efficiency, and geographical trends across India. The insights are supported by visualizations created from the processed dataset and are used to recommend actions for improving sales, inventory, and customer experience. The dataset contains **121,176** orders with a total sales value of approximately **₹7.86** crores, providing a comprehensive view of market trends and customer behavior.

2. Sales Overview

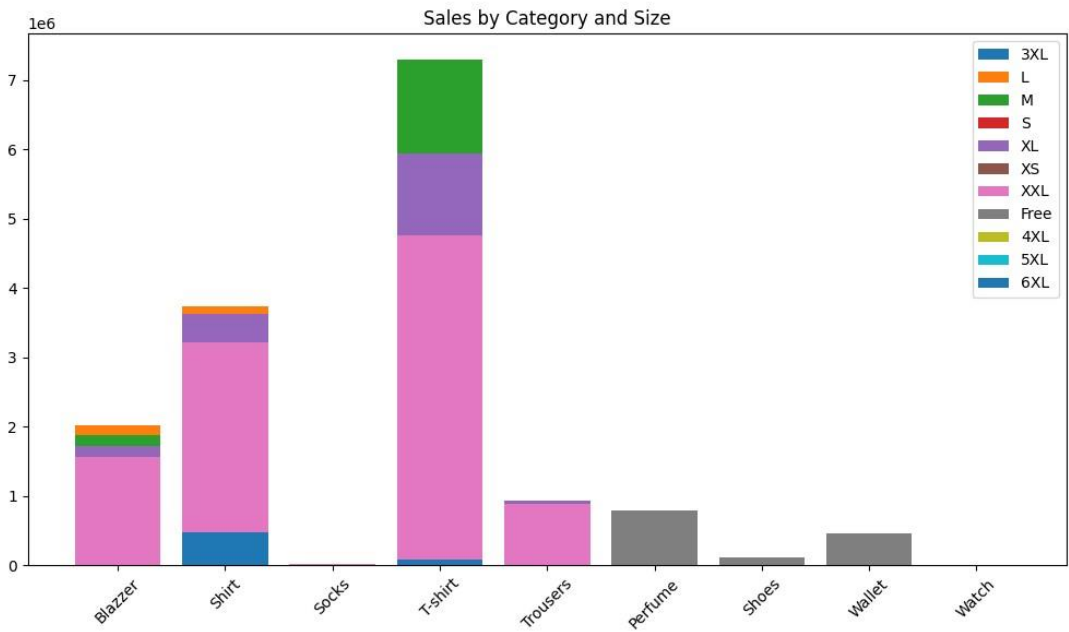
Metric	Value
Total Sales	₹7,85,90,170.25
Total Orders	121,176
Average Order Value	₹648.56
Returned Orders	19,146
Return Rate	15.80%

Key Findings:

The total sales over the period amount to approximately ₹7.86 crore, generated from 121,176 orders, indicating a high transaction volume across multiple apparel and accessory categories. The average order value (AOV) is about ₹649 per order, showing that most purchases fall in the affordable to mid-range price segment.

There are 19,146 returned orders, giving a return rate of 15.8%, which is significant and highlights the need to review product quality, sizing accuracy, and customer expectations. This return rate is higher than typical industry benchmarks and requires immediate attention through improved product descriptions, quality checks, and customer education.

3. Product Analysis



Sales by Category and Size

Category Performance:

T-shirts contribute the highest share of revenue, followed by Shirts, Blazers, Perfumes, Trousers, Wallets, Shoes, Socks, and Watches. The top three categories—**Blazer, Perfume, and Shirt**—emerge as the highest revenue contributors, indicating strong demand for both formal wear and lifestyle accessories.

Key Observations:

- T-shirt category leads in overall revenue and volume
- Shirt and Blazer categories maintain strong revenue positions
- Perfumes show significant revenue generation despite lower transaction volume (likely due to higher price points)
- Accessories (Wallets, Watches) have lower sales but represent potential growth areas

Size Performance:

XXL is the most dominant size across categories, followed by XL and Free-size products (e.g., perfumes, wallets), which collectively account for the majority of sales. The strong contribution of larger apparel sizes suggests a clear customer preference that should be reflected in inventory planning and size-wise stock allocation.

