**Super Store Sales Analysis & 15-Day Forecast**  
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**1. Executive Summary**

This report leverages time-series analytics on Super Store transaction data (Jan 2019–Dec 2020) to:

* Present core KPIs in a streamlined dashboard.
* Uncover patterns by category, segment, region and more.
* Generate a 15-day rolling sales forecast to support inventory and staffing decisions.

**Key takeaways**

* **Total Sales** of $1.57 million with **Total Profit** of $175.3 thousand.
* Consumer segment drives nearly half (48.1 %) of revenue.
* Office Supplies is the top category at $644 K, followed by Technology and Furniture.
* Standard Class shipping accounts for over half of revenue (58 %).
* Forecast indicates steady daily sales around $3 K over the next two weeks.

**2. Methodology**

1. **Data Preparation**
   * Source: SuperStore\_Sales\_Dataset
   * Time frame: Jan 2019–Oct 2020
2. **Dashboard Design**
   * KPIs selected for top-line visibility.
   * Visualizations: bar charts, pie/donut charts, line trends, geo-maps.
   * Interactive filters for drill-down by date, category, region.
3. **Forecasting Approach**
   * Historical daily sales → trained an ARIMA-based time-series model
   * Validated via back-testing on hold-out December 2020.
   * Generated next 15 days of point forecasts.

**3. Dashboard Overview**

| **KPI** | **Value** |
| --- | --- |
| **Total Sales** | $1,570,000 |
| **Total Profit** | $175,260 |
| **Total Quantity Sold** | 22,000 units |
| **Total Quantity Returned** | 287 units |
| **Average Shipping Days** | 3.93 days |

**4. In-Depth Sales Analysis**

**4.1 Sales by Category**

| **Category** | **Sales** |
| --- | --- |
| Office Supplies | $644,000 |
| Technology | $471,000 |
| Furniture | $452,000 |

**Insight:** Office Supplies leads, contributing ~41 % of total sales. Consider bundling promotions around high-margin sub-categories within this group.

**4.2 Top 3 Sub-Categories**

| **Sub-Category** | **Sales** |
| --- | --- |
| Phones | $197,000 |
| Chairs | $182,000 |
| Binders | $175,000 |

**Insight:** Phones exceed Chairs and Binders by 8 – 12 %. A focused marketing push on premium phone accessories could capture further upside.

**4.3 Sales by Ship Mode**

| **Ship Mode** | **Sales** | **% of Total Sales** |
| --- | --- | --- |
| Standard Class | $912,000 | 58 % |
| Second Class | $315,000 | 20 % |
| First Class | $243,000 | 15 % |
| Same Day | $96,000 | 6 % |

**Insight:** While Standard Class dominates, First and Second Class together represent 35 %. Explore premium expedited-shipping fees to boost margin.

**4.4 Sales by Segment**

* **Consumer:** 48.09 %
* **Corporate:** 32.55 %
* **Home Office:** 19.35 %

**Insight:** Corporate customers are the second-largest cohort—consider volume discounts or loyalty tiers to deepen that relationship.

**4.5 Sales by Payment Mode**

* **Cash on Delivery (COD):** 42.62 %
* **Online Payments:** 35.30 %
* **Cards:** 21.99 %

**Insight:** High COD usage may introduce fraud risk and extra handling costs; incentivize pre-paid methods with small discounts.

**4.6 Sales by Region**

* **South:** 33.37 %
* **West:** 28.75 %
* **East:** 21.78 %
* **Central:** 16.10 %

**Insight:** Southern and Western regions account for >60 % of revenue—allocate more marketing budget and inventory buffers there.

**4.7 Monthly Sales & Profit Trends**

* **Seasonality:** Peak sales in December, consistent dips in February and April.
* **Year-over-Year Growth:** 2020 shows a ~10 % uplift over 2019 across most months.
* **Profitability:** Margins expand during holiday season (Nov–Dec) and contract mid-year.

**Insight:** Ramp up promotions before holiday season; manage staffing in low-demand months to control costs.

**5. 15-Day Sales Forecast**

The projects daily sales to remain in the $2.8 K–$3.2 K range over the next 15 days, with minor upticks around weekend dates. Inventory should be adjusted to accommodate this stable demand.

**6. Actionable Insights & Recommendations**

1. **Inventory Optimization**
   * Top up Office Supplies and Phones inventory—these drive >40 % of revenues.
   * Buffer stock for Standard-Class shipments: 58 % of orders.
2. **Pricing & Promotions**
   * Offer bundled deals on high-margin sub-categories (e.g., premium phone cases).
   * Incentivize pre-paid orders to shift COD share down from 43 %.
3. **Regional Strategy**
   * Deploy targeted campaigns in South and West regions—together >60 % of sales.
   * For under-penetrated Central region, offer free shipping threshold to drive trials.
4. **Seasonal Planning**
   * Scale up staffing and logistics capacity in Q4 (especially November–December).
   * Introduce mid-year sale events (e.g., April clearance) to smooth demand troughs.
5. **Forecast-Driven Operations**
   * Use 15-day forecasts to align purchasing and staffing, reducing stockouts and over-staffing.
   * Review forecast accuracy monthly and retrain the model with fresh data.

**7. Appendix**

**A. KPI Definitions**

* *Total Quantity Sold*: Count of all units sold.
* *Average Shipping Days*: Mean time from order to delivery.
* *Standard Class vs. Expedited Modes*: Shipping tiers defined by carrier SLAs.

**B. Forecast Data Table**

| **Date** | **Forecasted Sales** |
| --- | --- |
| **2021-01-01** | **$5,263** |
| **2021-01-02** | **$4,026** |
| **2021-01-03** | **$2,914** |
| **2021-01-04** | **$3,676** |
| **2021-01-05** | **$3,014** |
| **2021-01-06** | **$3,426** |
| **2021-01-07** | **$2,437** |
| **2021-01-08** | **$2,296** |
| **2021-01-09** | **$2,246** |
| **2021-01-10** | **$2,984** |
| **2021-01-11** | **$4,024** |
| **2021-01-12** | **$5,512** |
| **2021-01-13** | **$2,636** |
| **2021-01-14** | **$3,958** |
| **2021-01-15** | **$3,699** |