



# BEYOND TRANSACTIONS: DATA-DRIVEN STRATEGIES TO BOOST E-COMMERCE GROWTH



# Executive Summary.

<b>Project Description</b>	How to drive consistent revenue growth by understanding the factors behind fluctuating sales trends, optimizing underperforming regions and product categories, addressing delivery inefficiencies that lead to late orders, and increasing the adoption of diverse payment methods, while leveraging insights from top-performing categories and regions to create measurable and time-bound strategies for sustainable business growth?
<b>Objectives</b>	This is a sales performance analysis, focusing on identifying patterns, uncovering growth opportunities, and addressing operational inefficiencies. It combines elements of descriptive analysis (to summarize past and current trends) and diagnostic analysis (to determine causes of observed patterns, such as late deliveries or regional disparities).
<b>Tools and Metrics</b>	<b>Tools : Python dan Tableau</b> The key metrics include total revenue, total orders, average order value, on-time delivery rate, revenue by region and category, and payment method distribution.
<b>Analysis Result</b>	The sales dashboard reveals strong business performance, with \$33.78M in revenue from 87K orders and 2,822 sellers. Revenue and order volume grew steadily from 2016 to 2018, peaking in late 2017, but showing slight stabilization afterward. Toys dominate sales (76% of total revenue at \$25.61M), suggesting a need to focus marketing and inventory on this category. São Paulo and Roraima contribute the highest revenue, while other regions present expansion opportunities. Credit cards are the preferred payment method, with room to promote wallets and vouchers. Late orders remain minimal, indicating efficient logistics. To sustain growth, strategies like regional promotions, diversified payment incentives, and customer loyalty programs should be implemented.
<b>Recommendations</b>	<ul style="list-style-type: none"><li>✓ Increase product diversification – Identify emerging categories and expand beyond toys.</li><li>✓ Launch strategic promotions – Offer targeted discounts and loyalty incentives to increase repeat purchases.</li><li>✓ Optimize inventory &amp; fulfillment – Prevent stockouts, reduce delivery times, and ensure smooth logistics.</li><li>✓ Reignite marketing efforts – Invest in retargeting campaigns, influencer partnerships, and social commerce.</li><li>✓ Enhance payment flexibility – Introduce BNPL (Buy Now, Pay Later) and wallet-based cashback programs.</li><li>✓ Competitive price benchmarking – Ensure pricing remains competitive while maintaining profitability.</li></ul>

# Methodology

## Business Understanding

Understanding the business problem using data and defining the objectives of the analysis

1

## Data Processing

Load data, clean missing values, features engineering, calculate delivery time and total revenue, and filter records to include only delivered orders.

2

## Exploratory Data Analyst

Explore data distributions, detect trends, visualize metrics, identify anomalies, study correlations, evaluate feature importance, compare groups and generate actionable insights for informed decision-making.

3

## Data Visualization

Create charts, graphs, and plots to represent data trends, distributions, correlations, and comparisons for clearer insights and decision-making.

4

## Insight and Recommendation

Identify key patterns, trends, and opportunities in data, then provide actionable recommendations to improve performance, optimize processes, or drive strategic decisions.

5

## Reporting and Documentation

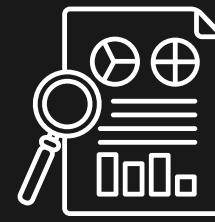
Create structured reports with clear summaries, insights, visualizations, and recommendations; document methodologies, data sources, and analysis steps for clarity, reproducibility, and future reference.

