Warehouse/Retail Sales Analysis

Data Source:
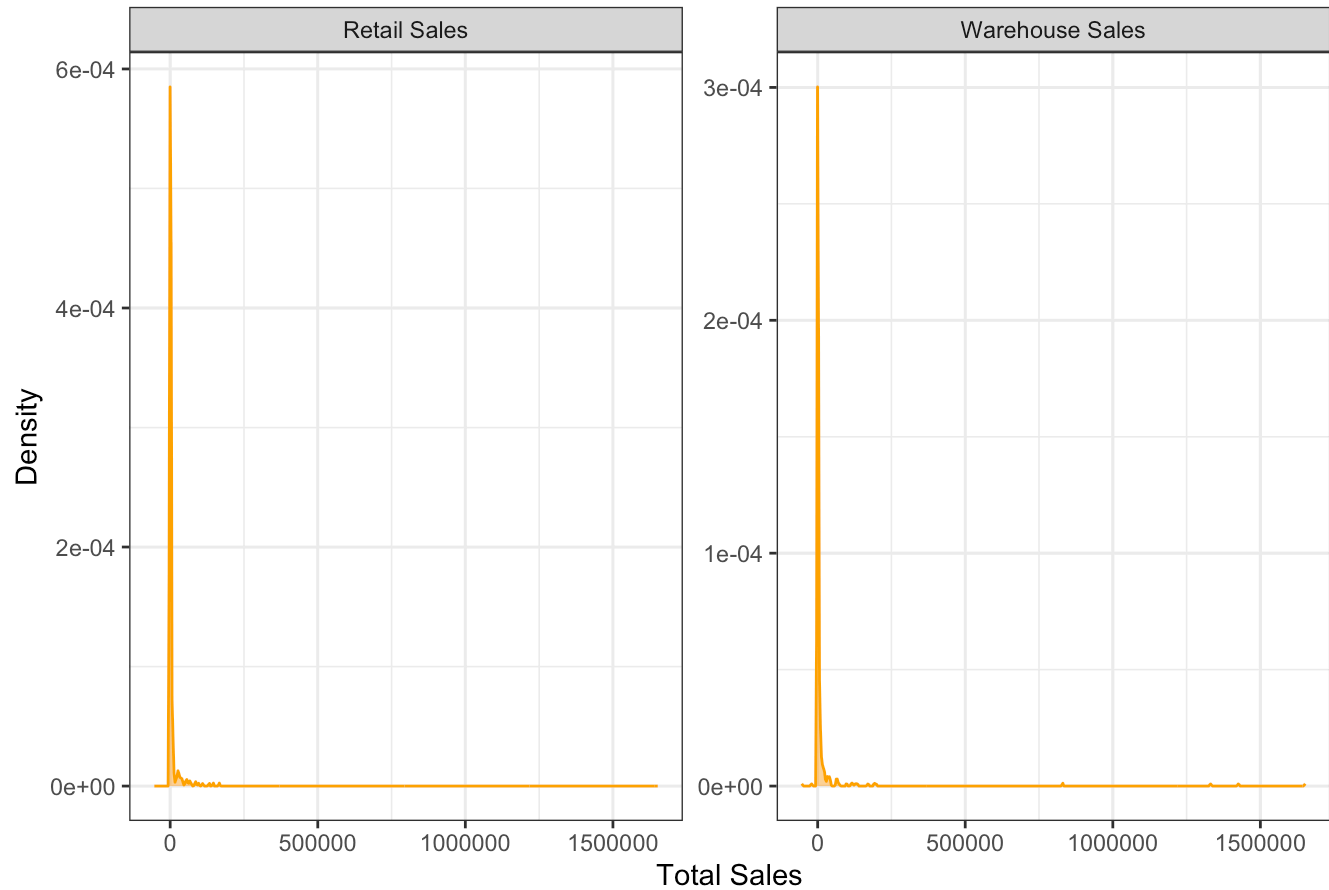
Channel Dominance and Supplier Behavior

