

Olist Analytics Platform

Deploy

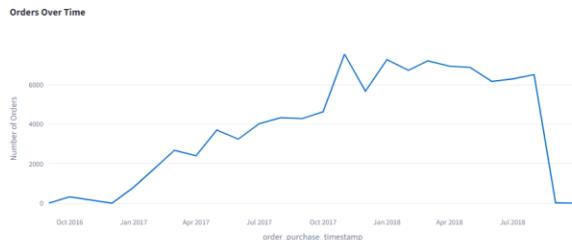
Advanced E-commerce Analytics & Predictive Intelligence

Executive Dashboard

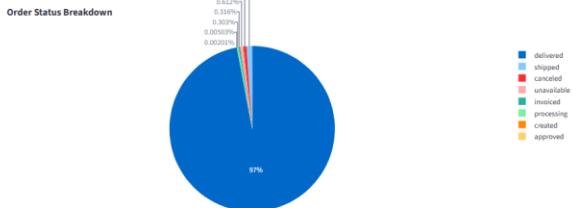
Key Business Metrics & Performance Overview

Total Orders	Total Revenue	Average Order Value	Delivery Rate
99,441	R\$ 13,591,644	R\$ 137.75	97.0%

Monthly Order Trends



Order Status Distribution



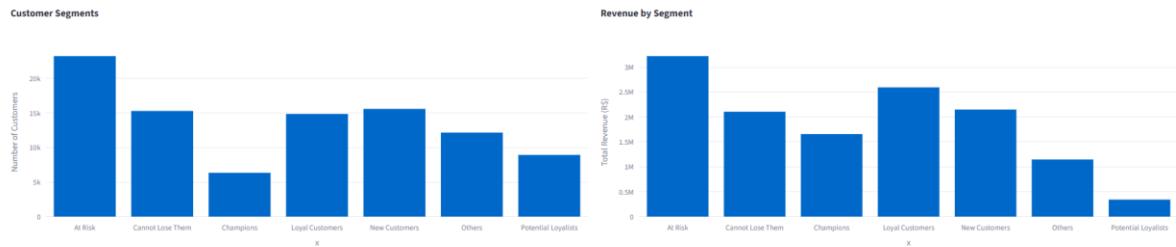
Executive Dashboard

Provides a real-time overview of key business metrics using live data pipelines and ML-processed insights.

- KPIs:** Total Orders, Revenue, Avg. Order Value, Delivery Rate
- Trends:** Interactive time-series chart to analyze seasonal order fluctuations
- Logistics:** Pie chart showing order status distribution (e.g., delivered, shipped, canceled)

💡 Built using Python (Pandas, Plotly), deployed via Streamlit, with pre-processed Olist datasets.

Customer Segmentation Insights



Key Business Insights

Growth Trajectory
Strong order volume growth with consistent month-over-month increases. Peak performance in Q2-Q3.

Customer Base
Diverse customer segments identified. Focus on converting "At Risk" customers to loyal buyers.

Operations
High delivery success rate. Opportunity to optimize cross-state logistics for faster delivery.

Highlights key customer behavior patterns and operational takeaways.

- Customer Segments:** Classifies customers into At Risk, Loyal, Champions, etc. based on buying behavior
- Revenue by Segment:** Identifies which groups drive the most revenue
- Business Insights:** Auto-generated strategic recommendations around growth, retention, and delivery optimization

💡 Showcases behavioral segmentation, revenue analysis, and strategic insight generation.

Olist Analytics Platform

Advanced E-commerce Analytics & Predictive Intelligence

🚚 Advanced Delivery Prediction & Analytics

ML-Powered Logistics Intelligence with Interactive Analytics

🕒 Single Prediction 📊 Batch Analysis 📈 Scenario Comparison 🌎 Geographic Insights 📈 Historical Analysis

Interactive Order Prediction

Geographic Configuration

Customer State

SP — São Paulo

Seller State

RJ — Rio de Janeiro

⚠ Cross-state delivery - Extended shipping time expected

Order Details

Number of Items

1

Or enter manually:

1

Live Prediction Results

Predicted Delivery
11.0 days

Range: 8.5-13.5

Late Risk
44.1%

High

⚠ Cross-state delivery - Extended shipping time expected

Order Details

Number of Items

1

Or enter manually:

1

Late Risk

44.1%

High

Total Order Value (R\$)

100

Or enter manually (R\$):

100.00

Late Risk %

44.1

Freight Cost (R\$)

20

Or enter manually (R\$):

20.00

Timing Configuration

Purchase Month

May

Day of Week

Wednesday

Historical Context

Cross-state average: 15.2 days

Optimization Suggestions

💡 Consider expedited shipping (+R\$15) to reduce risk



Prediction – Delivery Forecasting

This module provides **real-time delivery estimation** using machine learning. Users can simulate order delivery by configuring:

- **Customer and Seller Locations** (e.g., São Paulo → Rio de Janeiro)
- **Order Details:** number of items, total order value, freight cost
- **Timing Inputs:** purchase month and weekday

The output includes:

- 📦 **Predicted Delivery Time** (e.g., 11.0 days)
- 📈 **Late Delivery Risk** (e.g., 44.1% – High Risk)
- 📈 **Historical Benchmark** (e.g., average delivery time for similar orders)
- 💡 **Optimization Tips:** actionable insights like "consider expedited shipping"

This tool demonstrates your ability to build **interactive ML-driven forecasting** applications with real-world variables and user-friendly interfaces.

