Olist E-Store Performance Analytics Report

Tools Used – MS Excel , Power Query ,

M-Code , Power BI , DAX

Abstract

In this project, I performed a comprehensive sales insights analysis for Olist E-store , an India-based computer hardware supplier with a pan-India client base. The Sales Director faced challenges in understanding regional performance due to the lack of a centralized, data-driven system—relying instead on verbal updates from regional managers. To address this, I developed a structured Excel-based analytics solution. The workflow included analyzing supply chain bottlenecks, optimizing freight costs, mapping customer location-based logistics, evaluating product performance, assessing payment methods, and performing sentiment analysis on customer reviews. Key insights revealed inefficiencies in order fulfillment, high freight costs for specific routes, region-wise delivery delays, slow-moving inventory, and low-performing products. Recommendations include optimizing logistics routes, focusing on top-performing SKUs, tailoring payment options by region, and using customer feedback for product improvement. This data-driven dashboard empowers leadership with actionable insights to boost sales, streamline operations, and make informed decisions.

Work-Flow

The project workflow began with understanding the core business problem faced by Olist- E Store Sales Director—lack of visibility into regional sales performance and declining overall sales. I started by gathering and cleaning sales, logistics, and customer-related data using Excel. The workflow then moved into exploratory data analysis to identify key business areas such as order processing delays, freight inefficiencies, product performance, payment issues, and customer feedback.

Using this analysis, I built interactive Excel dashboards with charts and KPIs to visualize trends across supply chain operations, product categories, and regional performance. Each module focused on solving a specific problem—whether it was slow-moving inventory, high freight cost, or negative customer sentiment. The project concluded with actionable recommendations

for each insight area, empowering leadership to make data-driven decisions and improve overall business efficiency.

Problem Statement

Olist E-store is a company that supplies computer hardware and peripherals to various clients across India, such as Surge Stores, Nomad Stores, and others. The company's head office is located in Delhi, with multiple regional offices spread throughout the country.

Despite operating in a dynamically growing market, the Sales Director is facing significant challenges in tracking sales performance and driving business growth. He currently depends on verbal updates from regional managers (North, South, and Central India) to understand quarterly sales performance and future projections. These updates are informal and lack data-backed evidence, making it difficult for him to gain a complete and accurate picture of the business.

As a result, there is growing frustration due to the lack of reliable insights, especially as overall sales are on the decline. Without a centralized, data-driven reporting system, the Sales Director is unable to make informed strategic decisions to improve performance.

To address this issue, the company requires a simple, accessible, and effective sales analytics dashboard that can be used daily. By leveraging Excel and data analysis tools, this project aims to empower the Sales Director with clear insights and help transition from assumption-based decisions to fact-based, data-driven strategies, ultimately improving sales and operational efficiency.

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Supply Chain Analytics

Key Objectives:

- Analyze order processing time at different stages (order placed → shipped → delivered)
- Identify delays by supplier & geography delivery timelines

INSIGHTS & SOLUTIONS

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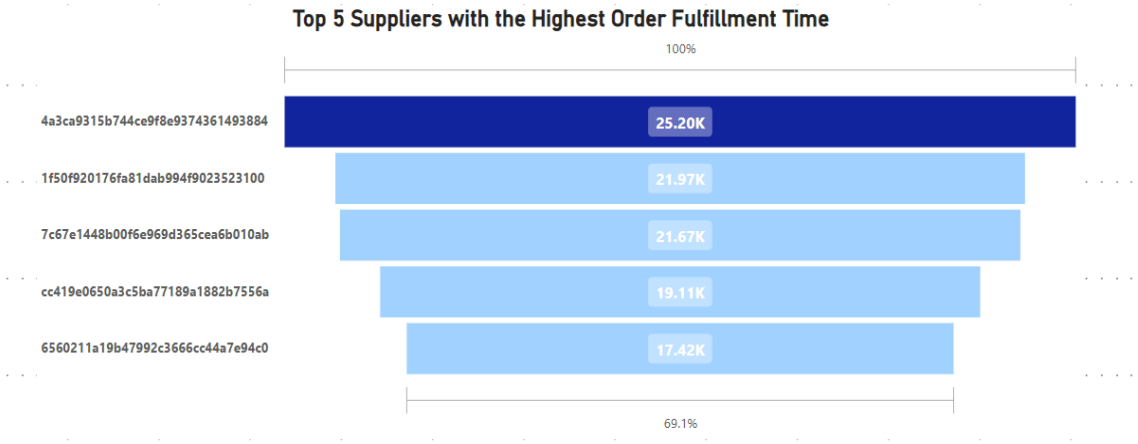
1. Top 5 Suppliers with the Highest Order Fulfillment Time



- **Observation:**
  Supplier 4a3ca9315b744ce9f8e9374361493884 shows the longest fulfillment time (25.2K orders), followed by others with slightly lower volumes.
- **Insight:**
  These 5 suppliers alone account for a large portion of fulfillment delays, likely due to internal process inefficiencies or coordination lags between processing and shipping stages.
- **Why It Matters:**
  Fulfillment time directly affects customer satisfaction. Delays here mean longer lead times, customer churn, and inventory pile-ups downstream.
- **Solution:**
  Initiate a supplier performance audit. Implement SLAs (Service Level Agreements) and enforce them via scorecards. Poor performers can be trained, incentivized, or replaced depending on strategic fit.

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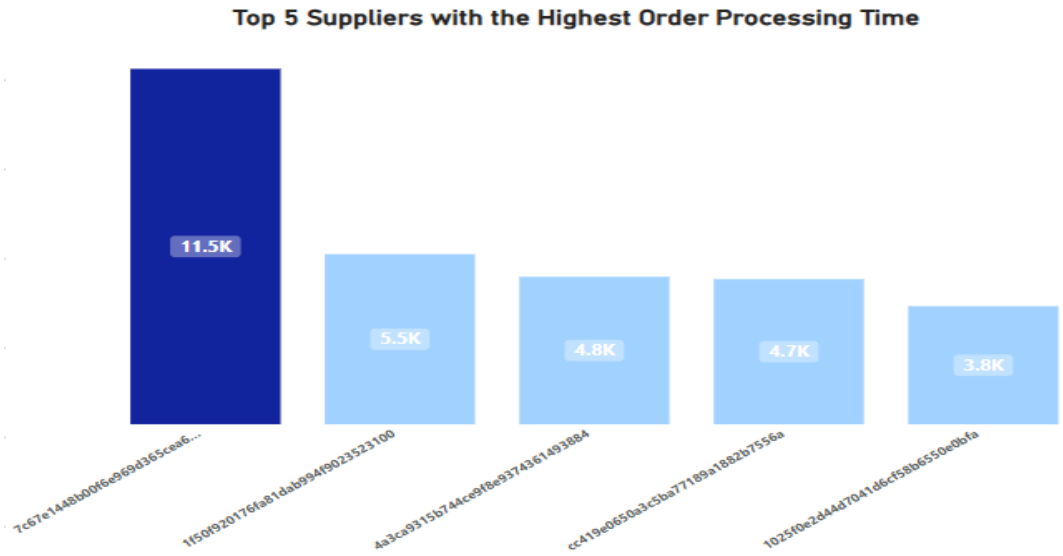
2. Top 5 Suppliers with the Highest Order Processing Time



- **Observation**:
  Supplier 7c67e1448b00f6e969d365cea6b010ab has an extremely high processing time (11.5K orders), more than 2x the next worst supplier.
- **Insight**:
  This suggests that the major delay for this supplier occurs before shipping even begins, possibly due to stockouts, poor inventory planning, or internal approval bottlenecks.
- **Why It Matters:**
  High order processing time delays the entire downstream cycle (shipment, delivery). This bottleneck needs urgent intervention.
- **Solution:**
  Cross-check with inventory turnover rates and order confirmation lag. Introduce automated inventory alerts, ERP-based fulfillment triggers, and perhaps even pre-stocking for recurring demand SKUs.

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3. Top 5 Suppliers with the Highest Order Shipping Time

- **Observation:**
  Supplier 3f2af2670e104d1bcb54022274daeac5 has the highest shipping time (43.1K orders), more than double the next supplier.
- **Insight:**
  This is a logistics-level failure. Either the courier partnership is inefficient, or this supplier is in a location that faces consistent delivery issues (e.g. remote area, rural hub).
- **Why It Matters:**
  Shipping delays erode trust in promised delivery timelines and may violate SLAs with B2B clients.
- **Solution:**
  Investigate alternate logistics partners or optimize route planning with existing carriers. If geographical, consider decentralized warehousing or supplier relocation closer to high-demand zones.