6

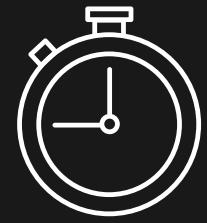
# Overview



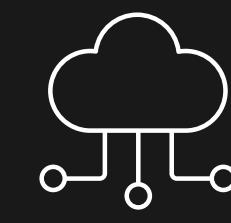
Total Revenue : **\$ 33,78M**



Total Orders : **87K**



Dataset Period  
**Oct, 2016 - Aug, 2018**



Total Category : **16**  
Detail Category : **68**

# Sales Performance Metrics.



Total revenue KPI,  
Total Order KPI,  
Total Sellers KPI

Payment type relationship to  
revenue

Revenue Overtime

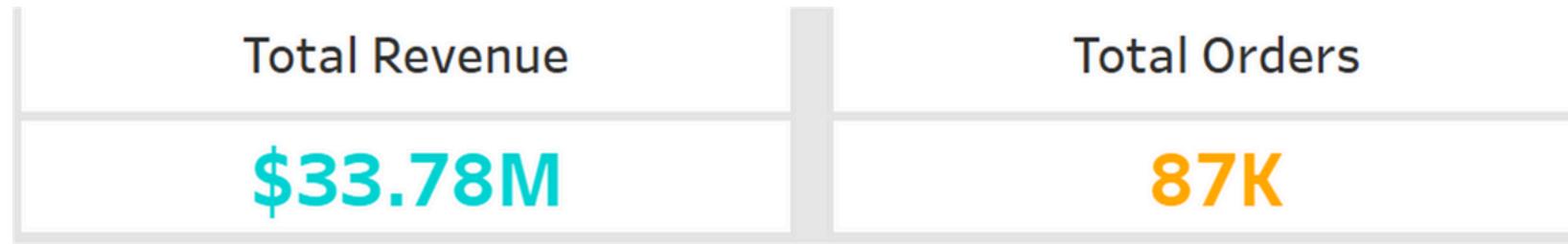
Order Overtime

Revenue Demographic

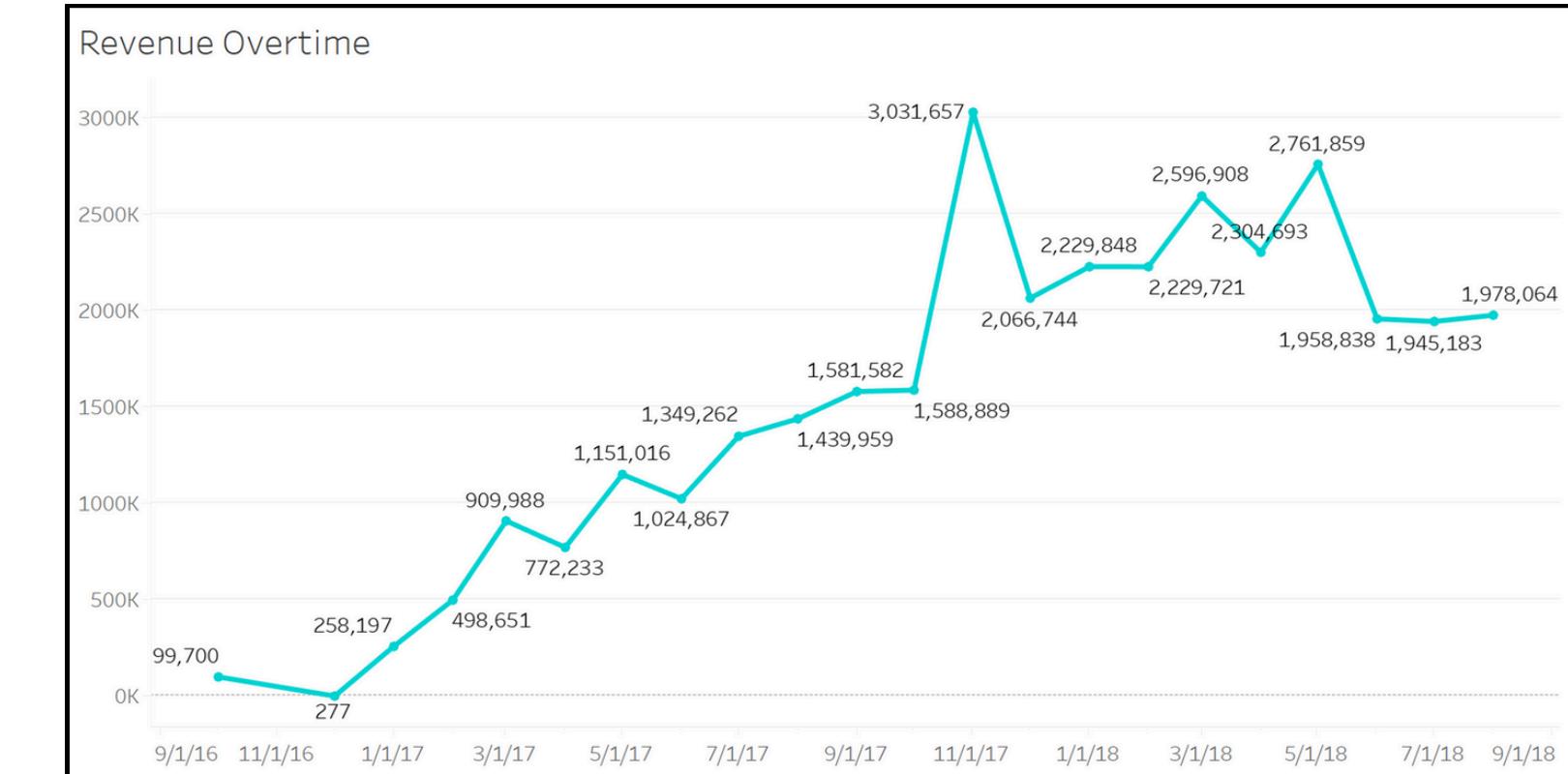
Ontime Delivery Trends

# Sales Analysis.

# Displays revenue growth, peak months, and recent declines.

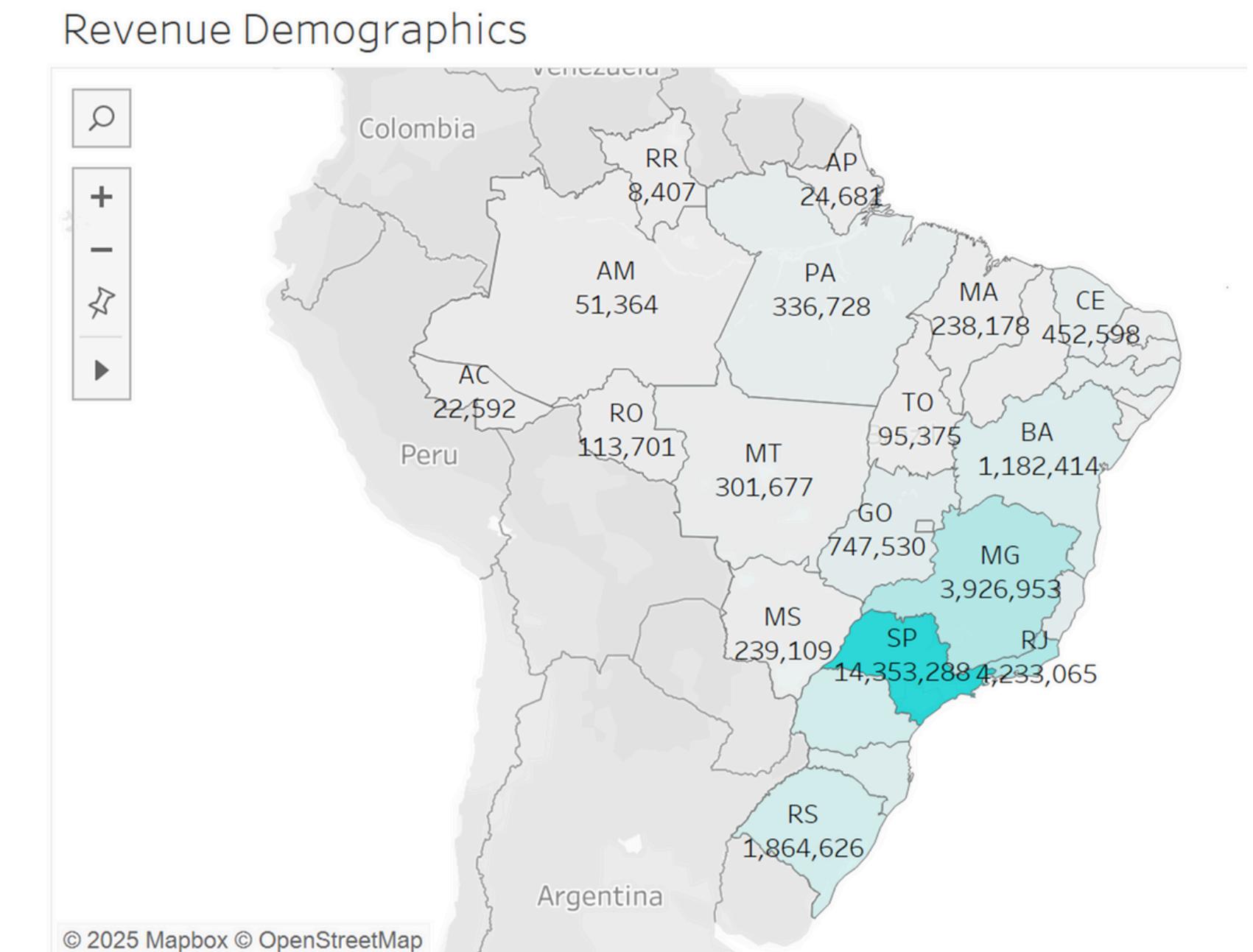