The screenshot shows the Olist Analytics Platform interface. At the top, there's a logo with a shopping cart icon and the text "Olist Analytics Platform". Below it, a sub-header reads "Advanced E-commerce Analytics & Predictive Intelligence". A section titled "Advanced Delivery Prediction & Analytics" features a truck icon. Underneath, "ML-Powered Logistics Intelligence with Interactive Analytics" is mentioned. A navigation bar includes links for "Single Prediction", "Batch Analysis" (which is highlighted in red), "Scenario Comparison", "Geographic Insights", and "Historical Analysis". The main content area is titled "Batch Order Analysis" and includes a sub-instruction "Upload multiple orders for bulk prediction analysis". It has a "Choose CSV file" button and a "Drag and drop file here" input field with a 200MB limit. A "Browse files" button is also present.

Batch Order Analysis – Bulk Delivery Forecasting

This feature enables users to upload a **CSV file** containing multiple orders to run **batch predictions** at scale.

- Ideal for operations teams to assess delivery performance across thousands of orders.
- Accepts .csv files up to **200MB** for seamless integration with enterprise-level logistics data.

Skill Highlight: Demonstrates your ability to build **scalable ML pipelines**, handle **file input validation**, and support **bulk predictions**—a crucial capability in real-world e-commerce applications.

The screenshot shows the Olist Analytics Platform interface again. The "Batch Analysis" section is active. It includes a "Scenario Comparison" section with a sub-instruction "Compare different order configurations side-by-side". A "Number of scenarios to compare" input field shows the value "2". Below, two columns for "Scenario 1" and "Scenario 2" show dropdown menus for "Template 1" (Custom) and "Template 2" (Custom). Under "Customer 1", "Seller 1", and "Seller 2", dropdown menus show "AC" and "AL" respectively.

Template 1	Template 2
Custom	Custom
Customer 1	Customer 2
AC	AL
Seller 1	Seller 2
AC	AC
Items 1	Items 2
1	1
Price 1	Price 2
100	150
Freight 1	Freight 2
20	20
Month 1	Month 2
1	12
Day 1	Day 2
0	6
Delivery	Delivery
15.3 days	25.6 days
Risk	Risk
32.7%	14.1%

🚚 Scenario Comparison – Delivery Forecasting

This interactive module enables **side-by-side comparison** of multiple order configurations to evaluate delivery time and risk under different conditions. Users can input custom values for states, item count, order value, freight, and timing to simulate realistic logistics scenarios.

Key Highlights:

- Predicts **delivery duration** and **late delivery risk %** for each scenario.
- Ideal for **what-if analysis**, logistics optimization, and client delivery estimates.
- Showcases ability to build dynamic ML dashboards for **real-time decision support**.

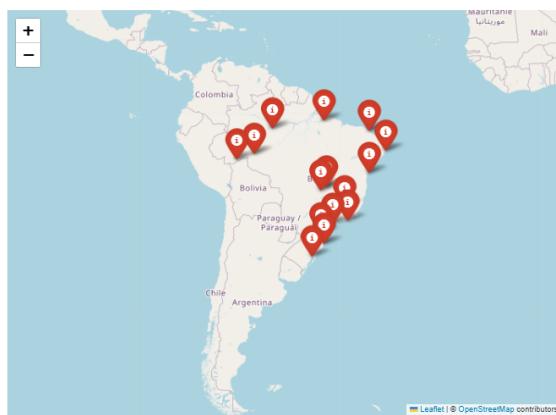
🚚 Advanced Delivery Prediction & Analytics

ML-Powered Logistics Intelligence with Interactive Analytics

Single Prediction Batch Analysis Scenario Comparison Geographic Insights Historical Analysis