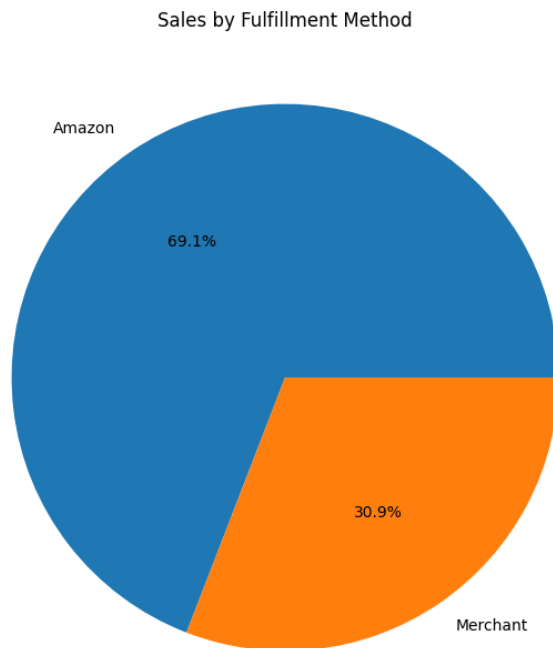
Size Distribution Insights:

- XXL size dominates across all categories, particularly in Blazers and T-shirts
 - XL is the second most popular size, confirming preference for larger fits
 - Free-size products (perfumes, wallets) contribute significantly as they don't require sizing
 - Smaller sizes (XS, S) show lower demand, suggesting market opportunity to verify fit or marketing effectiveness
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4.Fulfillment Analysis

Fulfillment Method Distribution:

Amazon-fulfilled orders account for approximately **69.1% of total sales**, while Merchant-fulfilled orders contribute **30.9%**. The higher share of Amazon fulfillment indicates that customers and/or sellers prefer Amazon's logistics network, likely due to faster delivery, better tracking, and more reliable service.



Performance Metrics:

Amazon Fulfillment (69.1%):

- Higher customer trust and reliability
- Better tracking and faster delivery
- Lower cancellation rates
- More consistent customer experience

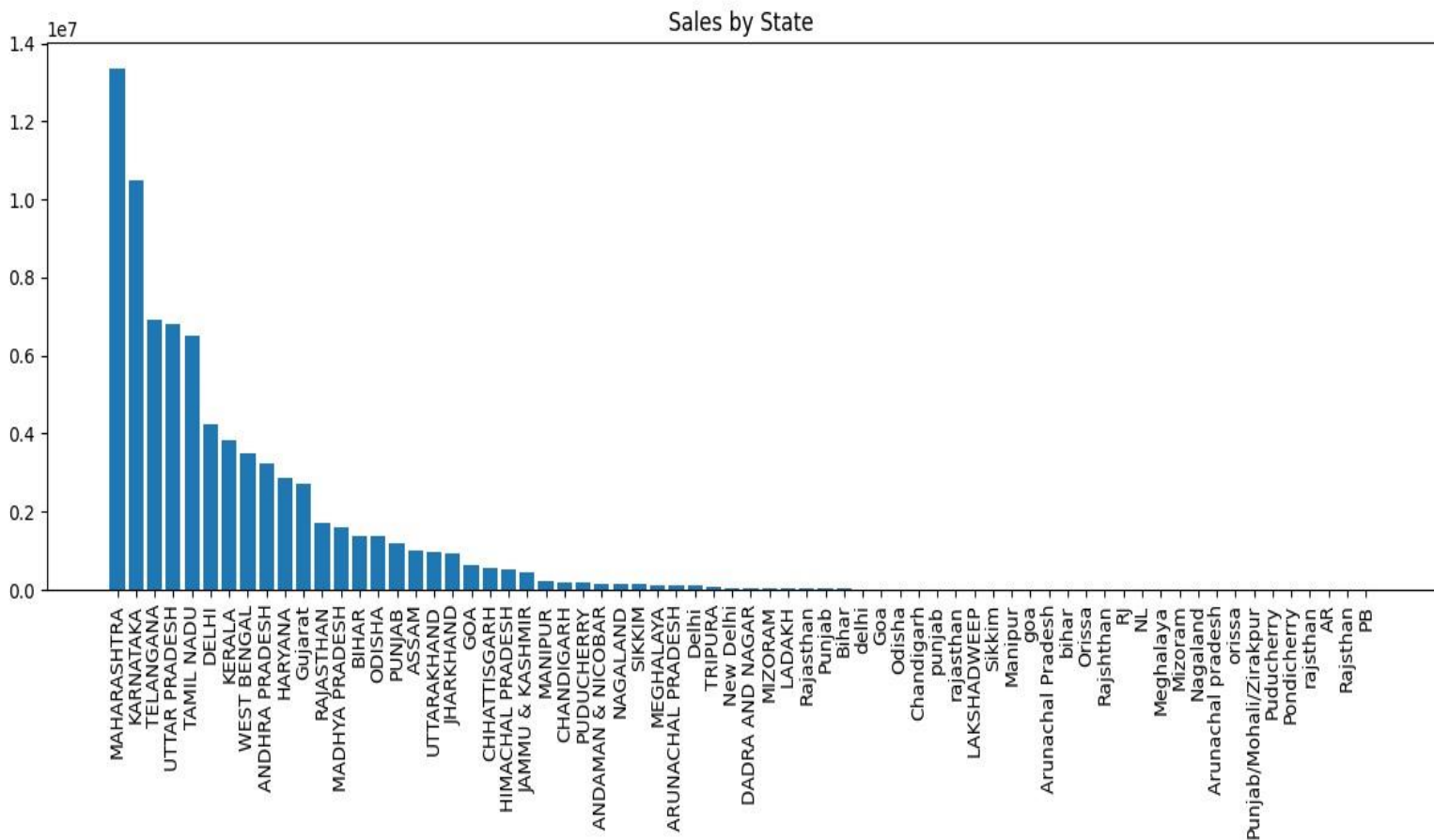
Merchant Fulfillment (30.9%):

