Topic: Sales Forecasting & Anomaly Detection
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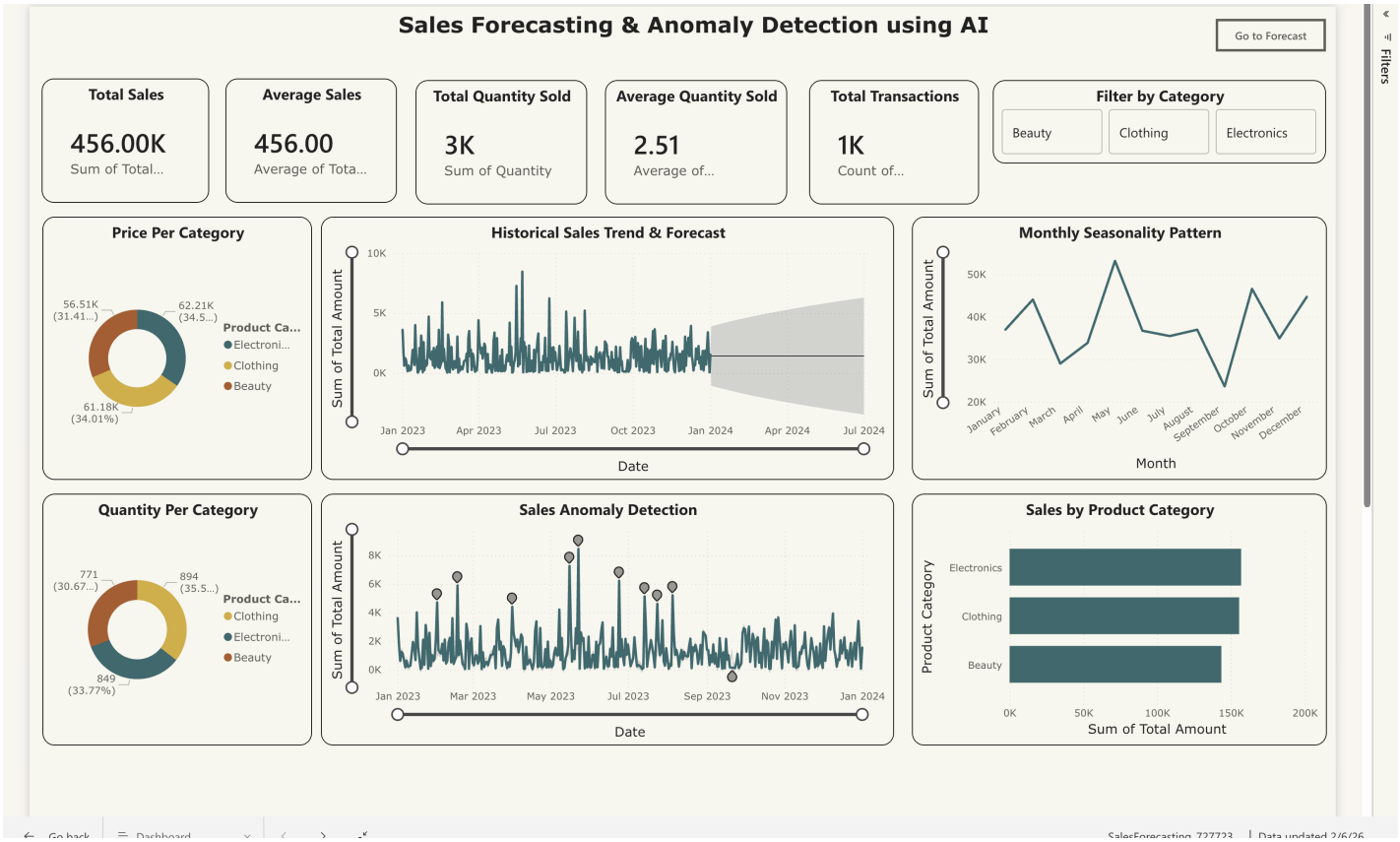
