



E-COMMERCE GROWTH ANALYSIS



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A brief introduction about myself and my background.



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Analysis & Insight

Performance, market growth, drivers of performance.



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Dataset structure and preparation for analysis.



Conclusion

Strategic recommendations and next steps.



INTRODUCTION



Suciningtyas Nur Alifah

Data Analytics | Financial Technology | Risk Management

Dibimbing.id (May-Dec 2025)

Data Science Bootcamp Batch 34

Focus: Python, SQL, Power BI, and Machine Learning

UIN Syarif Hidayatullah Jakarta (2020-2025)

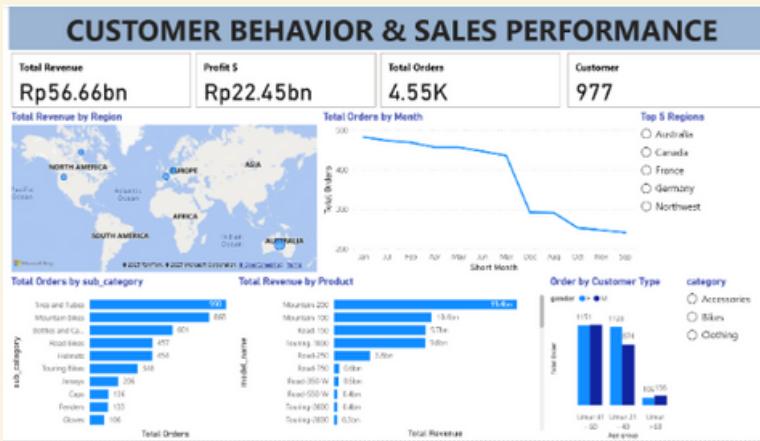
Bachelor's Degree in Islamic Economics

GPA: 3.81/4.00

[LINKEDIN](#)

PREVIOUS PROJECTS —

CUSTOMER BEHAVIOR & SALES PERFORMANCE ANALYSIS — BEECYCLE DATASET —



A comprehensive analysis of customer behavior and sales performance, focusing on revenue, product popularity, customer segments, and sales trends to support strategic decisions for market expansion.

Tools: PowerBI

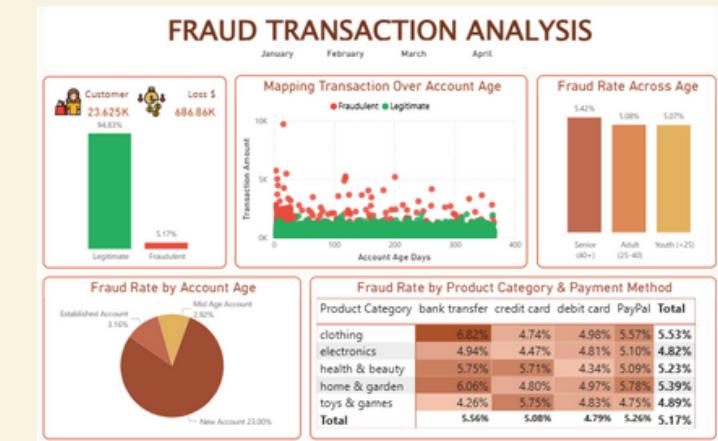
SALES DECLINE ANALYSIS — BEECYCLE DATASET —



An in-depth investigation to identify the key drivers behind the multi-year sales decline, focusing on trends across regions, product categories, and customer demographics.