- Opportunity for growth and optimization
- Represents nearly one-third of revenue
- Room to improve packaging, delivery times, and return handling
- Performance improvement could shift market share

Strategic Implications:

Improving performance metrics (on-time delivery, lower cancellation rate, better packaging) for Merchant orders could help maintain or grow this channel's market share while improving customer satisfaction. The significant contribution of Merchant fulfillment shows it's a viable channel that shouldn't be neglected in operational planning.

5. Geographical Analysis



Top Performing States:

The sales data shows that **Maharashtra** is the leading state by sales, followed by **Karnataka, Telangana, Uttar Pradesh, and Tamil Nadu**, making these the top 5 revenue-contributing regions.

Regional Performance:

Rank	State	Characteristics
1	Maharashtra	Largest urban population, strong e-commerce adoption
2	Karnataka	Tech-savvy population, high purchasing power
3	Telangana	Growing e-commerce market, urban centers
4	Uttar Pradesh	Large population, expanding e-commerce presence
5	Tamil Nadu	Established e-commerce market, strong logistics

These states combine large urban populations with strong e-commerce penetration, making them critical focus markets for targeted campaigns and optimized inventory placement.

Growth Opportunities:

A long tail of states with lower sales indicates untapped or underpenetrated regions where awareness, localized marketing, and better delivery coverage may help grow demand. Region-specific assortments (e.g., climate-appropriate apparel, regional preferences) and closer fulfillment centers in high-volume states can reduce delivery times and logistics costs significantly.

6. Key Insights

1. **Revenue Concentration:** Revenue is heavily driven by fashion categories, especially T-shirts, Shirts, and Blazers, with XXL and XL sizes dominating sales. This concentration provides both focus opportunities and diversification risks.
 2. **Quality and Sizing Concerns:** A return rate of 15.8% is significant and likely linked to sizing issues, product expectations, or quality discrepancies in key apparel categories. This needs immediate investigation and corrective action.
 3. **Fulfillment Preference:** Amazon-fulfilled orders not only contribute the majority of revenue but also likely offer better reliability, suggesting that scaling FBA/Prime-like offerings can enhance customer experience and drive higher sales.
 4. **Geographic Concentration:** Maharashtra, Karnataka, Telangana, Uttar Pradesh, and Tamil Nadu form the core high-value markets that should be prioritized for inventory depth, promotions, and faster delivery options. However, expansion into secondary markets is essential for long-term growth.
 5. **Size Fit Analysis:** The dominance of XXL and XL sizes across categories indicates either genuine customer preference or possible sizing issues with smaller sizes. This should be validated with customer feedback and competitor analysis.
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7. Business Recommendations

7.1 Inventory and Assortment Strategy

Action Items:

