

## Residual Analysis for Furnishings

The residual values for furnishings present a mixed performance landscape, indicating variability in sales outcomes and pointing to areas for strategic focus.

### Key Observations:

1. **Residual Variability:** The furnishings category demonstrates notable fluctuations in residual values, which are indicative of inconsistent sales performance over the observed period.
  - **Positive Residuals:**
    - **December 2017** (1715.15) marks the highest positive residual, suggesting exceptional sales performance that significantly exceeded expectations. This month may reflect successful marketing campaigns or high demand for specific furnishing products.
    - Other notable positive residuals include **March 2017** (881.04) and **April 2016** (1127.11), indicating successful sales strategies or product popularity during these months.
  - **Negative Residuals:**
    - The months with the largest negative residuals include **April 2017** (-1278.98) and **December 2015** (-1051.77), signaling substantial underperformance in sales during these periods. These months require investigation to identify underlying causes, such as market trends, supply chain issues, or customer preferences.
    - Additionally, **September 2016** (-1068.03) and **May 2018** (-612.08) are periods of significant deviation, suggesting ongoing challenges that need to be addressed.
2. **Trends in Performance:** The residuals show fluctuations between positive and negative values, highlighting an inconsistent market performance for furnishings. For instance, the transition from a positive residual of **650.35** in September 2015 to a negative residual of **198.58** in October 2015 underscores potential shifts in consumer demand or competitive pressures.

### Actionable Insights:

1. **Examine Underperforming Periods:** A deeper analysis of months with high negative residuals can help identify specific factors contributing to the poor

performance. Consider evaluating product offerings, pricing strategies, or market conditions that may have influenced sales during these times.

2. **Identify Success Drivers:** Investigating the drivers behind months with high positive residuals can offer insights into effective sales strategies. Understanding the reasons for high performance can help replicate successful tactics in future marketing efforts.
3. **Adjust Marketing Strategies:** Based on insights from the analysis, tailoring marketing campaigns to boost sales during traditionally weaker months could help stabilize sales performance over time.
4. **Monitor Market Trends:** Ongoing assessment of residual values and market conditions will facilitate timely adjustments to sales strategies, ensuring they remain aligned with evolving consumer preferences.
5. **Cross-Category Comparisons:** Analyzing residuals of furnishings in conjunction with other categories could yield insights into broader market trends and consumer behaviors, providing a more holistic view of the sales landscape.

### **Next Steps**

- Focus on investigating the periods of significant underperformance to uncover actionable insights.
- Analyze the successful months for strategies that could be applied to enhance future sales performance.