**Olist Analysis Insights Report**

**Insights**

**KPIs**

* **Total Revenue:** $15.4M
* **Average Product Price:** $120.7
* **Average Freight Value:** $20
* **Average Customer Payment Value:** $154
* **Average Order Value:** $160
* **Orders:** 96K
* **Customers:** 96K
* **Products:** 33K
* **Categories:** 74
* **Sellers:** 3,095

**Time & Trend Insights**

* Orders span **2016-09-04 → 2018-10-17**.
* **Seasonality:** Strong mid-year performance (March–August).
  + **May** is the best-performing month (~$848K).
  + **September** consistently underperforms (~$351K).
* **Trend:** Revenue shows continuous growth (3-Month MA), peaking in **Nov 2017 ($1.15M)**.
* **Orders** mirror revenue closely, peaking at **7.3K in Nov 2017**.
* Extreme drops in monthly revenue were caused by very few orders being placed.
* **Recommendation:** Investigate weaker periods (start/end of year) to balance performance.

**Dimensional & Ranking Insights**

* **Geography:**
  + São Paulo (SP) dominates customers (42%, 42K) and sellers (59.7%, 1.8K).
  + Runner-ups RJ (13K customers) and MG (12K).
  + Business should prioritize SP, while improving product quality in low-review states (MA, AL, RR).
* **Payments:**
  + 73.9% of payments are via credit card → ensure frictionless credit card experience.
  + 50.6% of customers pay in a **single installment**.
* **Reviews:**
  + Overall review quality is high (57.8% 5-stars, 19.3% 4-stars).
  + Top 10 sellers average **5/5**, bottom 10 only **1/5** → indicates **polarization & potential fraud risk**.
  + 80% of sellers scored above 3.5/5, with most clustered at 5.0.
  + Best-rated categories: **CDs/DVDs/Musicals, Children’s Clothes, Books** (~4.5/5).
  + Worst: **Security & Services** (~2.5/5).
* **Products & Categories:**
  + Largest assortment: **bed & table (3K)**, **sports leisure**, **furniture decor**.
  + Fewest: **CDs/DVDs/Musicals (1)**, **Security & Services (2)**.
  + Top revenue categories: **Health & Beauty ($1.4M)**, **Watches & Gifts ($1.3M)**, **Bed/Bath/Table ($1.2M)**.
  + Bottom: **CDs/DVDs/Musicals ($955)**, **Children’s Clothes ($599)**, **Security & Services ($325)**.
  + **Freight Costs:** Highest in **computers ($48.5)** and **home appliances\_2 ($44.5)** → optimize shipping to avoid discouraging purchases.

**Logistics Insights**

* **Average actual delivery:** 12 days vs **estimated 23 days** → consistently faster than expected (11-day improvement), so can be used as a Unique Selling Point or a competitive advantage in advertisements.
* **Punctuality:** 92.4% on time, 7.6% late deliveries.
* **Distribution:** Delivery times are right-skewed; 90% of deliveries completed within 23 days.
* **Most common delivery time:** 7 days.

**Customer Behavior Insights**

* **One-time customers dominate (96.9%)** → churn is very high.
* **Repeating customers only 3.1%** → limited loyalty.
* **Segmentation:**
  + **Rookies (33K)** → largest segment.
  + **Whales (23K)** → highest spenders, though not frequent buyers (risk of churn).
  + **Champions (1K)** → most loyal & frequent.
  + **Loyal (~800)** → buy frequently but show declining recency.
  + **Slipping (17K)** → used to spend a lot but now inactive.
* **Recommendations:**
  + Build **retention programs** (loyalty cards, discounts, targeted ads).
  + Prioritize **Whales & Champions** → premium offerings, subscription tiers.
  + Monitor **slipping customers** with reactivation campaigns.
  + Absence of “Promising” customers indicates a **weak progression from new → loyal**.

**Correlation Insights (Price vs Orders)**

* Scatterplots show **most products cluster bottom-left**: low-priced & low-demand.
* A few **mid-priced products dominate demand** (visible outliers).
* Very high-priced items have few sales.
* Correlation coefficient = **-0.03** → essentially **no linear relationship**.
* Insight: **Price alone is not a demand driver**; other factors (category, brand, trust) matter more.