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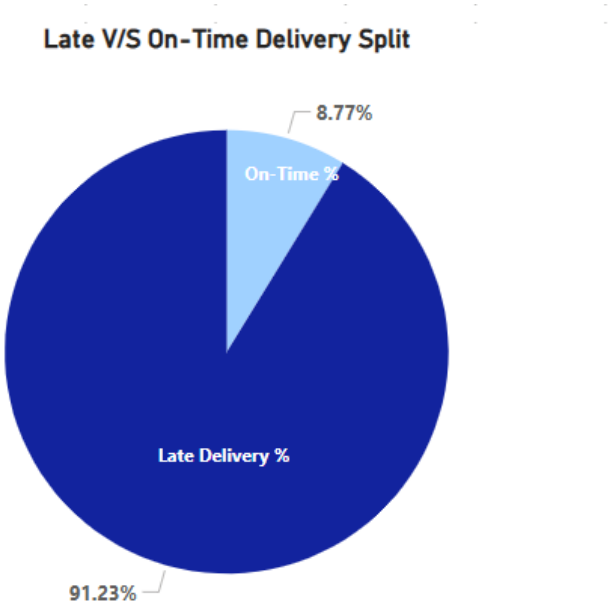
4. Late vs On-Time Delivery Split



- **Observation**:
  91.23% of deliveries are late, only 8.77% are on-time.
- **Insight**:
  This is an alarming KPI. The problem is systemic, not isolated — multiple points in the chain are broken (processing, shipping, coordination).
- **Why It Matters:**
  Late deliveries directly lead to loss of customer loyalty, bad reviews, and missed sales.
- **Solution:**
  Set a baseline on-time delivery KPI target (e.g., 85%), and track real-time order stages. This will identify where slippage is happening daily. Introduce a root-cause dashboard to trace delay patterns.

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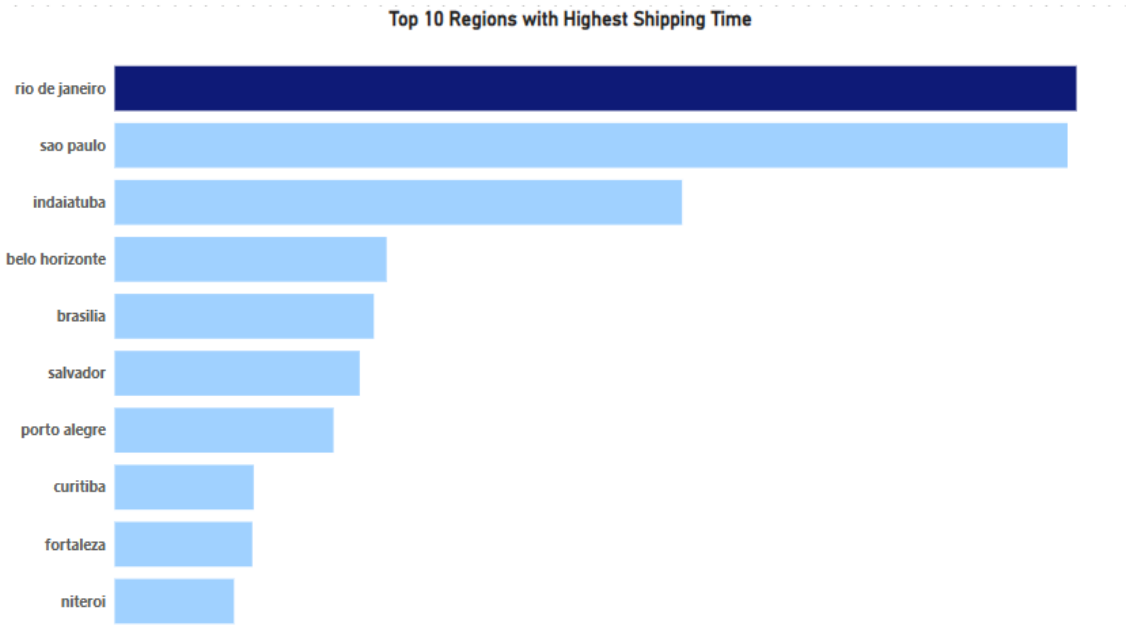
5. Top 10 Regions with Highest Shipping Time



- **Observation**:
  Rio de Janeiro and Sao Paulo have the highest shipping times, followed by Indaiatuba, Belo Horizonte, and others.
- **Insight**:
  Major urban centers — which should ideally have better logistics infrastructure — are facing unusually high delays. This suggests issues with last-mile delivery capacity or warehouse distance.
- **Why It Matters:**
  These are high-demand zones, and inefficiencies here impact volume-heavy clients.
- **Solution:**
  Reevaluate last-mile carrier contracts. Possibly shift to regional fulfillment centers nearer to these metro cities. Evaluate order bundling strategies to reduce shipping delays.

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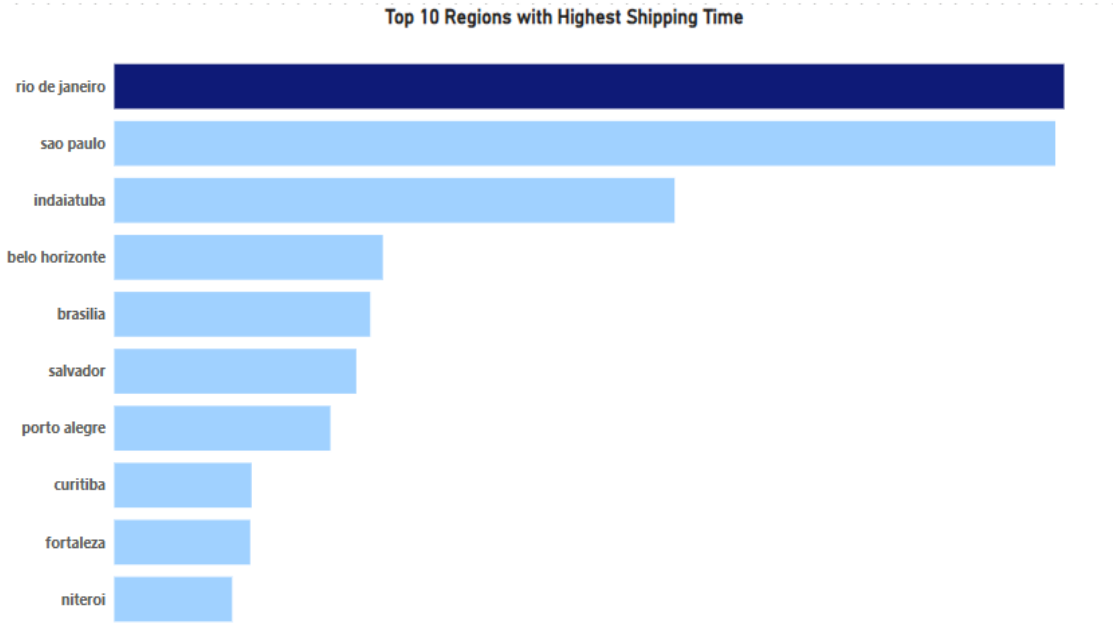
Ops & Logistics Analytics

Key Objectives:

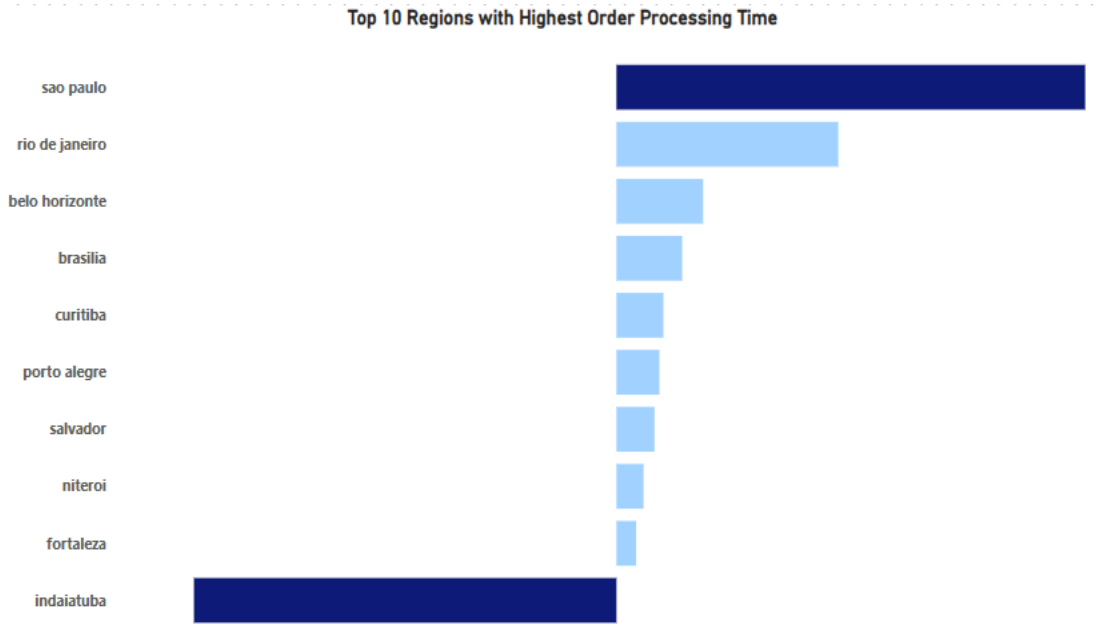
- **Evaluate freight cost efficiency based on order size, weight, distance, and delivery time.**

1. Regions with Highest Order Processing Time



- **São Paulo and Indaiatuba stand out with the longest average order processing times.**
- **Operational Bottlenecks: These cities may be facing delays in warehouse handling, payment confirmation, or order validation.**
- **Actionable Insight: Investigate internal operations and staffing in these cities. Potential for automation or better queue management.**

2. Regions with Highest Order Fulfillment Time



- **São Paulo again tops the list, followed by Rio de Janeiro, Belo Horizonte, and Brasília.**
- **Fulfillment Delay Drivers: Could indicate issues in last-mile delivery, courier inefficiency, or traffic congestion in metro areas.**
- **Interestingly, Indaiatuba (which had high processing time) shows lower fulfillment time, implying efficient delivery operations once processing is complete.**

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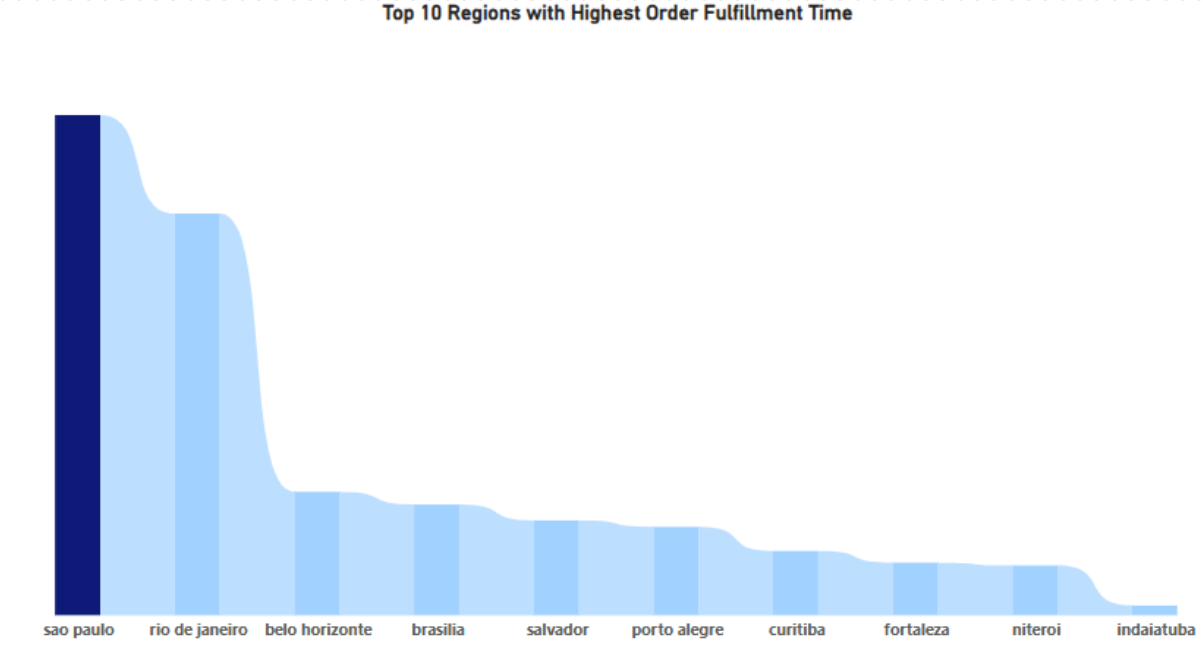
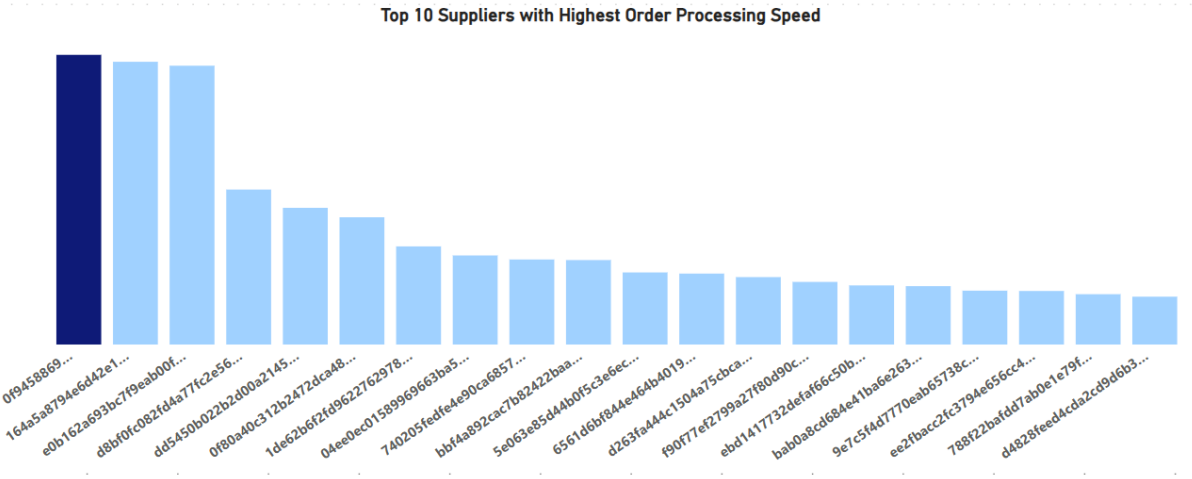
3. Suppliers with Fastest Order Processing Speeds



- **Top 3 suppliers (IDs starting with 0f94588, 1645a87, and eb0162a) significantly outperform others in order handling.**
- **Operational Benchmarking: These suppliers can serve as benchmarks for performance optimization programs.**
- **Opportunity: Consider prioritizing partnerships or incentives with these fast processors to ensure customer satisfaction.**

4. Top 10 Suppliers with Highest Orders Delivered



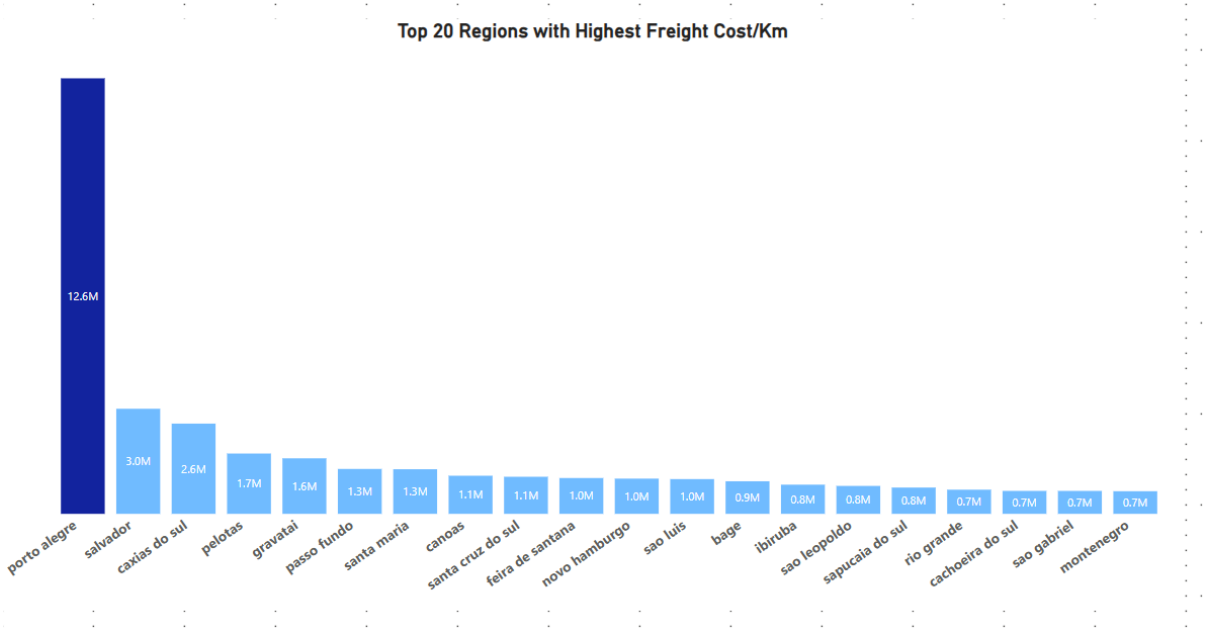
- **The top supplier (ID ending in 44a7e94c0) delivered the highest number of orders, used as the 100% benchmark.**
- **There's a noticeable performance gap after the top 3 suppliers.**
- **Strategic Suggestion: Identify reasons behind high delivery success — reliability, inventory levels, location proximity — and replicate the approach with lower-performing vendors.**