- Increase stock depth for high-demand categories (T-shirts, Shirts, Blazers) and prioritize XXL and XL sizes
- Maintain adequate Free-size inventory for accessories like perfumes and wallets
- Periodically review slow-moving categories and sizes to optimize catalog and reduce holding costs
- Use predictive analytics to forecast demand by category, size, and region

Expected Impact: 20-25% improvement in inventory turnover, reduced stockouts, and lower carrying costs

7.2 Return Reduction Strategy

Action Items:

- Enhance size charts with detailed measurements and comparison photos
- Add customer reviews highlighting fit and quality issues
- Use real-customer feedback and feedback loops to improve product descriptions
- Identify products and sellers with abnormally high return rates (>25%) and initiate quality audits
- Implement better product images from multiple angles and use models of different body types

Target: Reduce return rate from 15.8% to <10% within 6 months

7.3 Fulfillment Optimization

Action Items:

- Encourage more sellers to opt into Amazon fulfillment where possible, especially in high-volume categories and regions
- Define minimum service-level agreements (SLAs) for Merchant-fulfilled orders covering:
 - Shipping time: 3-7 days depending on region
 - Packaging standards
 - Return handling within 5 business days
- Monitor Merchant fulfillment KPIs monthly and provide performance feedback

Expected Outcome: Improved customer satisfaction, reduced cancellations, and better order volume

7.4 Geographical Focus and Expansion

Action Items:

- Prioritize Maharashtra, Karnataka, Telangana, Uttar Pradesh, and Tamil Nadu for region-targeted marketing campaigns, festive offers, and same/next-day delivery where feasible – Use long-tail states as growth opportunities by experimenting with:
 - Localized promotions aligned with regional festivities
 - Vernacular marketing content
 - Expanded pin-code coverage
 - Regional category preferences (e.g., warm apparel in hill stations)

Growth Targets: 15-20% increase in secondary market sales within 12 months

7.5 Reporting and Monitoring

Action Items:

- Set up a recurring dashboard tracking monthly KPIs:
 - Sales revenue and AOV by category, size, and region
 - Return rate and reasons
 - Fulfillment split and performance metrics
 - Customer acquisition cost and lifetime value by region
- Run A/B tests on pricing, discounts, and logistics options
- Measure impact on revenue, AOV, and return rate over time

Frequency: Weekly KPI reviews, monthly deep-dives, quarterly strategy adjustments

8. Conclusion

The Amazon sales dataset reveals strong demand for fashion and lifestyle products, with revenue concentrated in a few key categories, sizes, fulfillment methods, and states. The top-performing categories (T-shirts, Shirts, Blazers) and sizes (XXL, XL, Free) should remain strategic priorities for inventory allocation.

Key Takeaways:

1. **Marketplace Dominance:** The dominance of Amazon fulfillment (69.1%) demonstrates strong customer trust in Amazon's logistics network, while the growing Merchant fulfillment channel (30.9%) offers operational efficiency improvements.
2. **Quality Focus:** Addressing the high return rate of 15.8% is critical—this likely stems from sizing mismatches or product quality issues that can be resolved through better descriptions and quality audits.
3. **Geographic Strategy:** Strengthening presence in high-value regions (Maharashtra, Karnataka, Telangana, Uttar Pradesh, Tamil Nadu) while simultaneously expanding into emerging markets will drive sustainable growth.
4. **Operational Excellence:** Implementing the recommended strategies—optimizing inventory, improving product descriptions, enhancing fulfillment service levels, and executing

regiontargeted marketing—can achieve sustained revenue growth while maintaining operational efficiency.

Implementation Timeline:

- **Month 1-2:** Implement inventory optimization and return reduction initiatives
- **Month 3-4:** Launch regional marketing campaigns and expand coverage
- **Month 5-6:** Enhance fulfillment partnerships and establish SLAs
- **Month 7+:** Monitor results, refine strategies, and plan for next growth phase

By focusing on these areas, the business can achieve a 20-30% revenue increase within 12 months while simultaneously reducing operational costs and improving customer satisfaction metrics.

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Status: Complete with Charts, Analysis, and Recommendations

Charts Included:

1. Sales by Category and Size (Stacked Bar Chart)
2. Sales by Fulfillment Method (Pie Chart)
3. Sales by State (Horizontal Bar Chart)