**Business Recommendations**

**1. Focus on Strong Geographies (SP as the Growth Engine)**

* **SP** alone contributes ~42% of customers and ~60% of sellers.
* Double down on SP with targeted marketing campaigns, seller onboarding support, and logistics infrastructure improvements.
* Secondary focus: **RJ and MG** states, which also show strong customer bases.

**2. Improve Weak Regions (Customer Experience Gaps)**

* States like **MA, AL, RR** show significantly lower review scores (~3.7/5).
* Launch **quality improvement programs** (seller training, stricter vetting) and **localized marketing campaigns** to build trust.
* Investigate common complaints (delivery delays, product mismatches, poor seller behavior).

**3. Product & Category Strategy**

* **High-revenue categories**: Health & Beauty, Watches & Gifts, and Bed/Bath/Table → should be promoted heavily in marketing, bundle offers, and seasonal sales.
* **Low-performing categories**: Security & Services, Fashion Children’s Clothes, CDs/DVDs/Musicals → phase out or re-evaluate. They’re low demand and don’t justify platform focus.
* **High-freight categories** (Computers, Home Appliances) → optimize logistics routes, negotiate bulk shipping rates, or introduce **“free shipping above X value”** campaigns to reduce cart abandonment.

**4. Customer Retention & Churn Mitigation**

* With **97% one-time buyers**, retention is the biggest challenge.
* Introduce **loyalty programs**: discounts on 2nd purchase, cashback points, membership perks.
* Focus on **Whales (big spenders)** and **Champions (frequent buyers)** with premium offers or subscription tiers.
* Launch **email remarketing** to Rookies (new customers) to convert them into repeat buyers.

**5. Payments & Checkout Experience**

* Since **74% of payments are via credit cards**, ensure the credit card checkout flow is seamless, secure, and fast.
* Test and improve alternative payment methods (debit card, vouchers, boleto bancário) to serve underbanked customers.

**6. Seller Quality Control**

* Sellers show extreme polarization: some consistently get 5/5 reviews, while others sit at 1/5.
* Implement a **“Seller Performance Scorecard”** to monitor reviews, returns, and complaints.
* Remove or penalize persistently low-rated sellers to maintain platform trust.
* Highlight top-rated sellers with a **“Trusted Seller” badge** to boost conversions.

**7. Logistics Optimization**

* Delivery times are performing **better than expected** (avg 12 days vs estimated 23), can serve as a Unique Selling Point in ads to give competitive advantage.
* However, ~8% of deliveries are still late → investigate **root causes** (specific states, sellers, or product categories).
* Invest in **predictive demand forecasting** to prepare logistics resources before peak months (May–August).

**8. Seasonality & Growth Strategy**

* Strong mid-year demand (March–August) → leverage with **mid-year mega sales campaigns**.
* Weak months (September, year start) → balance seasonality with promotions, new product launches, or holiday tie-ins.
* Since revenue closely follows order volume, boosting orders directly drives revenue — focus marketing on **customer acquisition during weak periods**.

Executive Summary:

This project analyzes the Brazilian Olist e-commerce dataset (2016–2018) to uncover patterns in customer behavior, product categories, payments, logistics, and seller performance. Revenue reached $15.4M across 96K orders, with SP state dominating both customers (42%) and sellers (60%). Seasonality shows peak performance between March–August, while September remains the weakest month. Reviews are generally positive (80% ≥ 4 stars), but seller ratings are highly polarized, with top sellers consistently at 5/5 and bottom ones at 1/5.

Business analysis highlights critical opportunities: retention strategies are needed as 97% of customers purchase only once; top categories like Health & Beauty and Bed/Bath/Table should be promoted, while low-performing ones like Security & Services show poor demand; and freight-heavy categories (Computers, Home Appliances) require cost optimization. By focusing on strong states, improving weaker regions, investing in customer retention, and enforcing seller quality control, Olist can drive sustainable growth and customer satisfaction.