Geographic Delivery Intelligence

Interactive map showing average delivery times between states



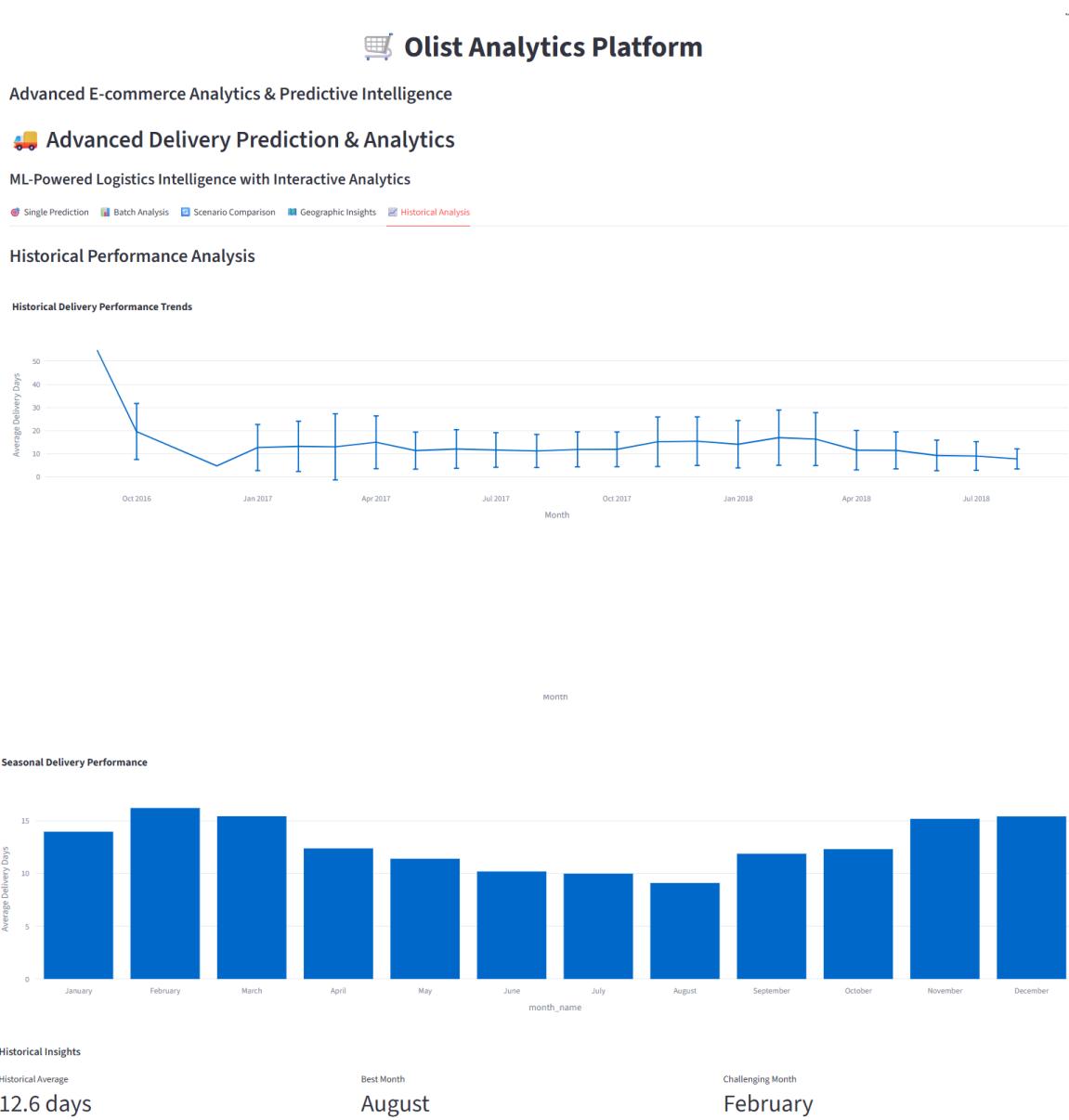
State-to-State Delivery Time Matrix

🌐 Geographic Insights – Delivery Intelligence Map

This module presents an **interactive map** visualizing average delivery times across Brazilian states, offering a **geospatial perspective** on logistics delays.

Key Highlights:

- Plots state-to-state delivery routes with associated average times.
- Enables quick identification of **delay-prone regions**.
- Demonstrates integration of **Leaflet.js + predictive analytics** for logistics heatmaps.



Historical Analysis: Delivery Trends Over Time

The **Historical Performance Analysis** module provides a time-based view of delivery performance across the platform, enabling stakeholders to assess long-term improvements and seasonal fluctuations in delivery times.

Historical Delivery Performance Trends

A line chart tracks **average delivery days** from October 2016 to July 2018, with accompanying error bars representing monthly variability.

- Notable **drop in delivery time** post-October 2016, indicating early operational improvements.
- Delivery performance **stabilized between 10 to 15 days** throughout 2017–2018.
- Error bars suggest consistent performance with moderate monthly variation.

Seasonal Delivery Performance

A bar chart illustrates average delivery duration by month, highlighting recurring seasonal patterns:

- **Best-performing month: August**, with the shortest average delivery time.
- **Most challenging month: February**, exhibiting the highest delays.
- **Overall historical average: 12.6 days**.

These insights help logistics teams proactively plan around high-delay periods and optimize resource allocation based on seasonal trends.