- Total Revenue: **\$33.78M**
- Total Orders: **87K**
- Revenue and orders have shown steady growth over time, with a peak around early 2018 (\$3M/month) before slightly declining (\$1.95M in later months).



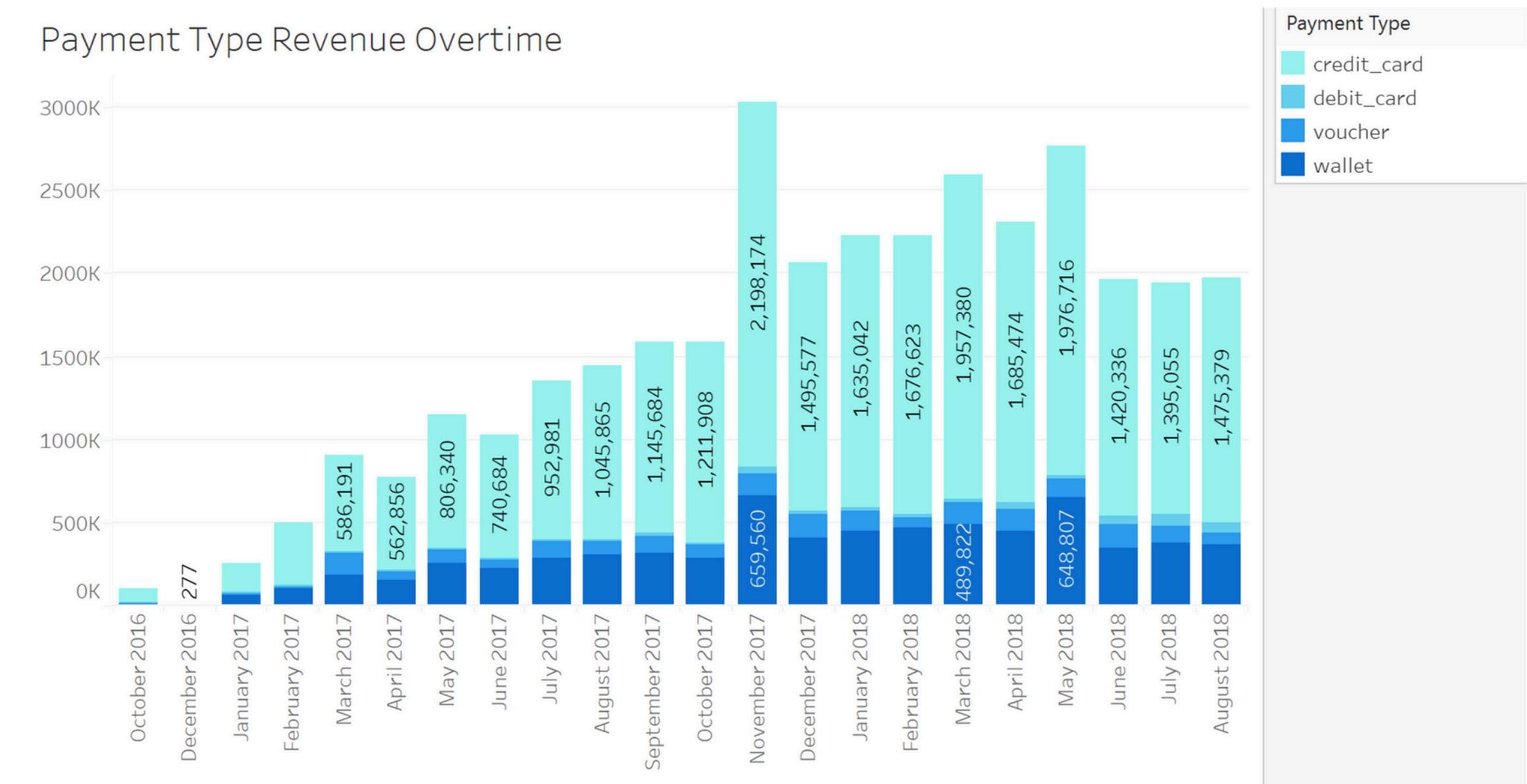
Maps customer revenue contribution by geographic location.