Tools: Tableau

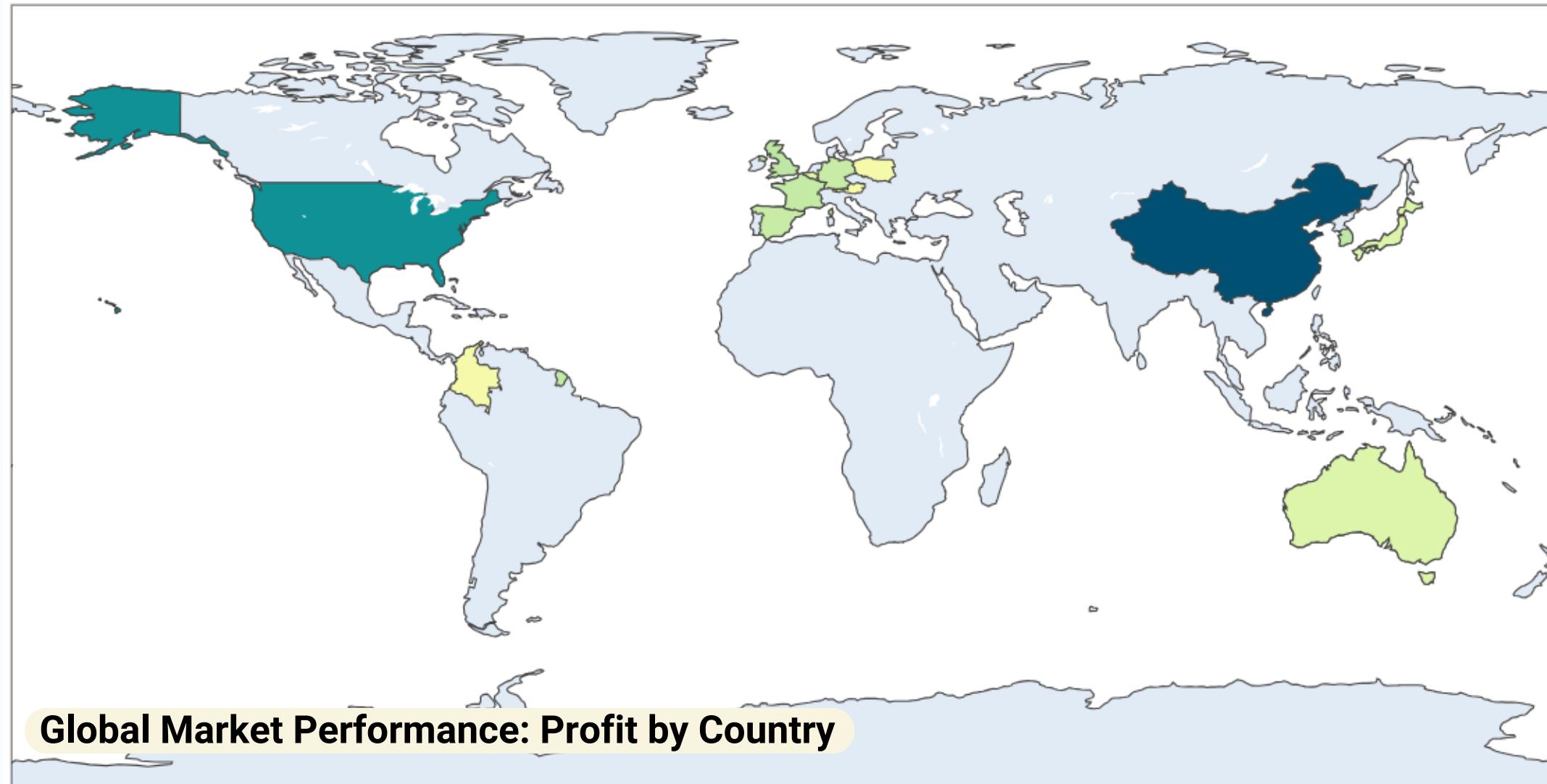
FRAUDULENT TRANSACTION DETECTION & BEHAVIORAL ANALYSIS



An analytical assessment to uncover fraud patterns across e-commerce transactions, identifying high-risk profiles, payment methods, and behavioral indicators.

Tools: Python and PowerBI

PROBLEM STATEMENT —



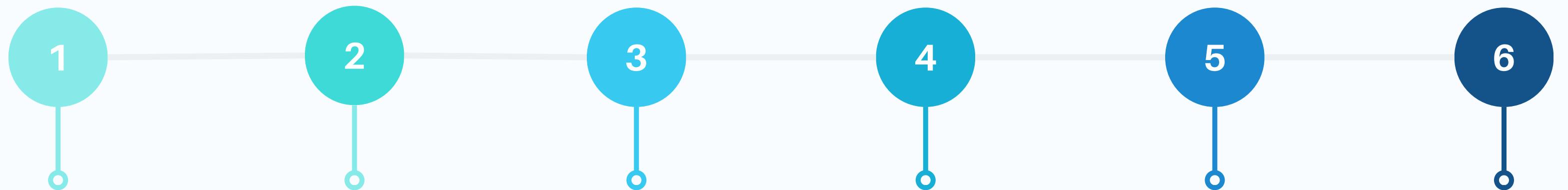
The company operates across multiple countries with uneven performance levels, making it necessary to identify high-potential markets, detect underperforming regions, and understand the key drivers behind revenue differences.

Business Objective

- Segment markets based on revenue performance and growth.
- Identify countries to prioritize for expansion or optimization.
- Analyze product and customer drivers behind top performing markets.
- Provide data backed recommendations to guide market strategy and resource allocation.

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ANALYSIS PROCESS



DEFINE THE PROBLEM

Identify key questions around global market performance and revenue growth.

COLLECT & MERGE DATA

Combine datasets using Python.

DATA CLEANING

Check data quality then performed handling steps.

FEATURE ENGINEERING

Build additional column with Python and Power BI.

EDA

Analyze patterns across countries, customers, and products.