Advanced E-commerce Analytics & Predictive Intelligence

Customer Intelligence & Segmentation Analytics

Advanced RFM Analysis with Predictive Customer Insights

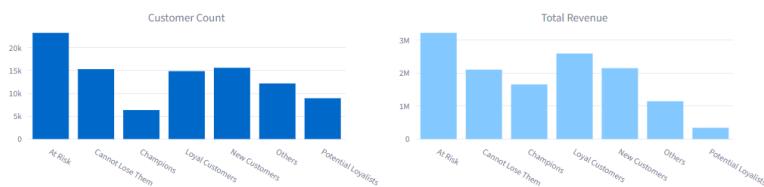
[Customer Segments](#) [RFM Analysis](#) [Customer Lifetime Value](#) [Churn Risk Analysis](#)

Interactive Customer Segmentation Dashboard

Total Customers: 96,476 Total CLV: R\$ 13,220,895 Average CLV: R\$ 137.04 Repeat Customer Rate: 0.0%

Select segments to analyze:

[At Risk](#) [Cannot Lose Them](#) [Champions](#) [Loyal Customers](#) [New Customers](#) [Others](#) [Potential Loyalists](#)



Segment Insights

Top Revenue Segment At Risk R\$ 3,222,698

High-Value Customers 9619 customers (Top 10% by CLV)

At-Risk Customers 23247 customers Need immediate attention

Recommended Actions

• Re-engage 23247 at-risk customers with personalized offers

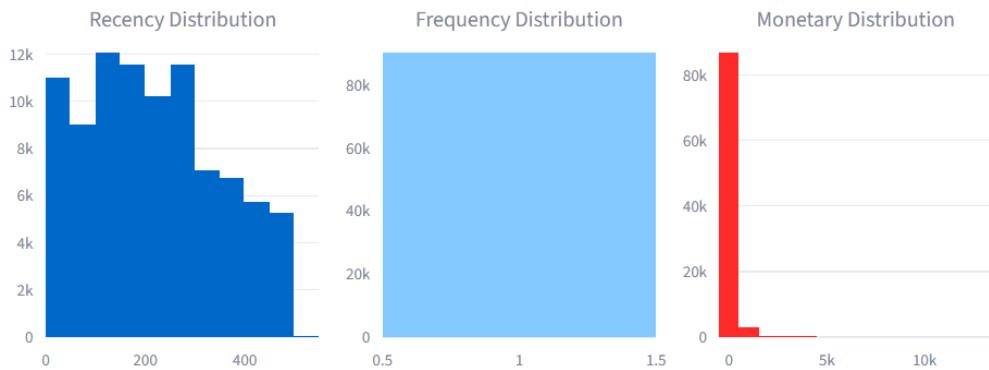


22 Customer Intelligence & Segmentation Analytics

This module applies advanced **RFM segmentation** and **predictive analytics** to classify customers into actionable cohorts. It supports:

- **Customer segmentation** using recency, frequency, and monetary patterns
- **Interactive filtering** across segments such as *At Risk*, *Champions*, *Loyal*, and more
- **Visual comparisons** of customer count, revenue contribution, and CLV across segments
- **Automated insight generation** (e.g., top revenue segment, high-value customers)
- **Personalized retention strategy suggestions** for at-risk cohorts
- **CLV-focused prioritization** for marketing and sales initiatives

These capabilities demonstrate strong integration of behavioral analytics, customer lifecycle modeling, and strategic decision support.



🔍 Customer Intelligence > RFM Analysis

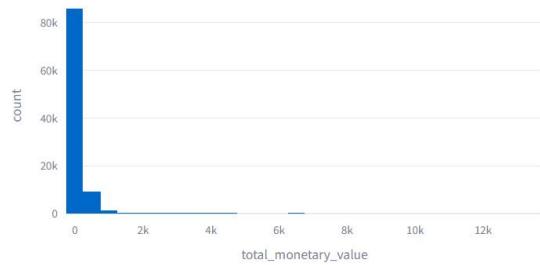
The **RFM Analysis** module enables advanced customer segmentation using Recency, Frequency, and Monetary metrics. It includes:

- **Interactive 3D Visualization** to identify high-value segments like Champions and Loyal Customers.
- **Dynamic Threshold Filters** for fine-tuned segmentation based on CLV, recent activity, and purchase behavior.
- **Distribution Charts** that reveal skewness and concentration of customer behaviors across RFM dimensions.

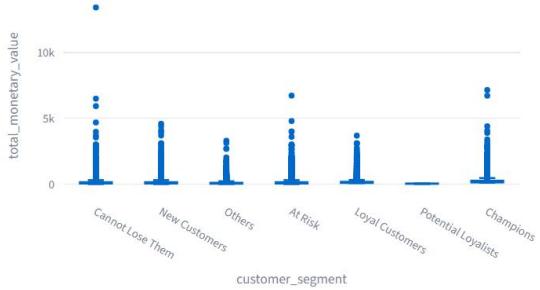
This analysis equips businesses to design targeted retention and reactivation strategies based on real-time segment performance.