Supplier Channel Dominance

Better_Channel	Occurrence
More_Warehouse	222
More_Retail	148
Neither	27

An analysis of supplier-level sales indicates that warehouse channels dominate retail channels for the majority of suppliers. Most suppliers generate higher total sales through warehouses, while fewer suppliers perform better in retail and a small subset exhibit comparable sales across both channels. This pattern suggests that warehouse operations play a central role in overall sales volume, likely due to their emphasis on bulk transactions and larger repeat customers.
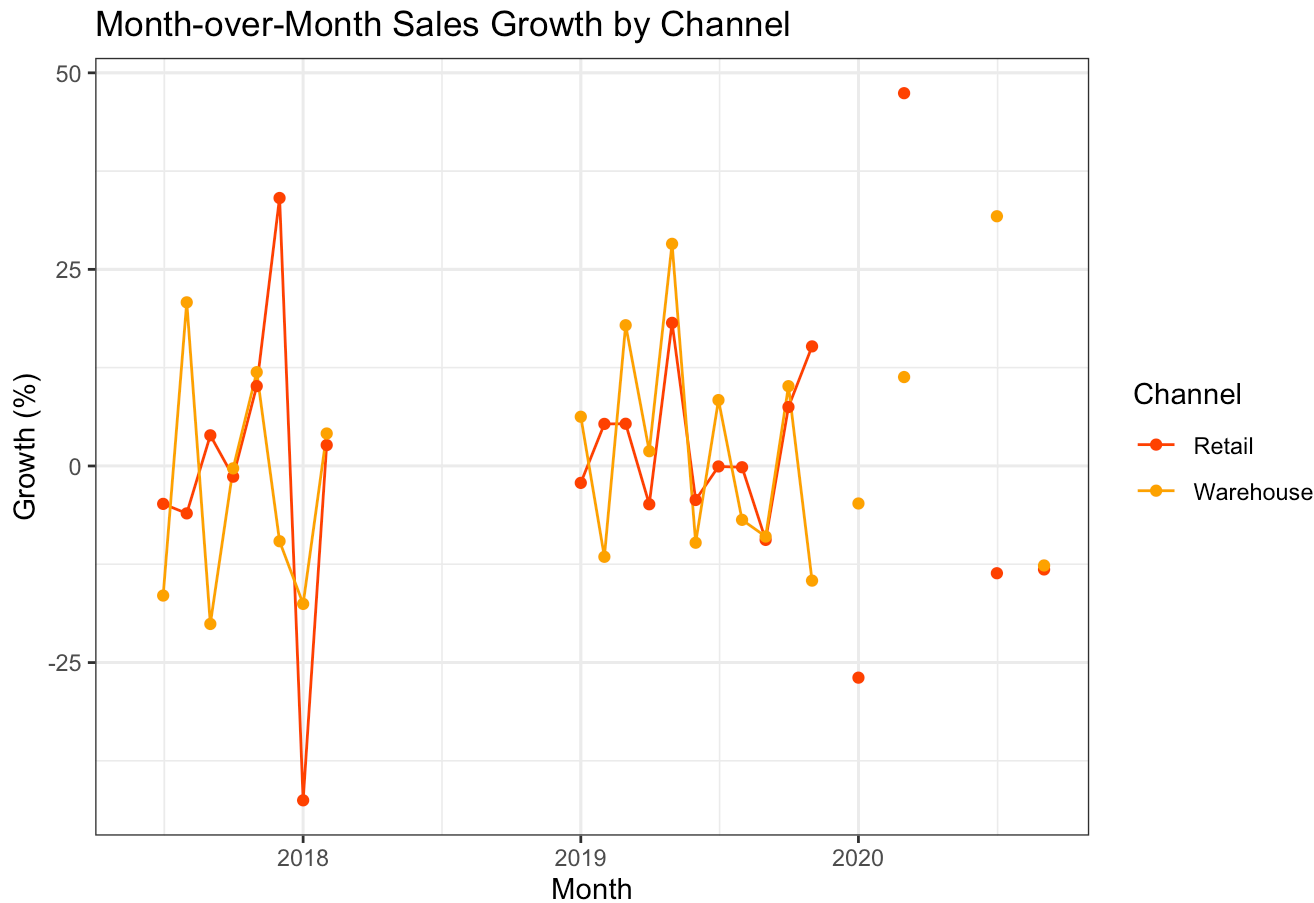
Supplier Distribution by Channel

The distribution of sales across suppliers further reinforces this conclusion. Both retail and warehouse sales are highly right skewed, indicating that a small number of suppliers account for a disproportionate share of total sales. This concentration is more pronounced in warehouse sales, where high volume suppliers dominate total revenue. Such concentration may increase operational efficiency but could also introduce risk if sales become overly dependent on a limited supplier base. Especially when facing macroeconomic

instability, heavy dependency on a few, select suppliers can result in difficulty to adjust without significant operational challenges.