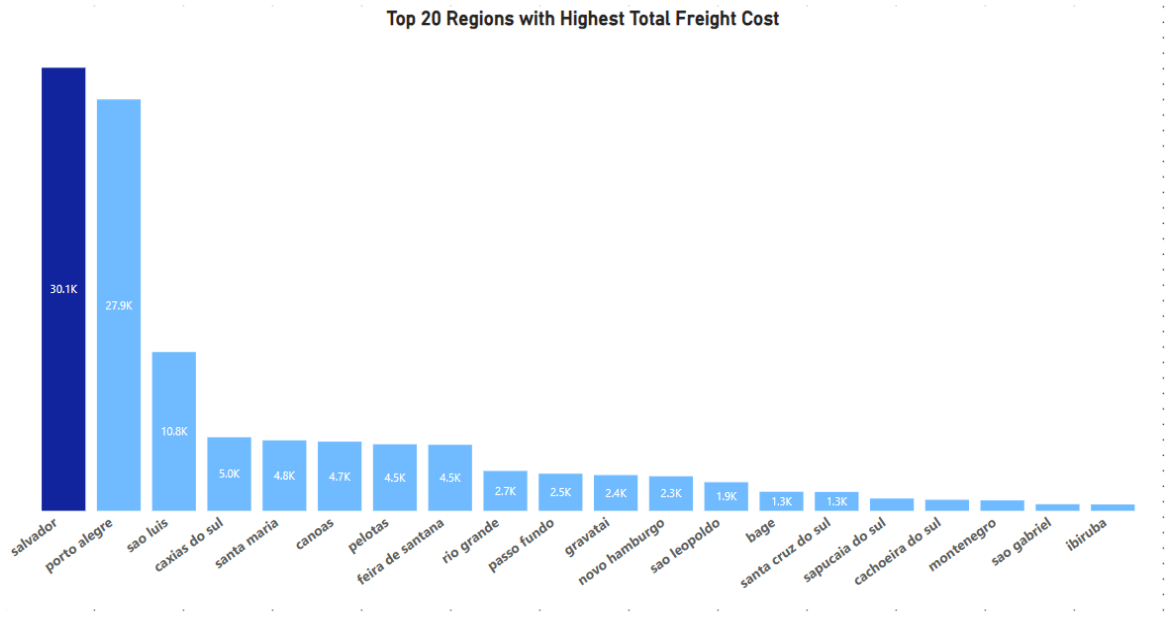
Freight Cost Analytics

Key Objectives:

Evaluate freight cost efficiency based on order size, weight, distance, and delivery time.

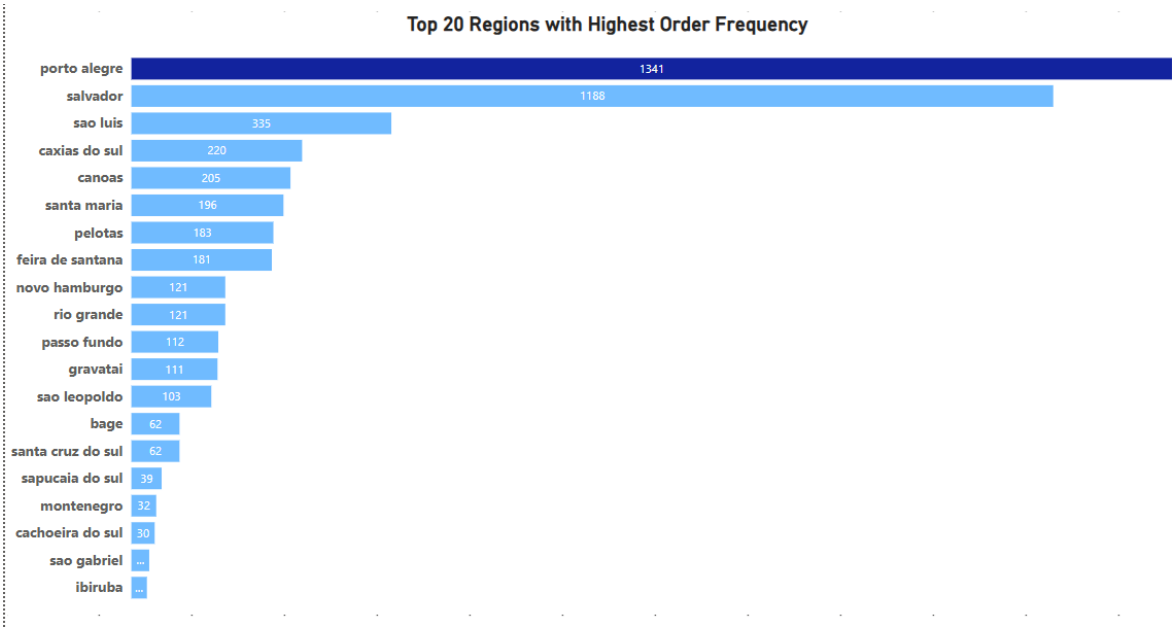
Top 20 Regions with Highest Freight Cost per Kilometer





- **Porto Alegre shows a disproportionately high freight cost (12.6M) compared to all other regions — almost 4x higher than the second place (Salvador).**
- **This outlier indicates either:**
    - **Extremely long delivery distances from supplier hubs.**
    - **Inefficient freight management or poor route optimization.**

- Expensive carrier contracts.



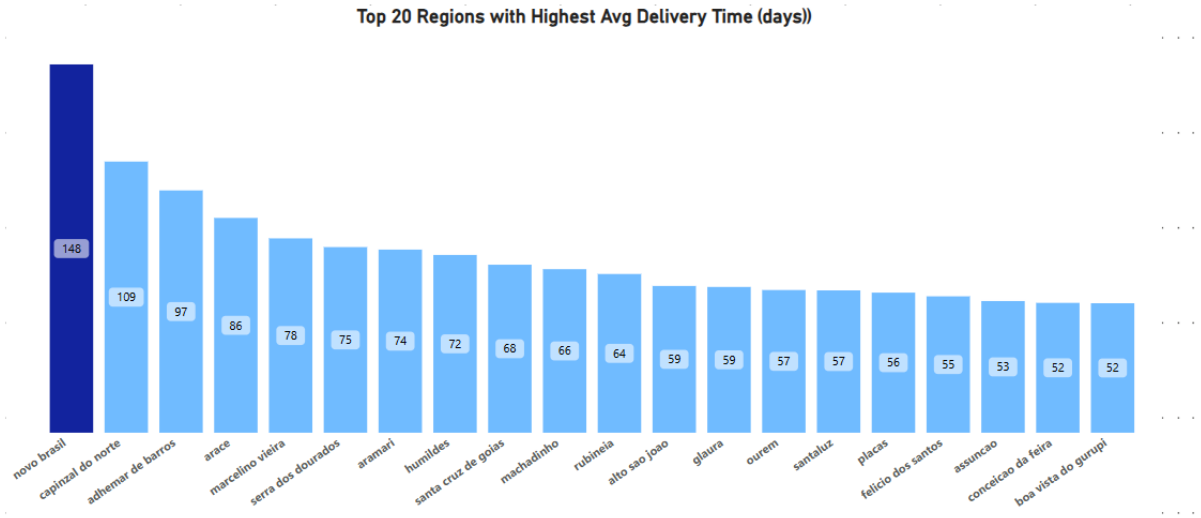
- **Other Notables: Cities like Caxias do Sul, Pelotas, and Gravataí also have moderately high freight costs and should be reviewed.**
- **Recommendation: Investigate Porto Alegre's logistics chain — optimize routes, renegotiate contracts, or explore local warehousing.**