Customer Lifetime Value Prediction

Customer Lifetime Value Distribution



CLV Distribution by Segment



Top 10 Customers by CLV

Top 10 Customers by CLV

	customer_id	total_monetary_value	order_frequency
8293	1617b1357756262bfa56ab541c47bc16	13440	1
89274	ec5b2ba62e574342386871631fafd3fc	7160	1
75241	c6e2731c5b391845f6800c97401a43a9	6735	1
92309	f48d464a0baaea338cb25f816991ab1f	6729	1
24067	3fd6777bbce08a352fddd04e4a7cc8f6	6499	1
2007	05455dfa7cd02f13d132aa7a6a9729c6	5934.6	1
84350	df55c14d1476a9a3467f131269c2477f	4799	1
13871	24bbff5fd2f2e1b359ee7de94defc4a15	4690	1
23251	3d979689f636322c62418b6346b1c6d2	4590	1
77365	cc803a2c412833101651d3f90ca7de24	4400	1

CLV Insights

CLV Insights

Average CLV: R\$ 137.04

Median CLV: R\$ 86.50

Pareto Principle: Top 20% customers generate 56.4% of revenue

🔍 Customer Lifetime Value (CLV) Prediction

This section leverages transactional data to predict Customer Lifetime Value (CLV), helping businesses identify their most valuable customers.

Key Capabilities:

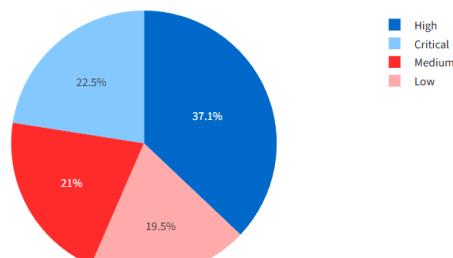
- Visualizes CLV distribution across segments for quick insights.
- Highlights top 10 high-value customers based on monetary value and order frequency.
- Identifies skewed contribution patterns using the **Pareto Principle** (top 20% of customers drive over half the revenue).
- Equips decision-makers to prioritize retention efforts on high-value segments.

Skill Highlighted:

Customer-centric segmentation, value modeling, revenue optimization strategy.

Churn Risk Analysis & Retention Strategies

Customer Churn Risk Distribution



Retention Strategy Recommendations

Urgent Action Required 57463 customers at high churn risk

High-Value at Risk 16993 valuable customers need immediate attention

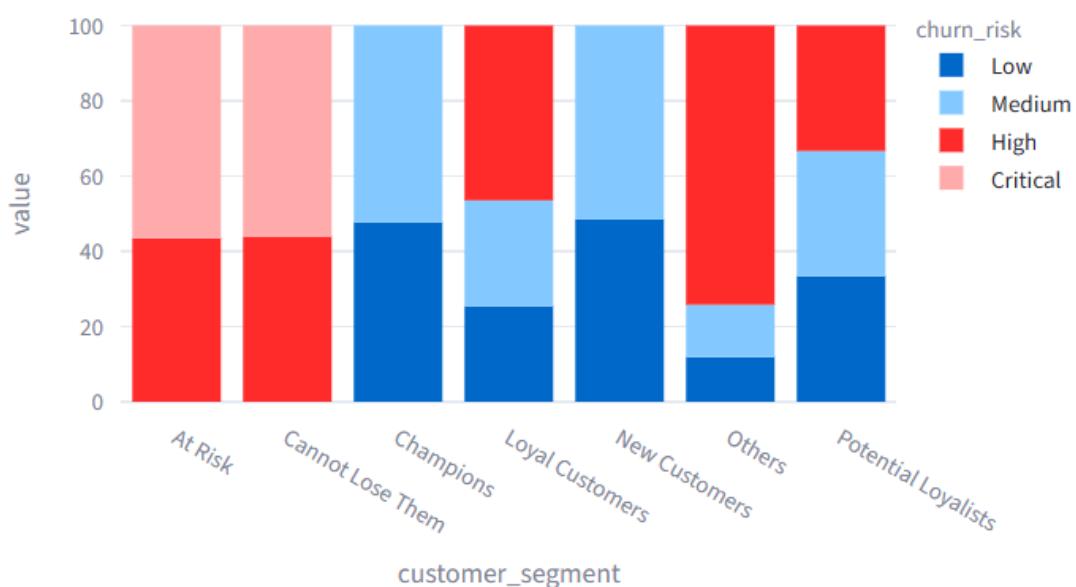
Recommended Retention Tactics

Critical (21721 customers) • Personal outreach calls • Exclusive win-back offers • Account manager assignment

High Risk (35742 customers) • Email re-engagement campaigns • Discount incentives • Product recommendations

Medium Risk (20206 customers) • Newsletter engagement • Loyalty program enrollment • Seasonal promotions

Churn Risk by Customer Segment (%)