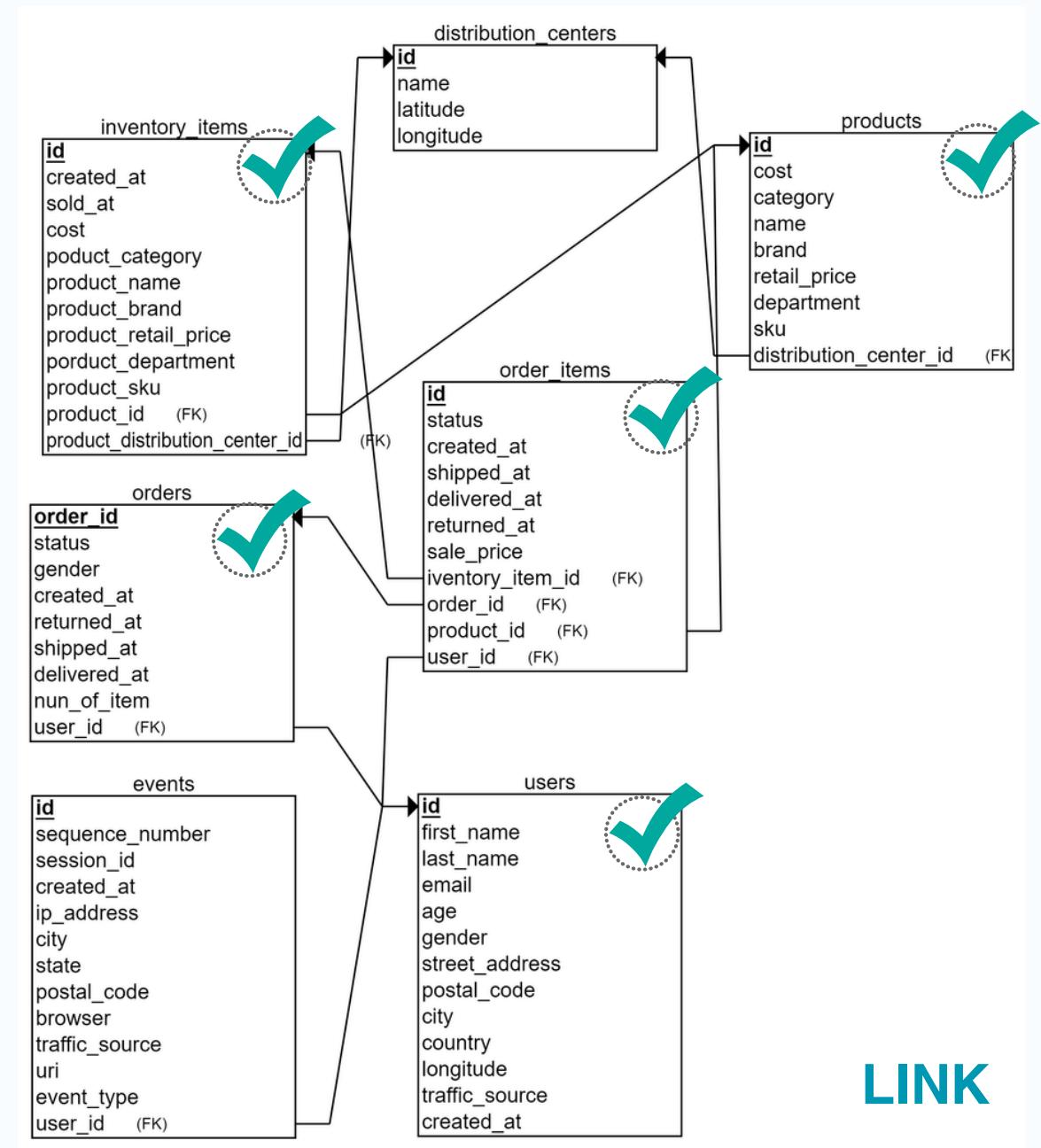
VISUALIZE

Create dashboards and extract actionable insights.

[LINK COLAB](#)

[DOWNLOAD PBIX](#)

DATA OVERVIEW



Dataset: Looker Ecommerce BigQuery



No duplicates found across all 5 tables.



There are some missing value.

- product_name (0.01%)
- brand (0.08%)
- city (0.92%) → Dropped
- shipped_at (34.92%) → Dropped
- delivered_at (64.88%) → Dropped
- returned_at (89.97%) → Converted into boolean



Outliers exist but realistic → kept.