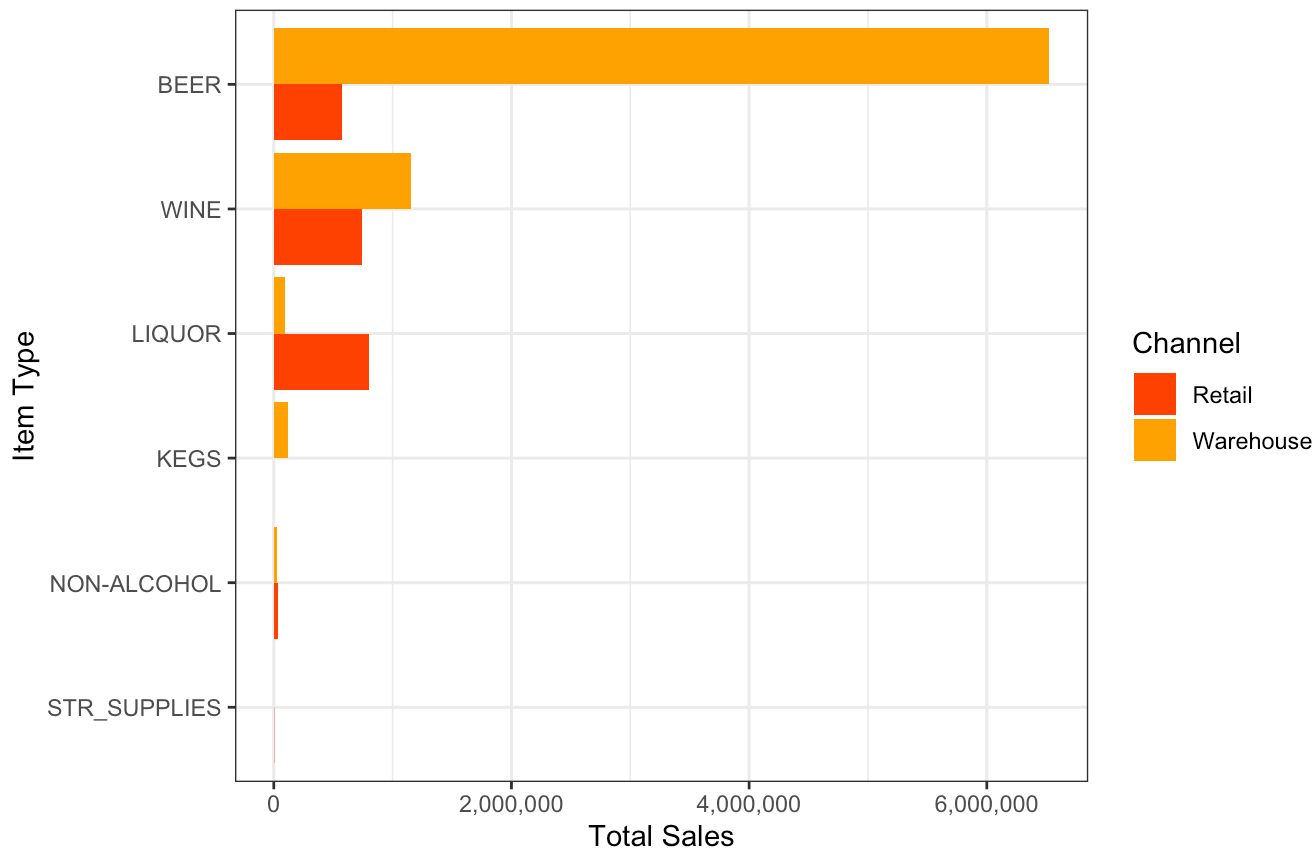## Sales Growth and Volatility Across Channels

Month over month growth patterns show that retail and warehouse sales generally move in the same direction over time, indicating that both channels respond to similar demand conditions. However, retail sales exhibit substantially higher volatility, with larger positive and negative fluctuations compared to warehouse sales. In contrast, warehouse growth appears more stable, suggesting that bulk purchasing and longer-term purchasing arrangements flatten short-term demand shocks.

This difference implies that retail sales are more sensitive to changes in consumer behavior, seasonality, or promotional activity, while warehouse sales provide a more consistent revenue stream. As a result, forecasting accuracy and performance evaluation requires different approaches across the two channels rather than a single unified model to gain the most accurate estimates.

Differences in Product Mix

Top 7 Item Types by Sales, Retail vs Warehouse
Q4 in SQL

The comparison of top selling item types reveals clear differences in channel composition. Warehouse sales are heavily driven by high volume categories, especially beer, which accounts for the majority of warehouse revenue. Retail sales, while smaller in comparison, show stronger contributions from categories such as wine and liquor, which are typically associated with higher margins and consumer-oriented purchasing behavior.

Lower volume categories, including non-alcohol items and store supplies, contribute minimally to total sales in both channels. This suggests that overall revenue is concentrated within a narrow set of core product types, particularly within warehouse operations.

Implications for Channel Management

Taken together, these findings suggest that retail and warehouse channels operate under distinct demand and risk profiles. Warehouse operations benefit from scale and stability but may face supplier concentration risk, while retail operations require greater flexibility due to higher volatility and sensitivity to short-term demand changes. Managing these channels with separate supplier strategies, forecasting methods, and performance metrics would better align operational decisions with the underlying sales dynamics observed in the data.