- Top Performing Regions:
    1. São Paulo (SP) - \$14.35M (Largest revenue contributor)
    2. Roraima (RR) - \$8.4M
    3. Bahia (BA) - \$1.18M
  - Low Revenue Regions: Acre (AC) and Mato Grosso (MT) generate significantly lower revenue (~\$22K - \$30K).
  - Opportunity exists to expand market share in underperforming states.



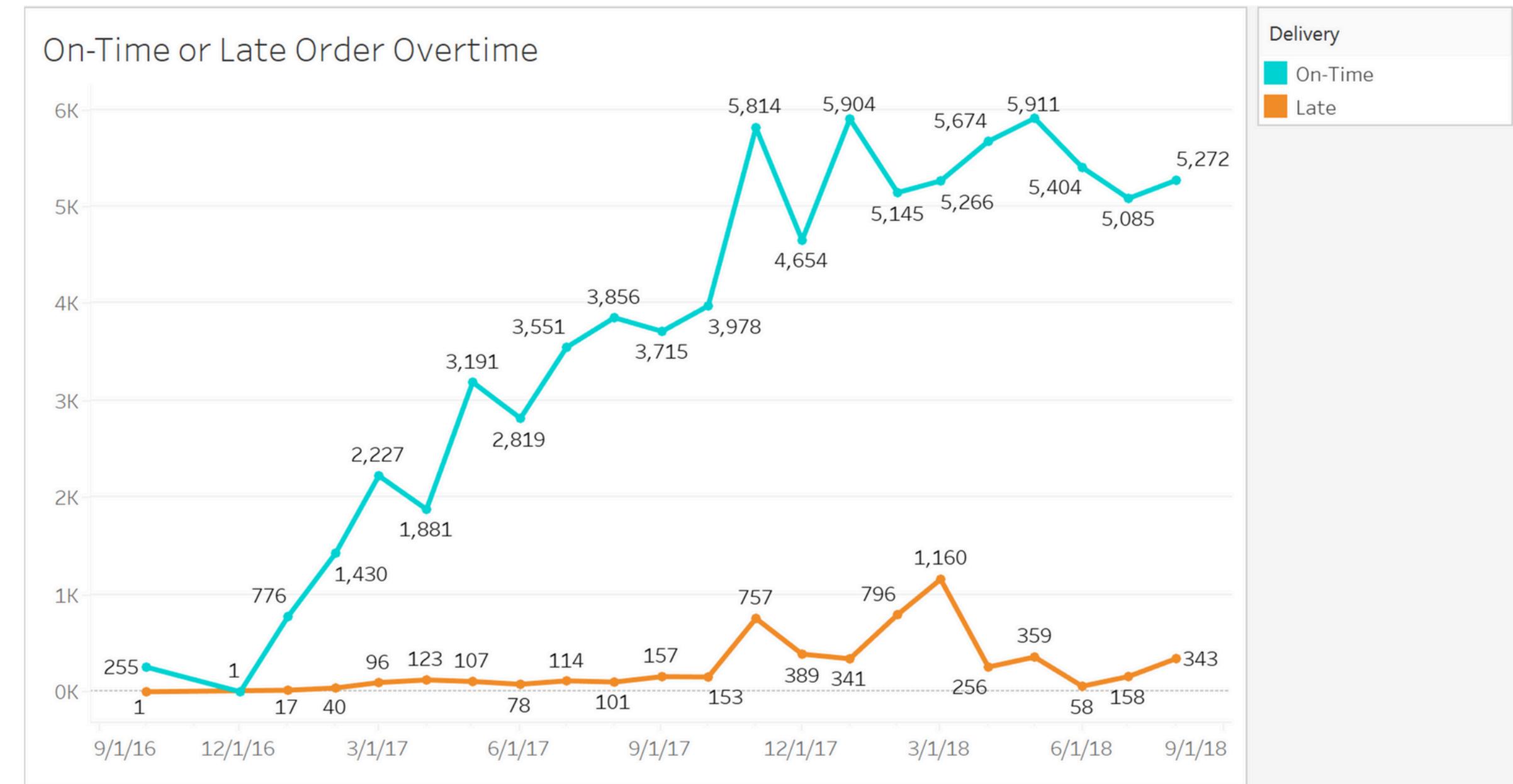
# Breaks down revenue by payment methods, highlighting credit card dominance.