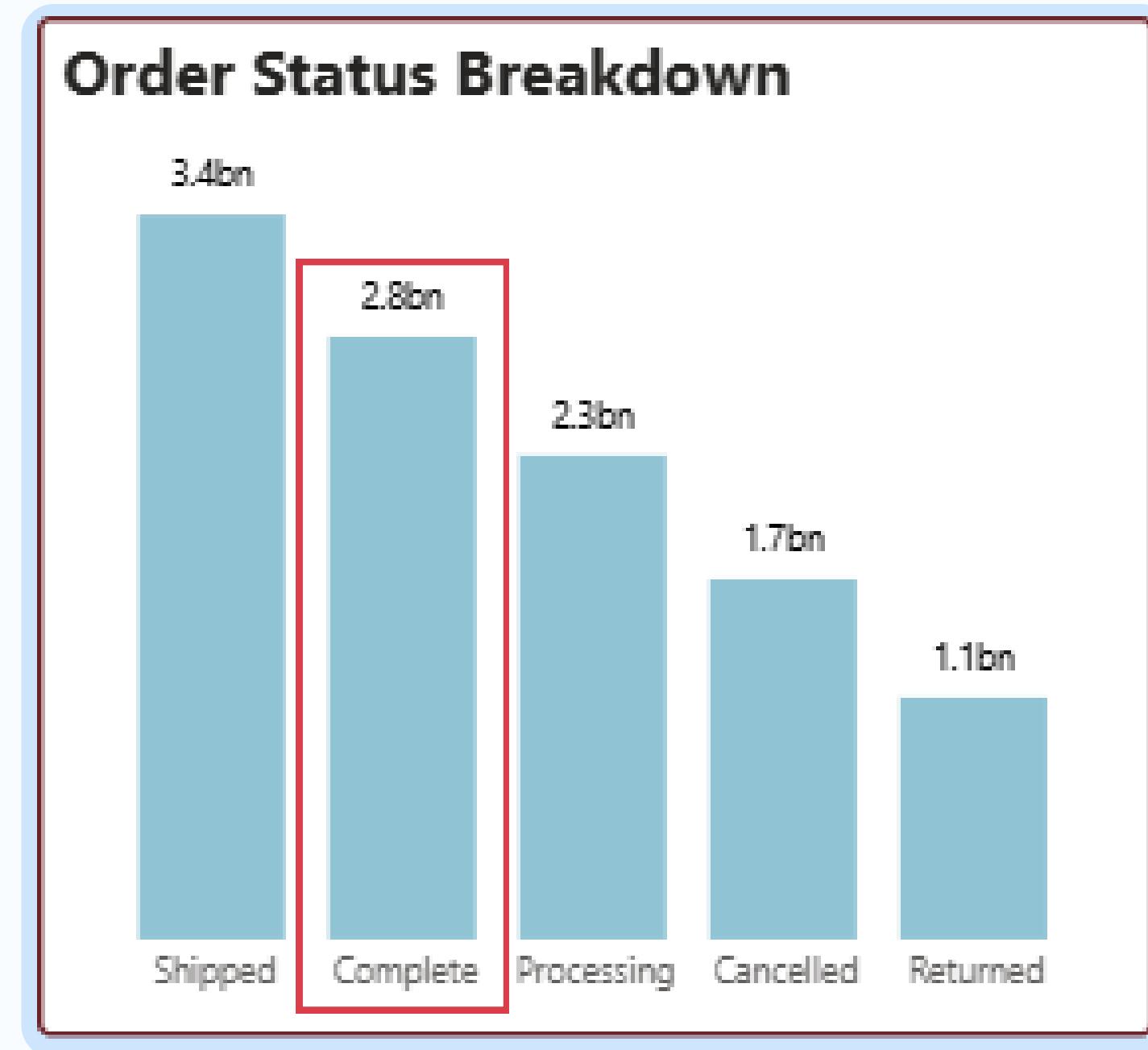


Add new metrics.

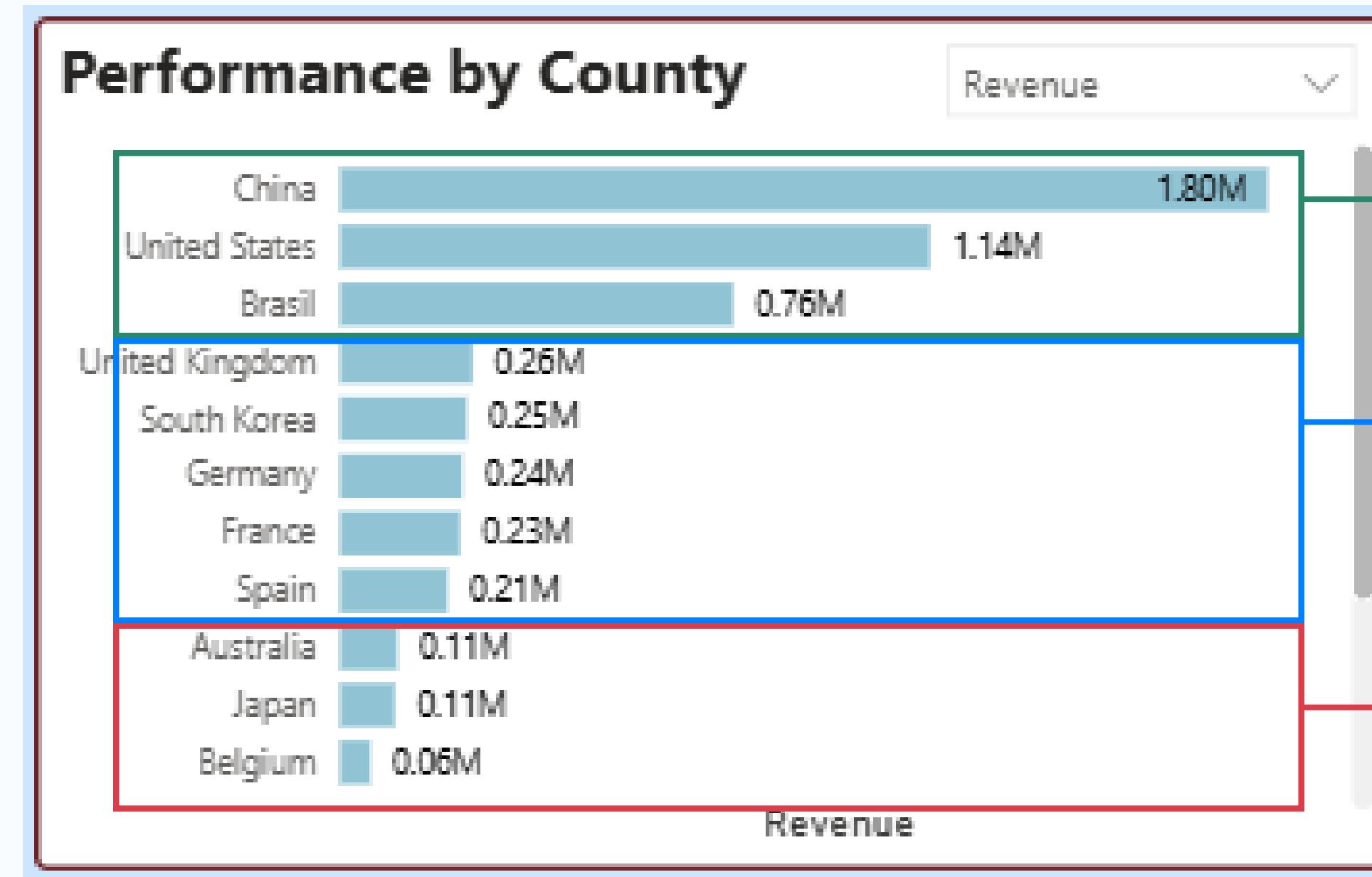
Revenue, profit, markup %, customer type classification, and time-based features to support global performance analysis.