Customer Intelligence: Churn Risk Analysis & Retention Strategies

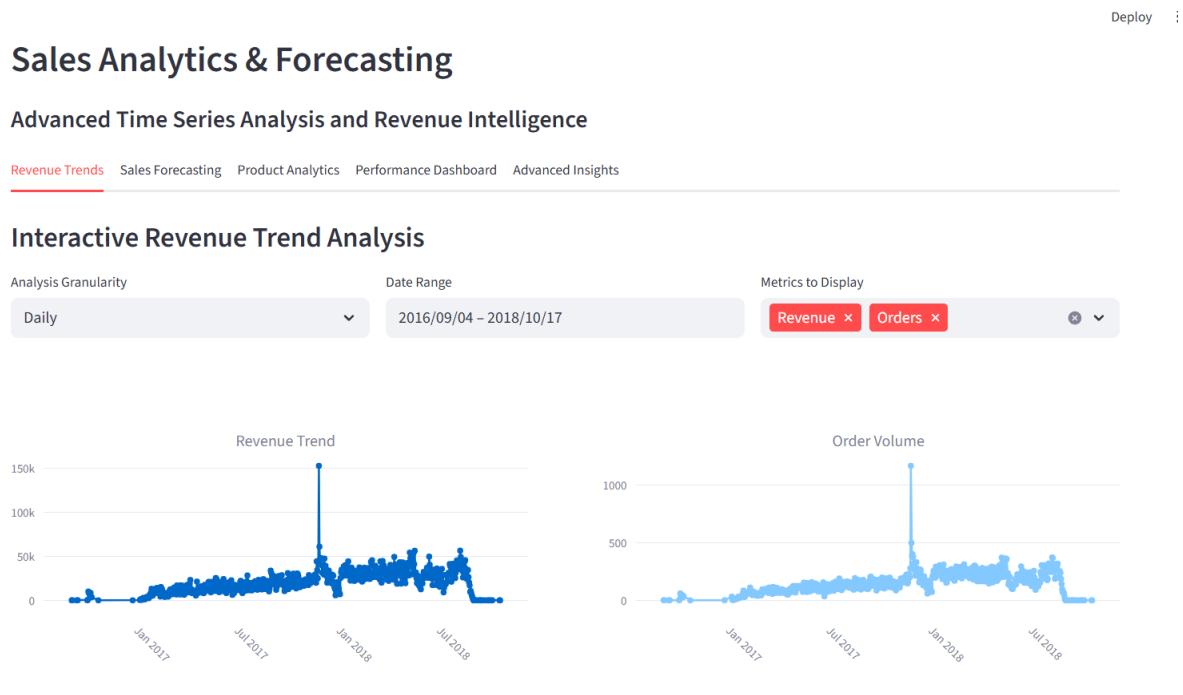
This dashboard evaluates customer churn risk levels across all segments and provides targeted retention strategies.

Key capabilities demonstrated:

- Churn Risk Classification:** Customers are categorized into Low, Medium, High, and Critical churn risk groups based on behavioral data.
- Segment-Wise Churn Breakdown:** Visual distribution of churn risk across key customer segments, aiding in identifying the most vulnerable cohorts.

- **Retention Strategy Recommendations:** Specific tactics are suggested for each churn risk category—from exclusive win-back offers to email re-engagement and loyalty programs.
- **Actionable Insights:** Highlights urgency and prioritization, identifying thousands of customers needing immediate retention efforts.

👉 This section emphasizes skills in churn modeling, customer segmentation, and action-oriented strategy design.



📈 Sales Analytics & Forecasting: Advanced Sales Forecasting

This module provides robust revenue forecasting using time series analysis.

Key capabilities demonstrated:

- **Dynamic Forecasting:** Users can forecast revenue for any custom number of future periods.
- **Confidence Interval:** Incorporates a 95% confidence level for forecast projections, adding statistical rigor.
- **Trend & Seasonality Controls:** Toggleable components to refine forecasts based on underlying trends and seasonal patterns.
- **Visual Forecasting Output:** Clearly distinguishes between historical data and predicted values, with shaded confidence bands for uncertainty visualization.

👉 This section reflects skills in time series forecasting, confidence interval modeling, trend analysis, and business forecasting logic.

Sales Analytics & Forecasting

Advanced Time Series Analysis and Revenue Intelligence

Revenue Trends **Sales Forecasting** Product Analytics Performance Dashboard Advanced Insights

Advanced Sales Forecasting

Forecasting Parameters

Forecast Periods **3**

Metric to Forecast **Revenue**

Confidence Level (%) **95**

Include Seasonality

Include Trend

Generate Forecast

Revenue Forecast - Next 3 Periods



Sales Forecasting

This section offers interactive forecasting of revenue with adjustable forecasting parameters.