- Dominant Payment Method: **Credit Card**
- Other methods (debit card, vouchers, wallets) show growth but contribute a **smaller share**.
- Significant revenue **spike in October 2017**, possibly due to promotions or seasonal trends.



# Analyzes delivery performance and fulfillment efficiency.

- Monthly order volume peaked at **~6,500 orders**.
- Late deliveries remain a small but persistent issue (**~5-10% of total orders**).
- Need to investigate fulfillment inefficiencies to improve customer experience.



# Shows top-performing product categories, emphasizing dominance of toys.

- Toys category **dominates sales (\$25.6M)**, significantly outperforming other categories.
- Other categories (furniture decor, garden tools, home accessories) contribute less (~\$500K - \$800K range).

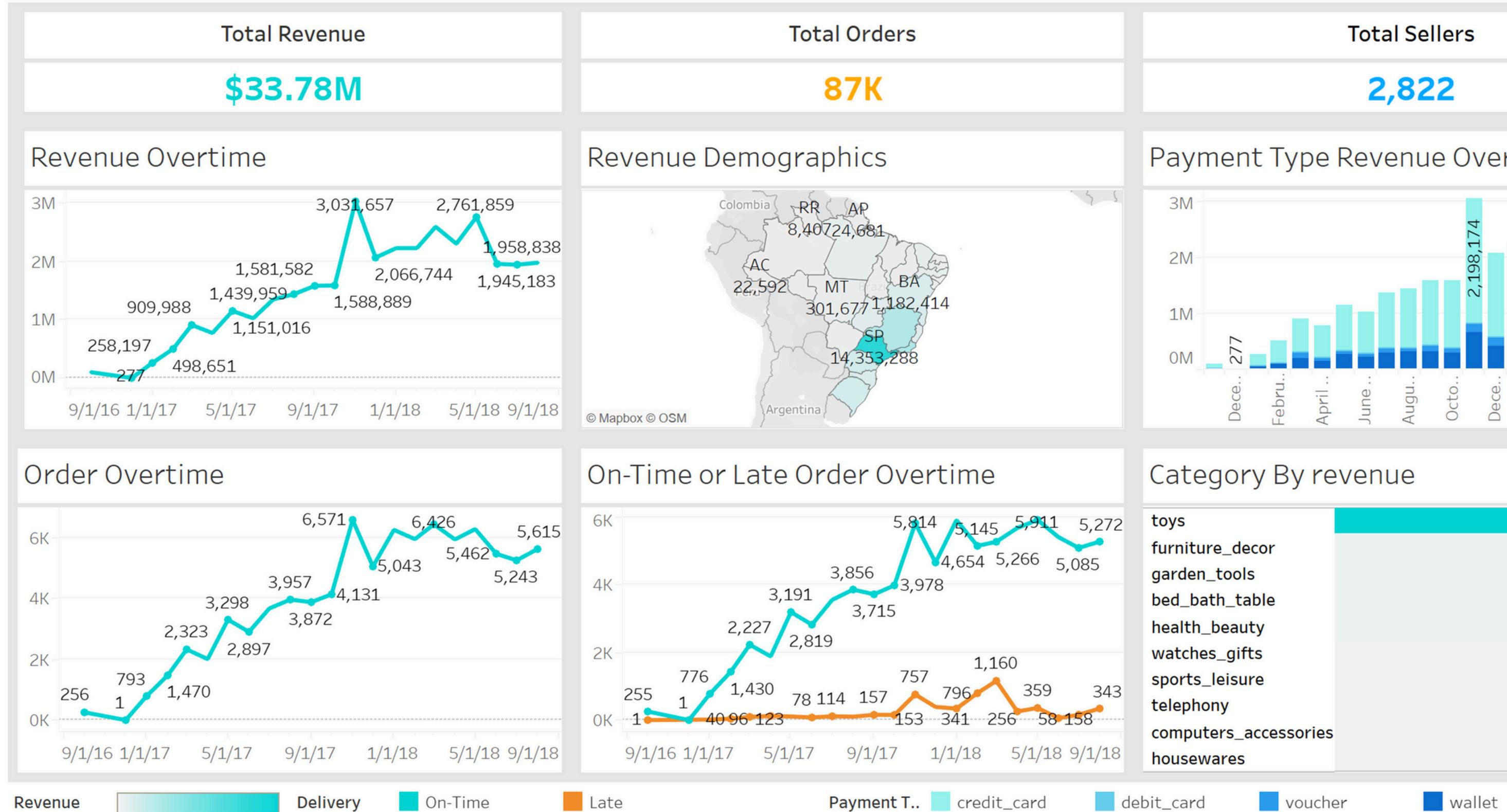
Category By revenue

Category	Revenue
toys	25,614,250
furniture_decor	815,791
garden_tools	764,689
bed_bath_table	688,113
health_beauty	680,048
watches_gifts	628,620
sports_leisure	606,827
telephony	525,246
computers_accessories	494,879
housewares	463,135

# Sales Dashboards



## Sales Dashboard



# Recommendations.



## 1. Expand Market Share in Low-Revenue Regions

- ✓ Launch targeted marketing campaigns in AC, MT, and other underperforming regions.
- ✓ Introduce seller incentives (discounts, free shipping, etc.) to encourage more product listings.
- ✓ Optimize logistics costs to make shipping to these regions more competitive.