Customer Location-Based Logistics Analysis

Key Objectives:

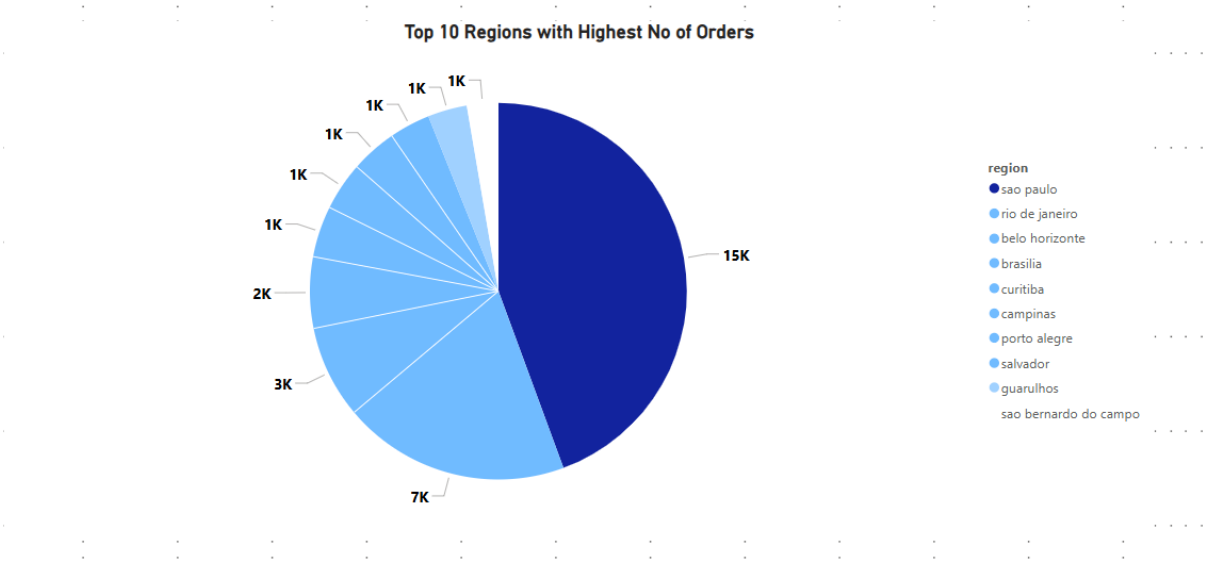
Use geolocation data to analyze delivery efficiency and propose better logistics strategies.

Insight 1: Heavy Dependence on a Few Regions



- **Observation:**
    - ***Porto Alegre (1341 orders)* and *Salvador (1188 orders)* dominate the order frequency.**
    - **The third highest, *Sao Luis*, drops drastically to just *335 orders*.**
    - **The bottom regions like *Ibiriuba* and *Sao Gabriel* have fewer than 40 orders.**
- **Problem Cause:**
    - **Sales are highly concentrated in just 2 regions, showing a lack of balanced regional penetration.**
    - **Regional managers for underperforming areas might not be effectively pushing sales, or there's a lack of customer base or marketing in those regions.**
- **Recommendation:**
    - **Conduct a root cause analysis in low-performing regions: Is it due to weak distributor network, poor promotion, or lack of regional demand?**
    - **Introduce performance KPIs for each regional manager and track their quarterly progress using dashboards.**
    - **Set regional sales targets based on population, market potential, and past trends.**

Insight 2: Freight Cost Inefficiency Risk



- **Observation:**
    - **Several low-order regions like *Sapucaia do Sul, Montenegro, and Ibiriuba* are still part of the shipment network.**
- **Problem Cause:**
    - **Maintaining logistics to low-frequency order zones could be driving up freight costs disproportionately.**
    - **Possible high freight cost per order in these zones if they are remote or have lower delivery frequency.**
- **Recommendation:**
    - **Identify freight cost per order per region and compare it against revenue from each.**
    - **If freight cost exceeds a certain threshold (e.g. 15% of order value), consider:**
        - **Consolidating shipments for remote regions.**
        - **Partnering with third-party regional logistics providers.**
        - **Offering minimum order value discounts to encourage bulk orders in remote regions.**

Insight 3: Lack of Real-Time Sales Visibility for Sales Director

- **Observation:**
    - **Currently, managers are reporting verbally. There's no structured system to visualize real-time data.**

- **Problem Cause:**
    - **No centralized platform for the director to track progress.**
- **Recommendation:**
    - **Develop a live dashboard (in Excel or Power BI) with filters by:**
        - **Region**
        - **Order frequency**
        - **Freight cost**
        - **Profit margin**
        - **Sales trend over time**
    - **Set up automated monthly/quarterly reports emailed to leadership directly from the dashboard tool.**

Insight 4 : Top 10 Regions with Highest Main Transport Cost

Key Insights:

- **São Paulo leads with a massive Main Transport Cost of 89.49, followed by *Rio de Janeiro (58.93)* and *Belo Horizonte (34.57)*.**
- **The gap between São Paulo and the next region is huge (~52%).**

Challenges:

- **High main transport cost in São Paulo could severely impact profitability.**
- **Over-reliance on a few key hubs might be increasing centralized transport loads.**

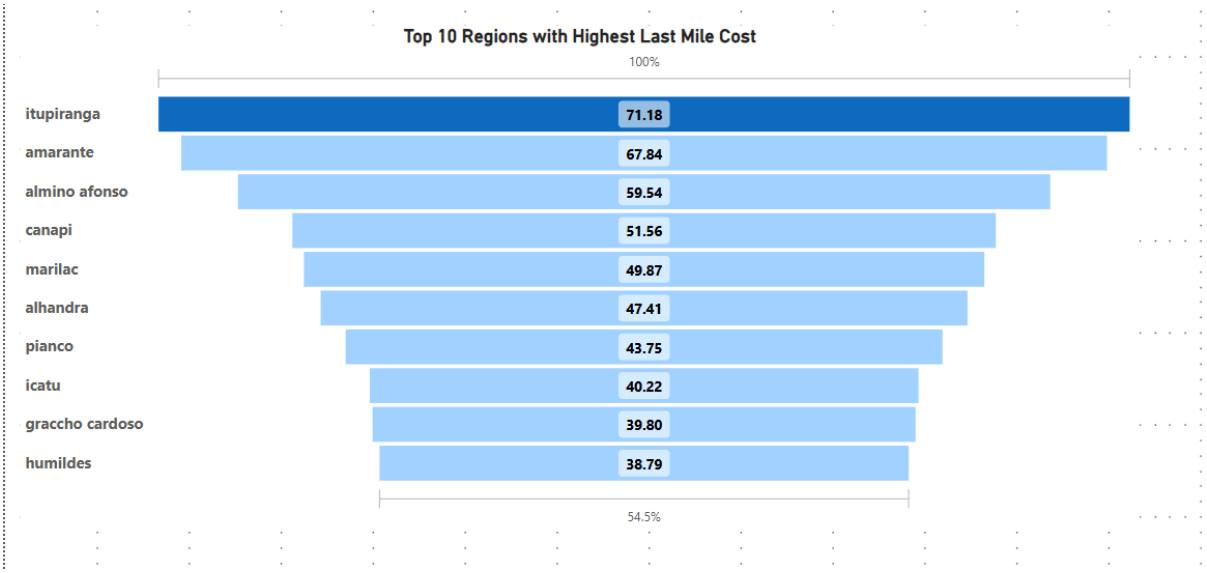
Recommendations:

- **Optimize route planning using historical volume and cost data.**
- **Evaluate decentralized warehouse models to split load from São Paulo to nearby mid-cost cities.**
- **Collaborate with 3PL providers who specialize in dense urban logistics.**

Growth Suggestions:

- **Introduce zonal fulfillment centers to reduce main haul distance from central hubs.**
- **Consider load pooling in high-cost metros using ML-based demand forecasting.**

Insight 5 : Top 10 Regions with Highest Last Mile Cost



Key Insights:

- **Itupiranga has the highest last mile cost at 71.18, followed closely by *Amarante (67.84)*.**
- **All top 10 regions fall below 50% of maximum main transport cost (i.e., they're not key metros but costlier to reach at last leg).**

Challenges:

- **Remote or low-density areas with underdeveloped logistics infrastructure drive up costs.**
- **Potential low volume, high delivery cost dynamic in rural or less accessible regions.**

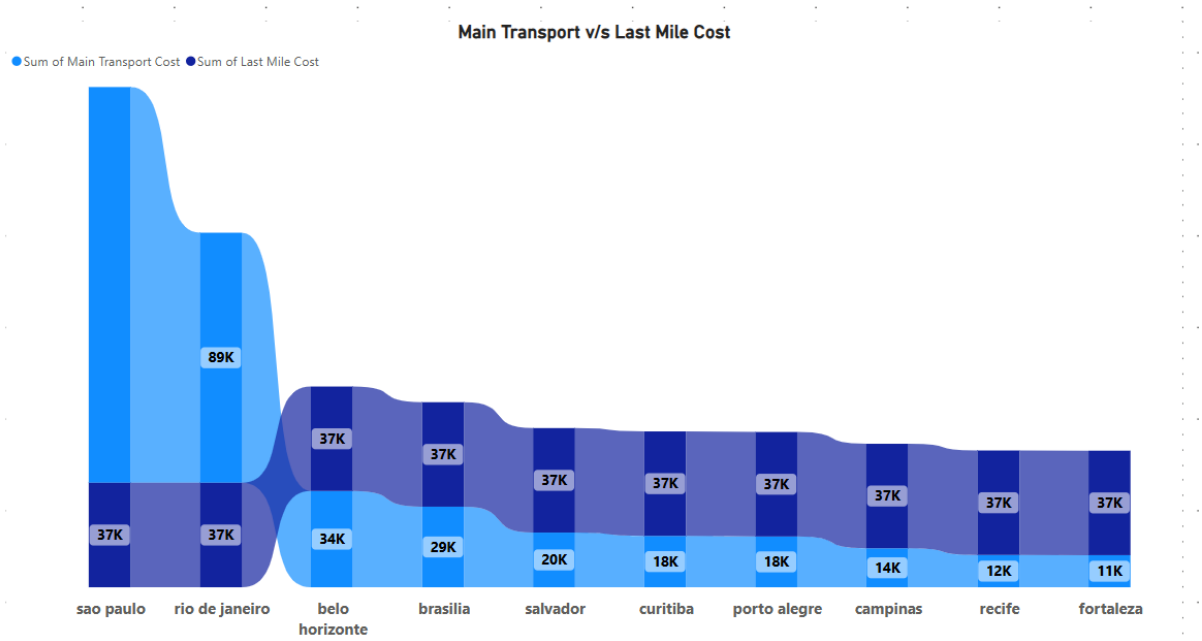
Recommendations:

- **Cluster deliveries using micro-warehousing or regional pick-up points.**
- **Evaluate third-party delivery partners with local presence for last-mile optimization.**
- **Run cost-volume mapping—determine if these zones are profitable or need minimum order limits.**

Growth Suggestions:

- **Pilot smart lockers or community delivery hubs in rural regions.**
- **Integrate local transport providers or gig-based delivery options to cut last-mile costs.**

Insight 6 : Main Transport vs Last Mile Cost (Comparison)



Key Insights:

- **In top cities like São Paulo and Rio, Main Transport Cost is far higher than Last Mile Cost.**
- **In contrast, from Belo Horizonte onwards, the last mile cost dominates.**
- **From *Brasilia* to *Fortaleza*, Last Mile Cost stays flat (~37K) regardless of Main Transport Cost.**

Challenges:

- **Cities with moderate to low main transport cost still show uniformly high last mile cost, hinting at inefficiencies in delivery networks.**
- **Possibly underutilized regional DCs or poor last-mile partner coverage.**

Recommendations:

- **Standardize last-mile logistics contracts to scale with order volume instead of being fixed.**
- **Perform cost-split analysis to understand where each city is losing margin—main transport or last mile.**

Growth Suggestions:

- **Introduce delivery cost-based pricing tiers for customers in high last-mile cost regions.**
- **Use insights to re-prioritize investments—expand last mile capacity in cities where it's proportionally more expensive than main transport.**

Insight 7 : Top 10 Regions with Highest Transport Cost (Total)

Key Insights:

- **São Paulo dominates again with the highest total cost, followed by Rio and Belo Horizonte.**
- **These are core urban hubs—likely high volume and high delivery frequency.**

Challenges:

- **High cumulative cost in these metros can impact net margin, especially if discounting is also prevalent.**
- **May indicate demand concentration, adding pressure on logistics.**

Recommendations:

- **Renegotiate bulk urban delivery contracts.**
- **Explore intra-city consolidation hubs to reduce cost per shipment.**

Growth Suggestions:

- **Consider setting dynamic delivery pricing based on peak load times in major metros.**
- **Run profitability segmentation by city—prioritize efforts in metros where cost vs revenue delta is widest.**

Product & Customer Sentiment Analysis

Key Objectives:

Identify best-selling products and slow-moving inventory to improve stock management.

Evaluate the effectiveness of different payment methods and detect potential fraudulent transactions

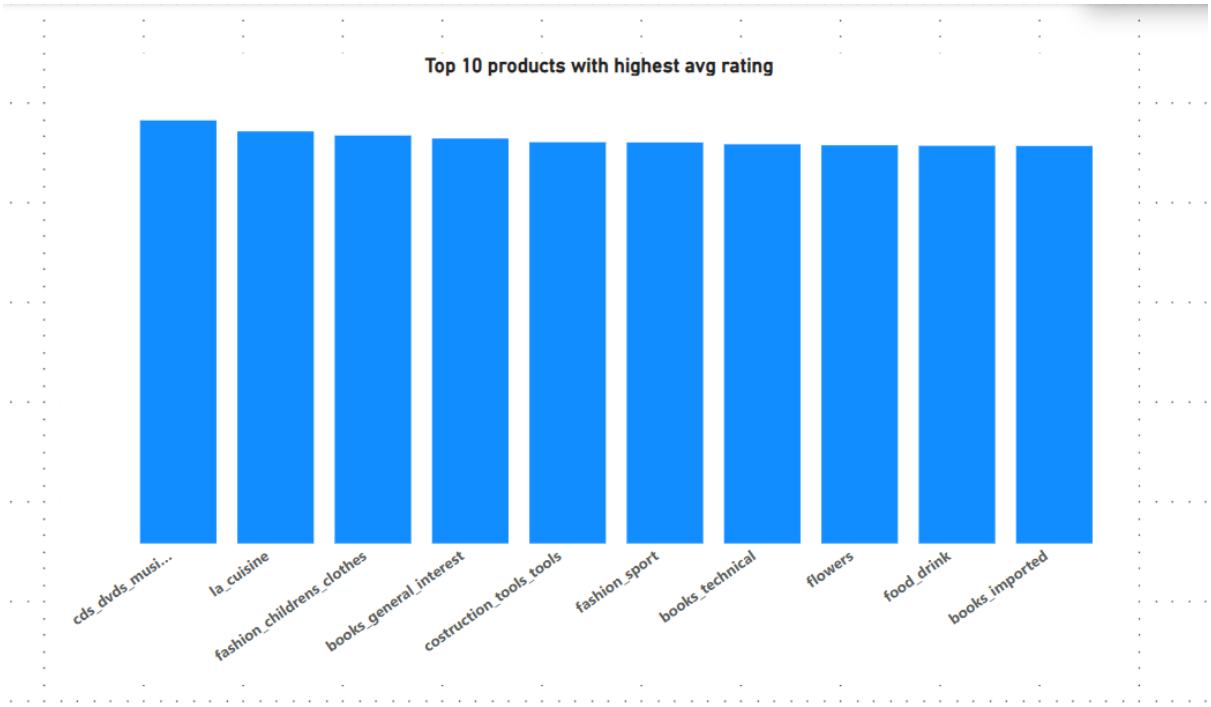
Analyze customer feedback to identify areas for product or service improvement.