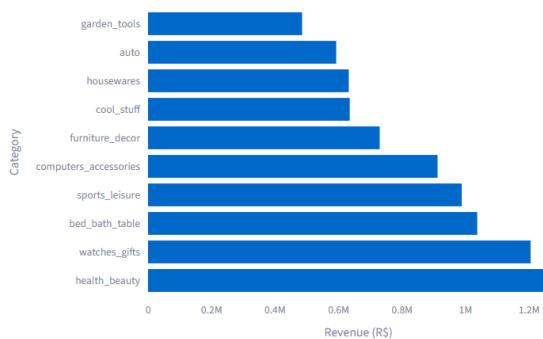
Core Features Demonstrated:

- Forecast future revenue for a chosen number of periods.
- Set custom confidence levels (e.g., 95%) to control the uncertainty range.
- Option to include or exclude **trend** and **seasonality** effects.
- Forecasted values are visually separated from historical data with shaded confidence bands for clarity.

Demonstrates practical knowledge of time series forecasting, seasonality trends, business analytics, and statistical confidence intervals.

Product Performance Analytics

Top 10 Categories by Revenue



Category Performance Matrix



Product Performance Insights

Top Category

health_beauty...

Active Categories

71

Highest AOV Category

R\$ 1098

Total Products

32,951

Product Performance Analytics

This section highlights category-level product performance using revenue, order volume, and pricing metrics.

Key Highlights:

- Top 10 categories by revenue, with **Health & Beauty** leading the chart.
- Category Performance Matrix visualizes **average price vs. total orders**, helping identify outliers and pricing trends.
- Summary stats include:
 - **71 Active Categories**
 - **Highest AOV: R\$ 1098**
 - **Total Products: 32,951**

📈 Reflects capabilities in product performance benchmarking, pricing strategy, and identifying high-value segments for optimization.

Revenue Trends Sales Forecasting Product Analytics **Performance Dashboard** Advanced Insights

Real-time Performance Dashboard

Total Revenue

R\$ 13,591,644

▼ -100.0% (30d)

Total Orders

99,441

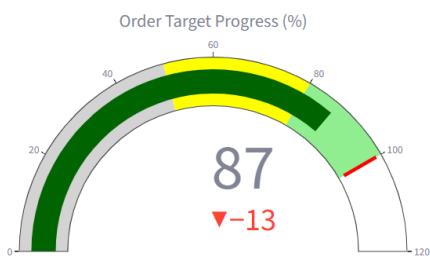
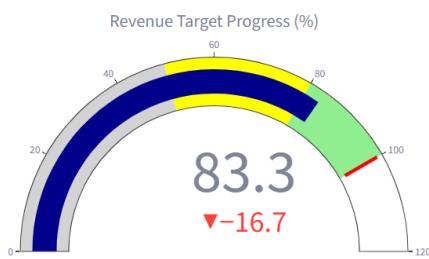
▼ -99.5% (30d)

Average AOV

R\$ 137.75

Delivery Rate

97.0%



Real-Time Performance Dashboard

A live summary of business performance using key metrics:

KPIs:

- **Total Revenue:** R\$ 13,591,644
- **Total Orders:** 99,441
- **Average AOV:** R\$ 137.75
- **Delivery Rate:** 97.0%

Target Progress:

- **Revenue Target:** 83.3% (▼ 16.7% below target)
- **Order Target:** 87% (▼ 13% below target)

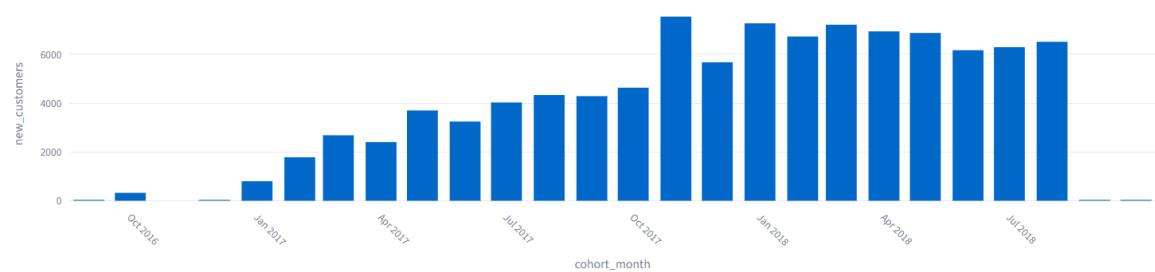
🕒 The dashboard enables **quick decision-making** by visualizing real-time performance against set goals.

[Revenue Trends](#) [Sales Forecasting](#) [Product Analytics](#) [Performance Dashboard](#) [Advanced Insights](#)