HOW ORDERS FLOW ACROSS FULFILLMENT STAGES?

- "Shipped" orders represent the largest portion of transactions, while "Completed" orders are second.
→ Since performance metrics rely on Completed orders, this gap suggests many transactions are not reaching final completion.
- "Cancelled" and "Returned" significantly indicate potential issues in fulfillment or product fit.
→ ***These should be prioritized for a future deep-dive analysis to reduce operational.***

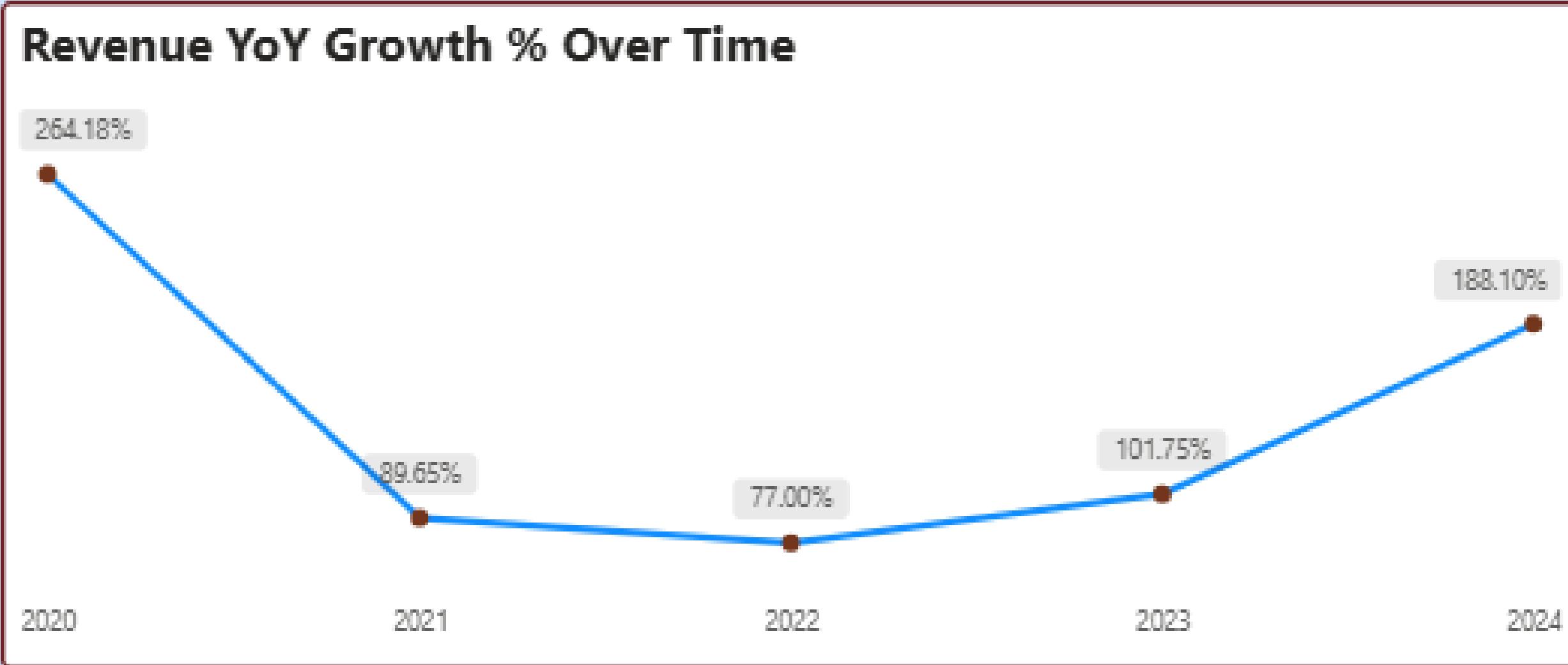


TOP MARKETS



- High-performing markets
→ **Scale marketing, inventory, and logistics efforts.**
- Mid-tier markets
→ **adjust pricing strategy, Introduce localized product bundles, Improve customer retention programs.**
- Underperforming markets
→ **evaluate product fit, customer awareness, and supply chain constraints.**