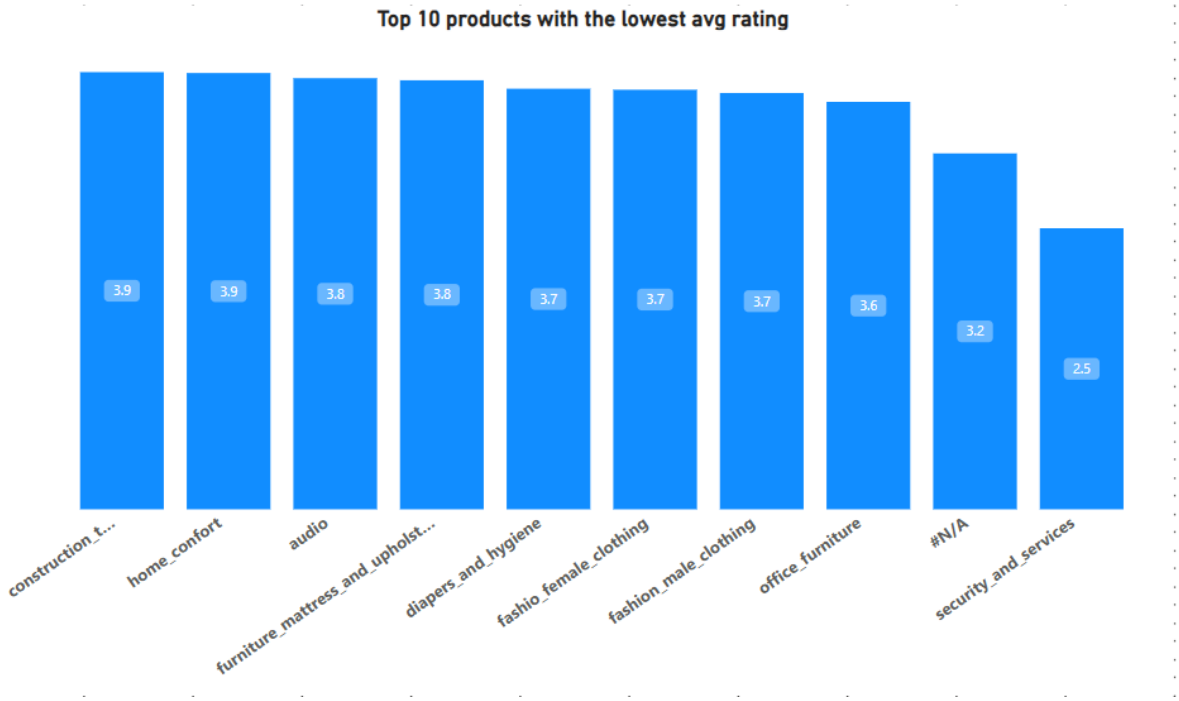
1. Overall Profitability

Insights:

- **Certain markets and categories are significantly more profitable than others.**

- **Body care and hair care products are consistently top profit drivers.**
- **Some markets like Europe and North America show high profitability, especially in specific product categories.**





Recommendations:

- **Focus marketing and inventory efforts on high-profit categories like body and hair care.**
- **Prioritize supply and stock in top-performing markets to reduce out-of-stock issues and boost profits.**

- **Tailor regional promotions: e.g., skincare promotions in Europe vs. fragrance in North America.**

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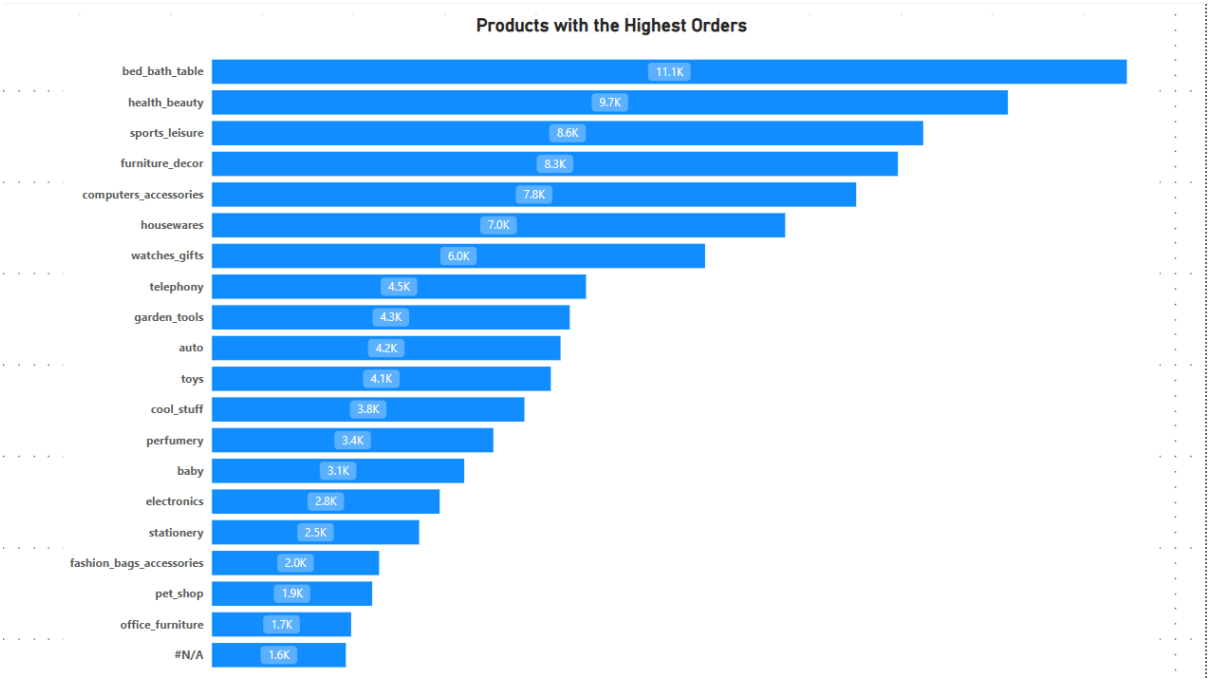
2. Segment & Region Profitability



Insights:

- **Corporate segment leads in profitability across most regions.**
- **The Self-Employed segment has growing potential in emerging markets.**
- **Consumer segment lags behind in profitability but might offer scale benefits.**

Recommendations:

- **Develop segment-specific strategies:**
  - **Corporate: Loyalty programs, B2B bundles.**
  - **Self-Employed: Affordable starter kits, social selling support.**
  - **Consumer: Boost retention with personalized offers or referral bonuses.**
- **Invest in localized promotions to amplify profits in low-performing regions.**