Advanced Business Intelligence

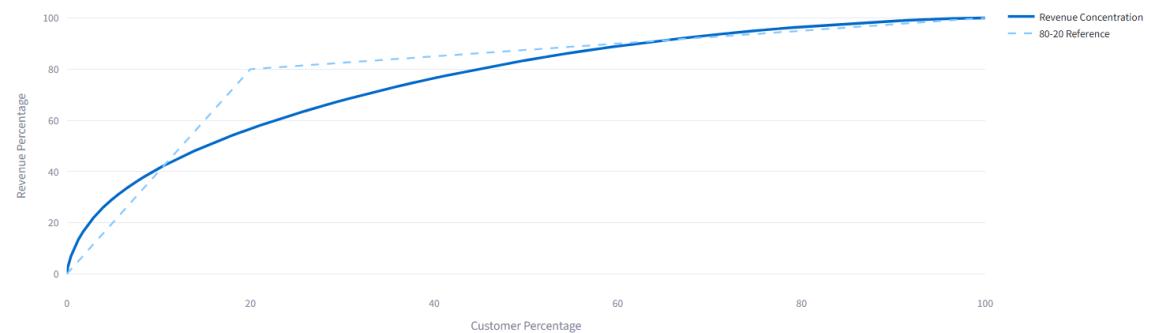
Customer Cohort Analysis

Customer Acquisition by Month



Revenue Concentration Analysis

Customer Revenue Concentration (Pareto Analysis)



Unlocks powerful time-series analysis, product insights, real-time dashboards, and customer intelligence for data-driven decision-making.

Revenue Trends

Identifies historical revenue patterns and seasonality to guide strategic planning.

Sales Forecasting

Predicts future revenue based on historical trends, trendline, and seasonality with adjustable forecast periods and confidence levels.

Product Analytics

Highlights top-performing categories, revenue vs. order trends, and pricing insights.

- **Top Category:** health_beauty
 - **Active Categories:** 71
 - **Highest AOV:** R\$1098
 - **Total Products:** 32,951
-

Performance Dashboard

Monitors real-time KPIs and goal tracking.

- Revenue Target: **83.3%**
 - Order Target: **87%**
 - Delivery Rate: **97%**
-

Advanced Insights

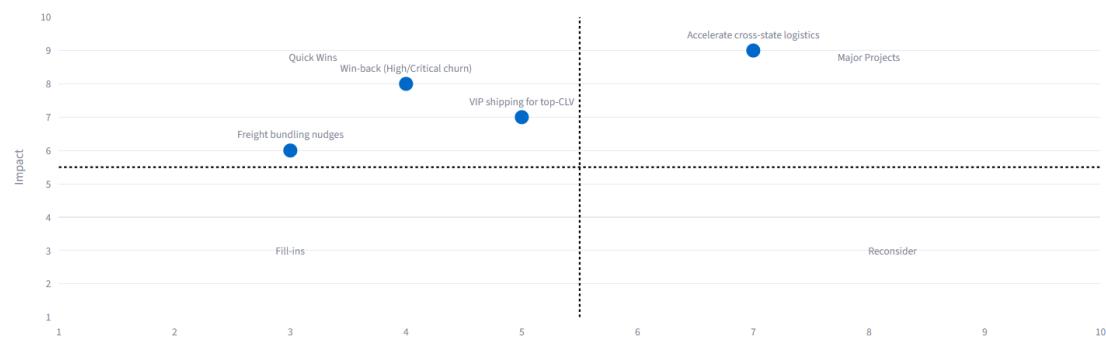
Cohort analysis and Pareto (80/20) breakdowns reveal:

- Growth in customer acquisition until mid-2018
- ~20% of customers drive ~80% of revenue

Total Revenue	Delivery Rate	Average Order Value	Top Category
R\$ 13,591,644	97.0%	R\$ 137.75	health_beauty
Sum of realized order value		Delivered / All orders	

📌 Prioritization: Impact vs Effort

Place initiatives where they belong—focus top-right first (high impact, low effort).



📅 90-Day Action Plan

Initiative	Owner	Window	Effort	Primary KPI
Freight bundling nudges	Product + Data	Now-30d	Low	R\$ ↑ / Freight% ↓
Win-back journeys	CRM	Now-45d	Medium	Retention ↑
VIP shipping (top 10% CLV)	Ops + CRM	30-60d	Medium	NPS ↑ / Repeat ↑
Carrier SLA optimization	Ops + DS	45-90d	High	Late risk ↓

💡 Executive Recommendations

- Accelerate cross-state logistics: Prioritize lanes with high predicted lateness; negotiate SLA tiers and dynamic carrier selection.
- Protect high-value segments: Offer VIP shipping and proactive comms for top-CLV customers during seasonal peaks.
- Freight optimization: Add bundling nudges at checkout when freight-to-basket ratio > threshold.
- Retention focus: Trigger win-back flows for customers with High/Critical churn risk; measure 30-/60-day reactivation.

[⬇️ Download Insight One-Pager \(CSV\)](#)

[Jump to Delivery Prediction to simulate lane changes, or Customer Intelligence to target VIPs & win-backs.](#)

Business Intelligence Insights

This tab offers a strategic view of operational priorities based on impact vs. effort, highlighting initiatives with the highest ROI. The 90-day action plan outlines tactical steps across CRM, logistics, and product operations. Key recommendations include cross-state logistics acceleration, VIP customer retention, bundling nudges for freight optimization, and high-risk churn recovery. This view helps prioritize high-impact, low-effort initiatives and align cross-functional teams to boost revenue and customer satisfaction.