POST-PANDEMIC RECOVERY



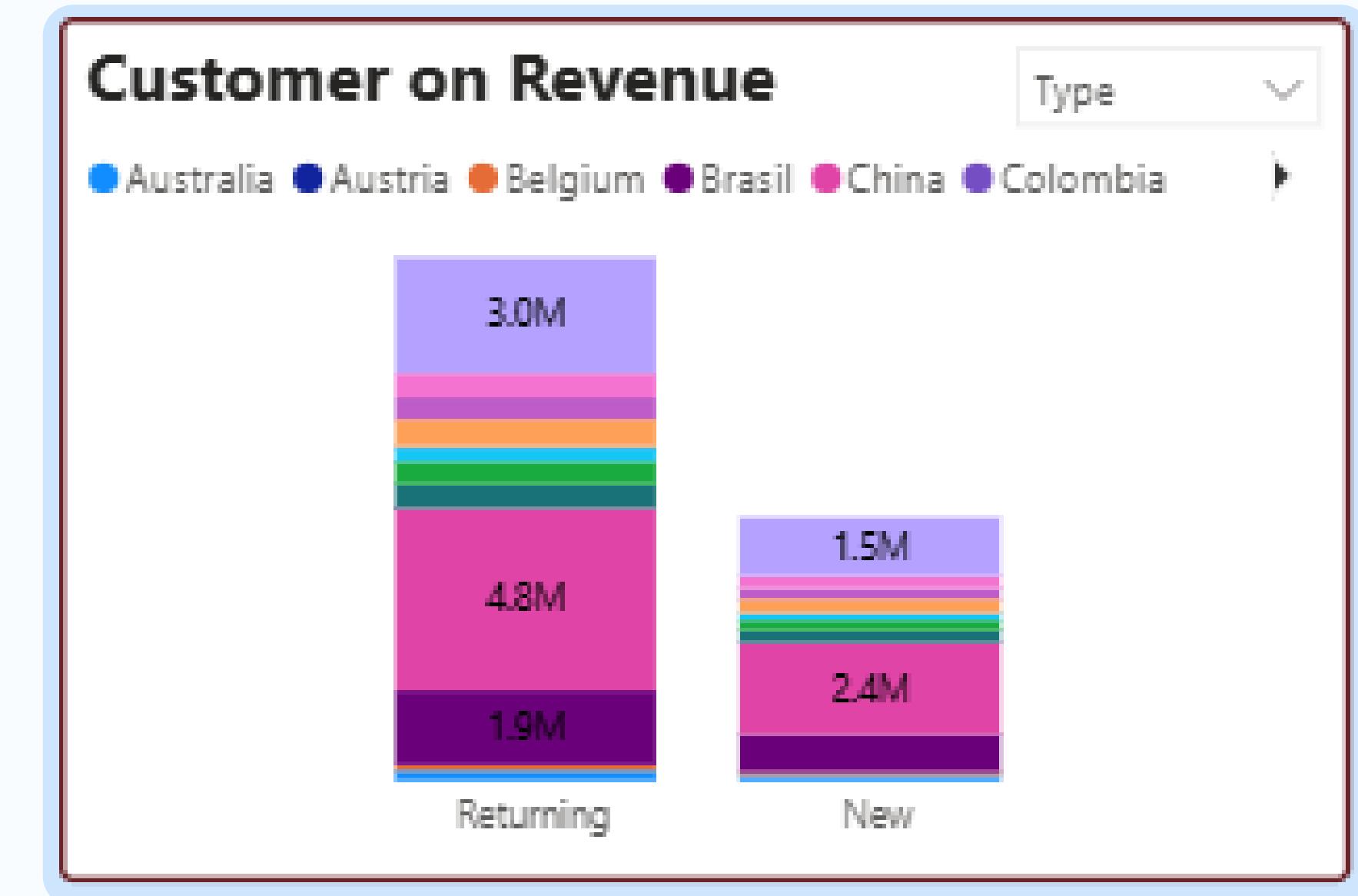
A clear decline occurred from 2020–2021 due to pandemic disruptions.

→ **Leverage the strong post-pandemic momentum by increasing marketing investment, strengthening local partnerships, ensuring inventory availability.**

CUSTOMER ACROSS MARKETS

- Returning customers represent loyalty.
- Male customers are slightly more dominant, though not significantly enough to drive gender-specific strategy.
- The core demographic is ages 15–64, showing stable purchasing behavior.