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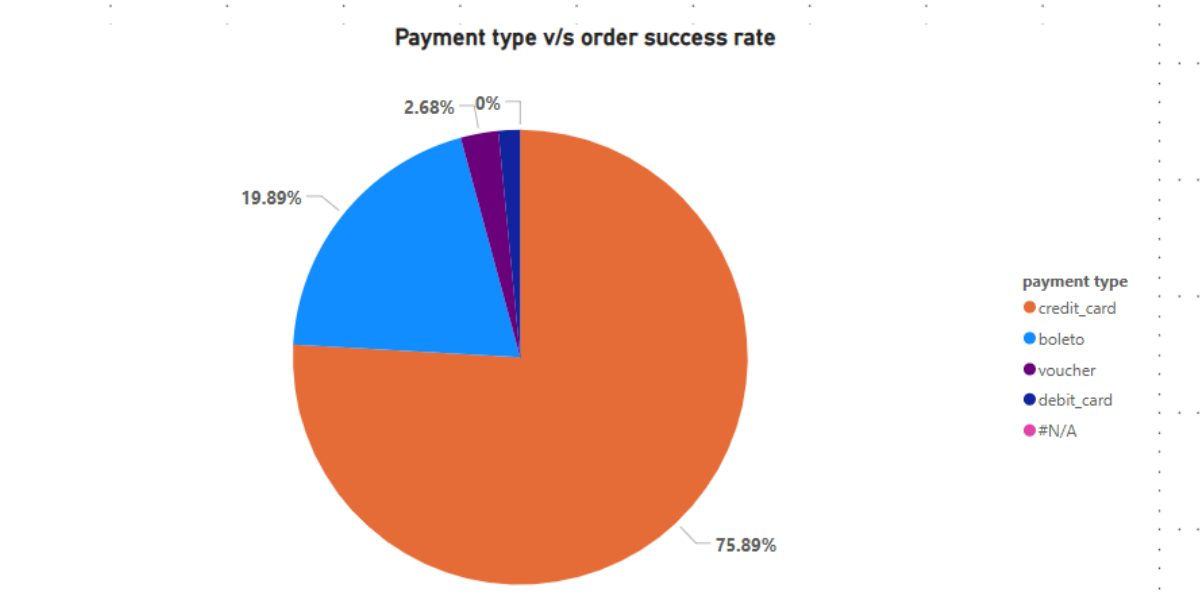
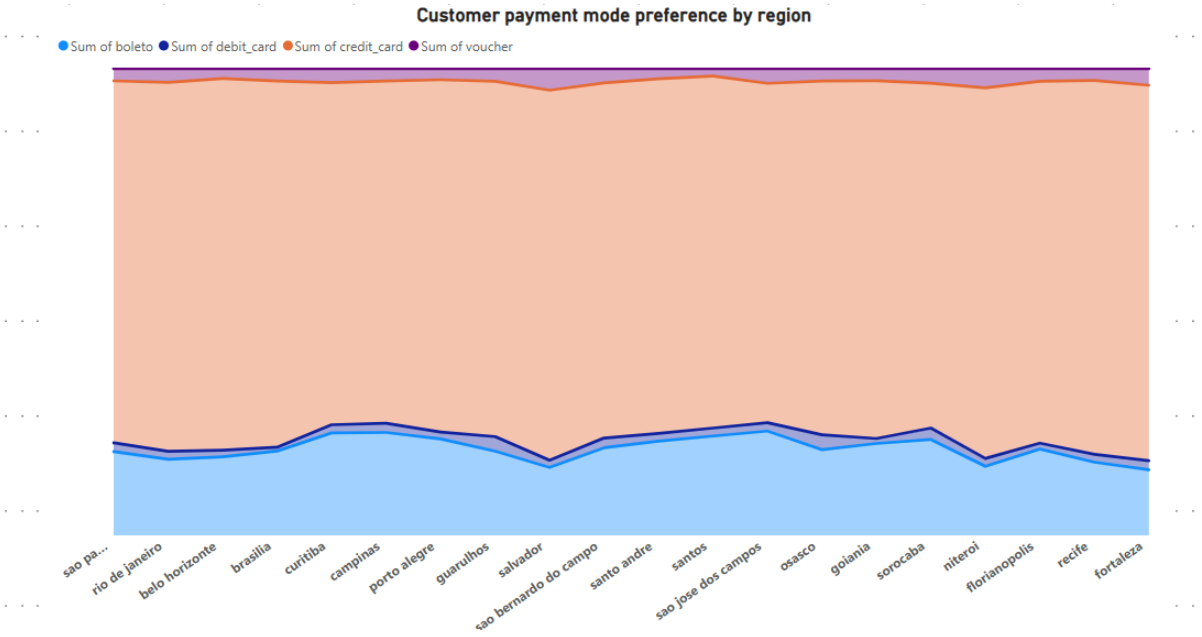
3. Customer & Payment Preferences





Insights:

- **Credit cards are the most preferred and reliable payment method (75.89% of successful orders).**
- **Boleto and debit cards have significantly lower usage.**
- **Customer distribution varies by region, requiring region-specific messaging.**

Recommendations:

- **Optimize checkout experience for credit card users; offer one-click purchase or saved payment details.**

- **Consider incentivizing other payment modes (e.g., small discounts or cashback for debit card use) to expand reach.**
- **Offer localized payment options based on regional behavior.**

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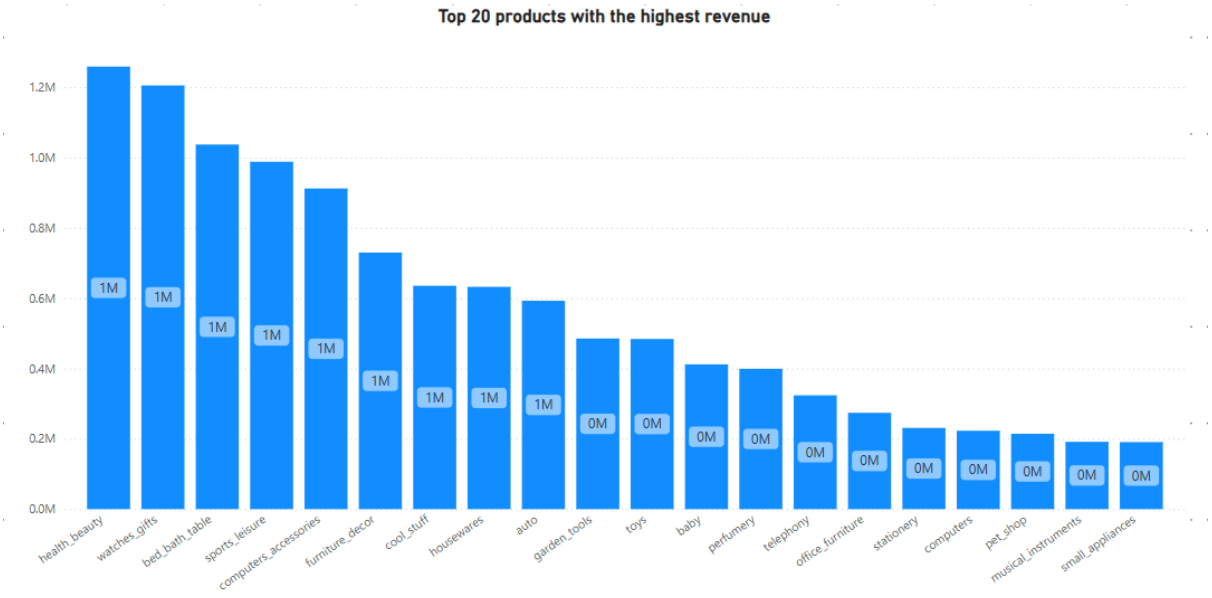
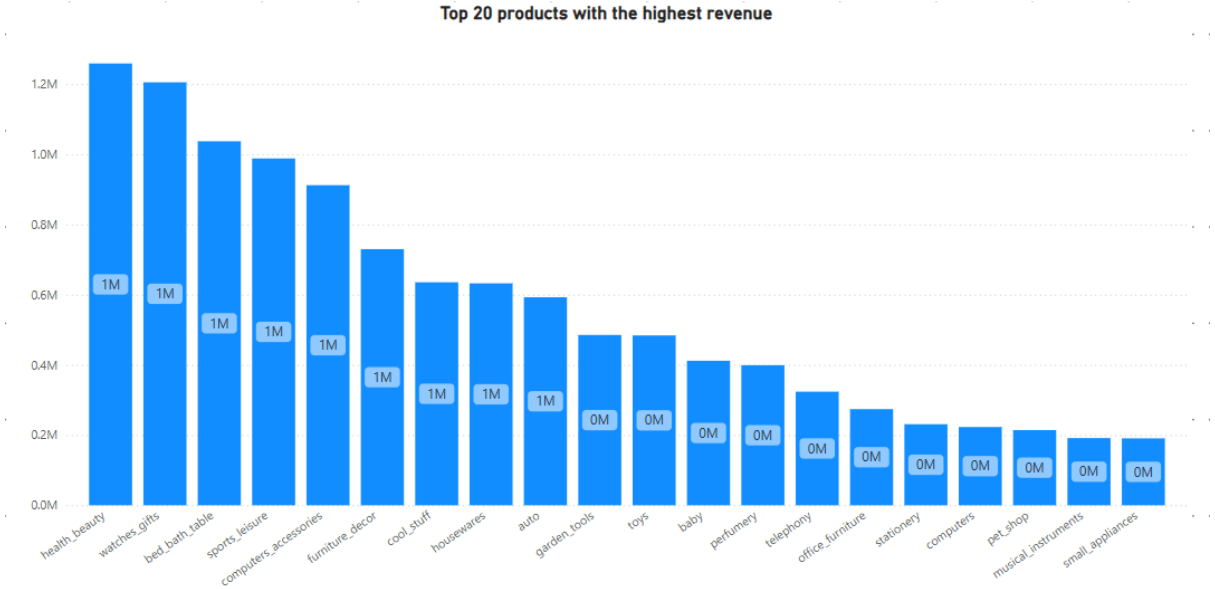
4 Top-Selling & Slow-Moving Products





slow moving product	Sum of total orders	flag
fashion_childrens_clothes	8	slow
security_and_services	2	slow
Total	**10**	

Insights:

- **Bed, bath & table, health beauty, and sports leisure are top sellers.**
- **Security & services and children's fashion are slow-moving.**

Recommendations:

- **For top-selling products, maintain buffer stock, optimize fulfillment, and offer upselling/cross-selling options.**
- **For slow-moving products:**
    - **Run clearance or flash sales.**
    - **Bundle with more popular products.**
    - **Analyze product reviews or pricing for possible improvement.**