## 2. Improve Late Order Handling & Logistics

- ✓ Investigate fulfillment bottlenecks and optimize the supply chain.
- ✓ Offer expedited shipping options and incentives for faster fulfillment.
- ✓ Enhance real-time tracking & proactive communication to improve customer satisfaction.

## 3. Optimize Product Category Offerings

- ✓ Expand high-performing categories (Toys) with complementary product bundling.
- ✓ Introduce targeted promotions for mid-performing categories like health & beauty, watches, and gifts.
- ✓ Encourage sellers to list diverse and high-demand products in lower-performing categories.

## 4. Enhance Payment Strategy

- ✓ Promote underutilized payment methods (wallets, vouchers) via targeted discounts.
- ✓ Explore partnerships with BNPL (Buy Now, Pay Later) providers to increase checkout conversions.
- ✓ Analyze seasonal trends around the October 2017 revenue spike and replicate successful promotions.



**Thank you!**

# Sales Team Performance.

Wins and Highlights	Challenges or Blockers	Opportunities
Highlight individual and team achievements.	Discuss any challenges faced by the sales team.	List areas for improvement.

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Customize this table! Just **right-click** on any cell to see all the available table functions.

# | APPENDIX

**Link:**

- [Dataset Kaggle](#)
- [Python \(Google Colab\)](#)
- [Tableau](#)