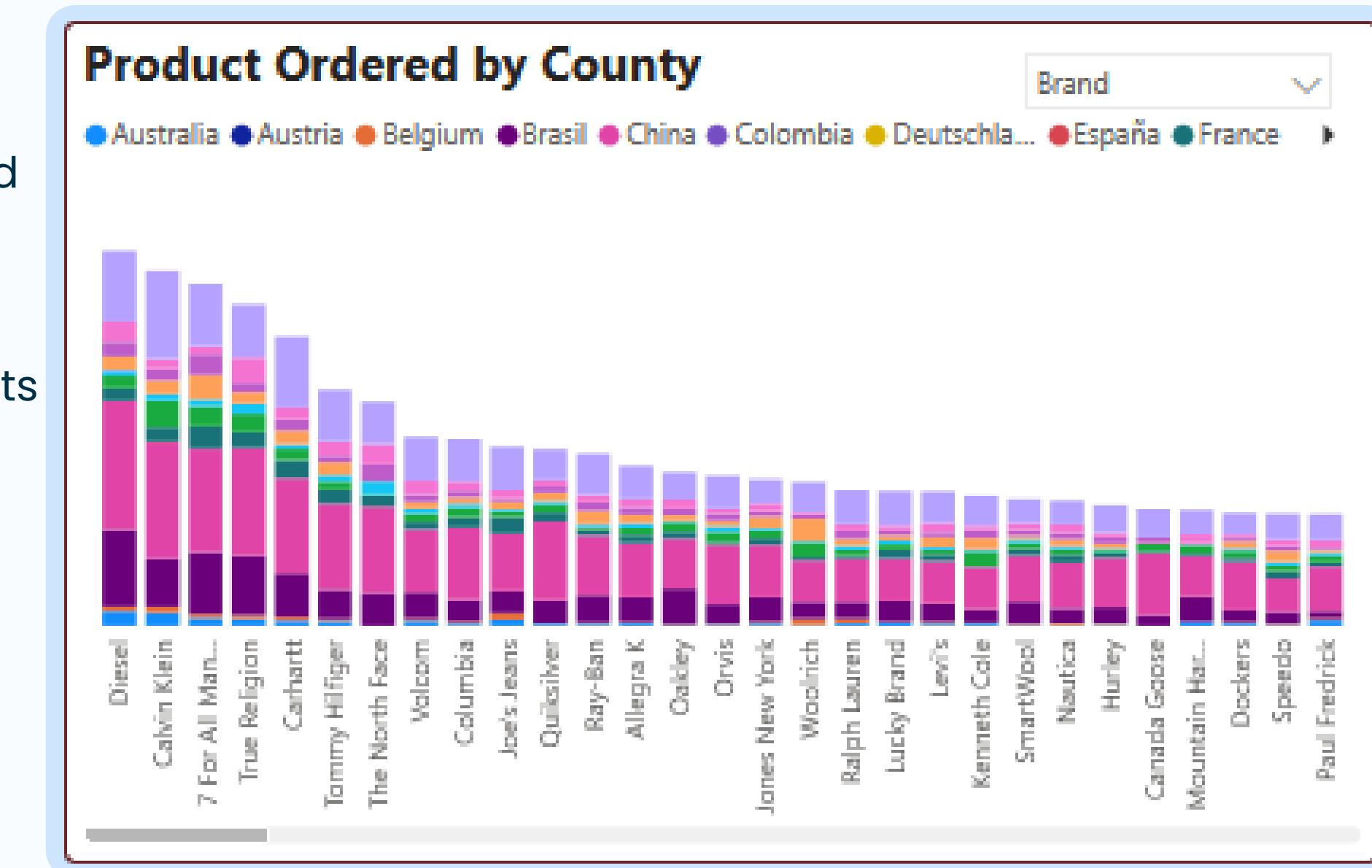
→ **Target working adults with lifestyle-focused campaigns, maintain product relevance for loyal customer groups, run RFM + Churn Analysis (future scope), and build stronger loyalty programs and cross-selling pathways**



BEST-SELLING BRANDS ACROSS MARKETS

- Leading brands such as Diesel, Calvin Klein, 7 For All Mankind, True Religion, and Carhartt drive significant sales volume.
- Top-performing categories include Outerwear & Coats, Jeans, Sweaters, Suits & Sport Coats, and other essential apparel categories.

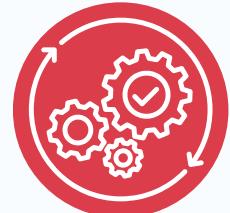
→ **Prioritize inventory and marketing for consistently high-demand categories. Expand premium brand presence in high-volume markets and consider category bundles to increase average order value.**



EXECUTIVE SUMMARY

- 2020–2021 experienced a downturn, while 2024 achieved +188% YoY growth, indicating strong market resilience.
- China, United States, Brazil consistently lead revenue, profit, and order volume. South Korea, France, UK, Germany, Spain show stable contribution with clear optimization potential. While, Japan, Australia, Belgium, Poland, Colombia, Austria show lower contribution (underperforming markets). Belgium shows decline in 2024, Australia stagnates.
- Returning customers represent the majority of purchases and customers aged 15–64 account for the highest revenue.
- Top categories: Outerwear & Coats, Jeans, Sweaters, Suits/Sport Coats. While brand: Diesel, Calvin Klein, 7 For All Mankind, True Religion, Carhartt consistently lead sales.

RECOMMENDATION



Accelerate Growth in High-Performing Markets

- Increase marketing investment and promotional campaigns in China, US, and Brazil.
- Strengthen supply chain and local logistics to support demand surges and reduce delivery times.
- Expand top-performing premium brands and high-conversion product categories.



Optimize and Localize Mid-Tier Markets

- Apply targeted pricing strategies based on regional purchasing power.
- Introduce localized product bundles to match customer preferences.
- Build stronger customer retention programs (loyalty points, vouchers, referral incentives).



