

## Residual Analysis for Storage

The analysis of residual values for storage sales highlights key performance deviations, reflecting both underperformance and overperformance across the reporting period.

### Key Observations:

1. **Residual Variability:** The residual values exhibit considerable fluctuations, illustrating the inconsistent sales performance for storage items throughout the observed timeframe.
  - **Negative Residuals:**
    - **November 2016** (-1553.34) and **December 2016** (-2465.58) are among the most significant negative residuals, indicating considerable underperformance in sales during these months. These periods warrant a closer look to identify potential issues affecting sales, such as market competition or inventory challenges.
    - **August 2017** (-1876.13) and **September 2017** (-2096.96) further demonstrate substantial deviations, suggesting ongoing challenges in achieving sales targets.
  - **Positive Residuals:**
    - **November 2015** (3595.54) and **December 2017** (3596.39) stand out for their high positive residuals, indicating exceptional sales performance that exceeded expectations. Analyzing these months can provide insights into successful strategies that may be applicable in future marketing efforts.
    - **August 2016** (3124.80) and **February 2017** (1458.44) also reflect strong sales, suggesting effective promotions or product demand that contributed to these outcomes.
2. **Inconsistent Performance Trends:** The significant shifts in residual values indicate fluctuations in market dynamics or changes in consumer preferences. For example, the drastic decrease from **October 2016** (614.99) to **November 2016** (-1553.34) highlights potential underlying issues that need investigation.

### Actionable Insights:

1. **Investigate Underperformance:** Conducting a detailed analysis of months with high negative residuals can uncover reasons for the underperformance. This

analysis may involve examining external market factors, customer feedback, and competitive dynamics.

2. **Leverage Successful Strategies:** Understanding the factors that led to high positive residuals can inform future strategies. By identifying key marketing initiatives or trends during these months, we can replicate successful practices to enhance sales performance.
3. **Continuous Monitoring:** Ongoing assessment of residual values will help in identifying emerging trends and facilitate timely adjustments to sales strategies, ensuring better alignment with market conditions.
4. **Cross-Product Insights:** Comparing storage residuals with other product categories may reveal broader trends and insights, aiding in strategic planning and inventory management.

### **Next Steps**

- Deep dive into the months with significant negative residuals to uncover actionable insights for improving sales performance.
- Analyze the months with high positive residuals to replicate successful strategies moving forward.