Investigate Underperforming Markets

- Conduct a diagnostic analysis for Australia and Belgium to identify causes of stagnation and decline.
- Assess product mismatch, brand awareness, and shipping challenges as potential barriers.
- Test small-scale targeted campaigns to validate market potential before scaling.

RECOMMENDATION



Strengthen Customer Retention & Segmentation

- Prioritize loyal customers with tailored retention strategies and personalized recommendations.
- Implement RFM and churn analysis for deeper understanding of high-value accounts.
- Develop cross-selling campaigns based on purchase history (e.g., top apparel bundles).



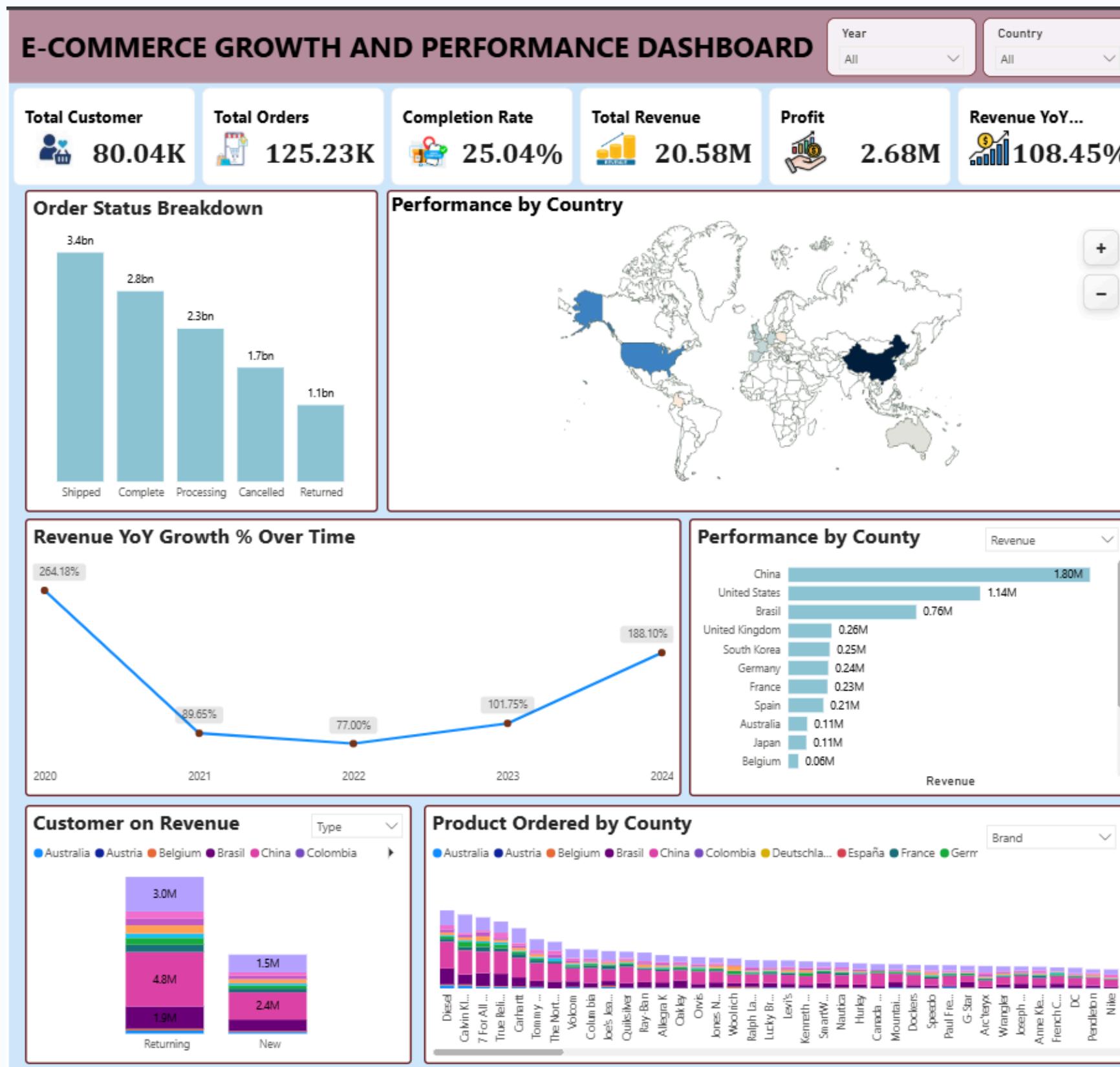
Enhance Product Strategy

- Prioritize inventory for consistently strong categories (Outerwear & Coats, Jeans, Sweaters).
- Expand availability of the top 5 performing brands in high-volume regions.
- Experiment with bundles, limited editions, and seasonal collections to increase AOV.



Operational Improvement (Future Work)

- Reduce high cancellation and return rates through fulfillment optimization and product fit analysis.
- Evaluate conversion rates by traffic source to identify efficient marketing channels.
- Continuously track YoY and MoM performance to ensure sustainable long-term growth.



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INTERACTIVE DASHBOARD



THANK YOU

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