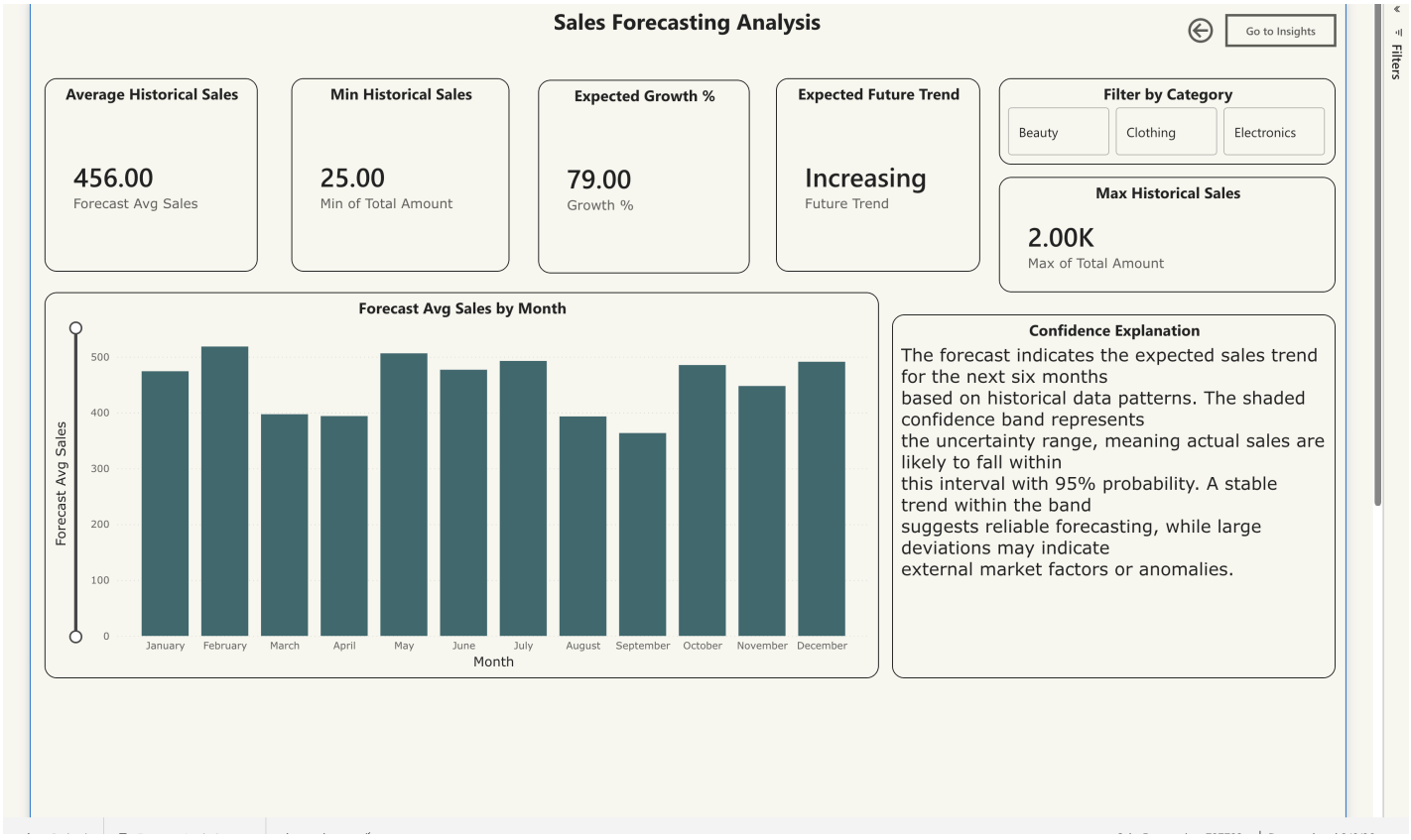
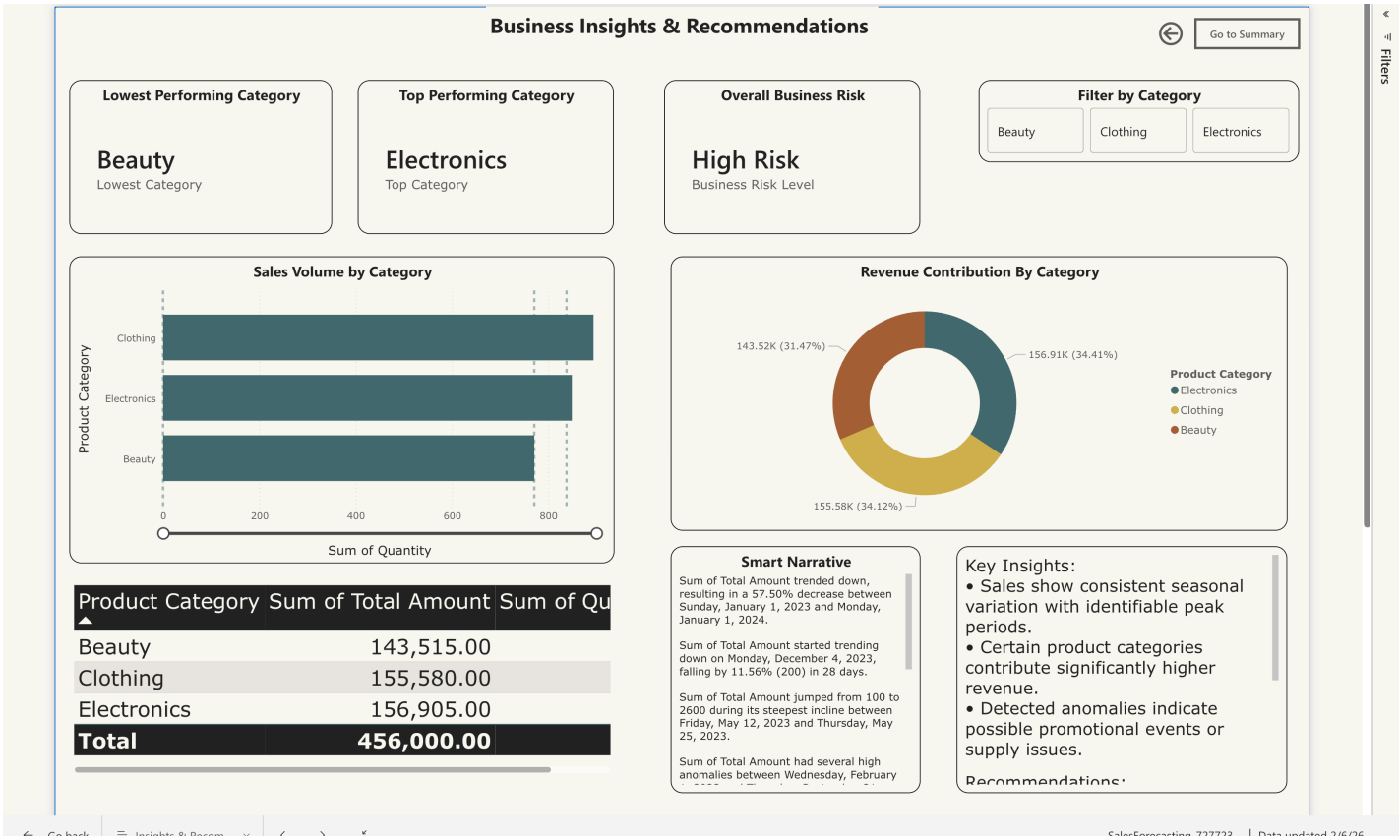


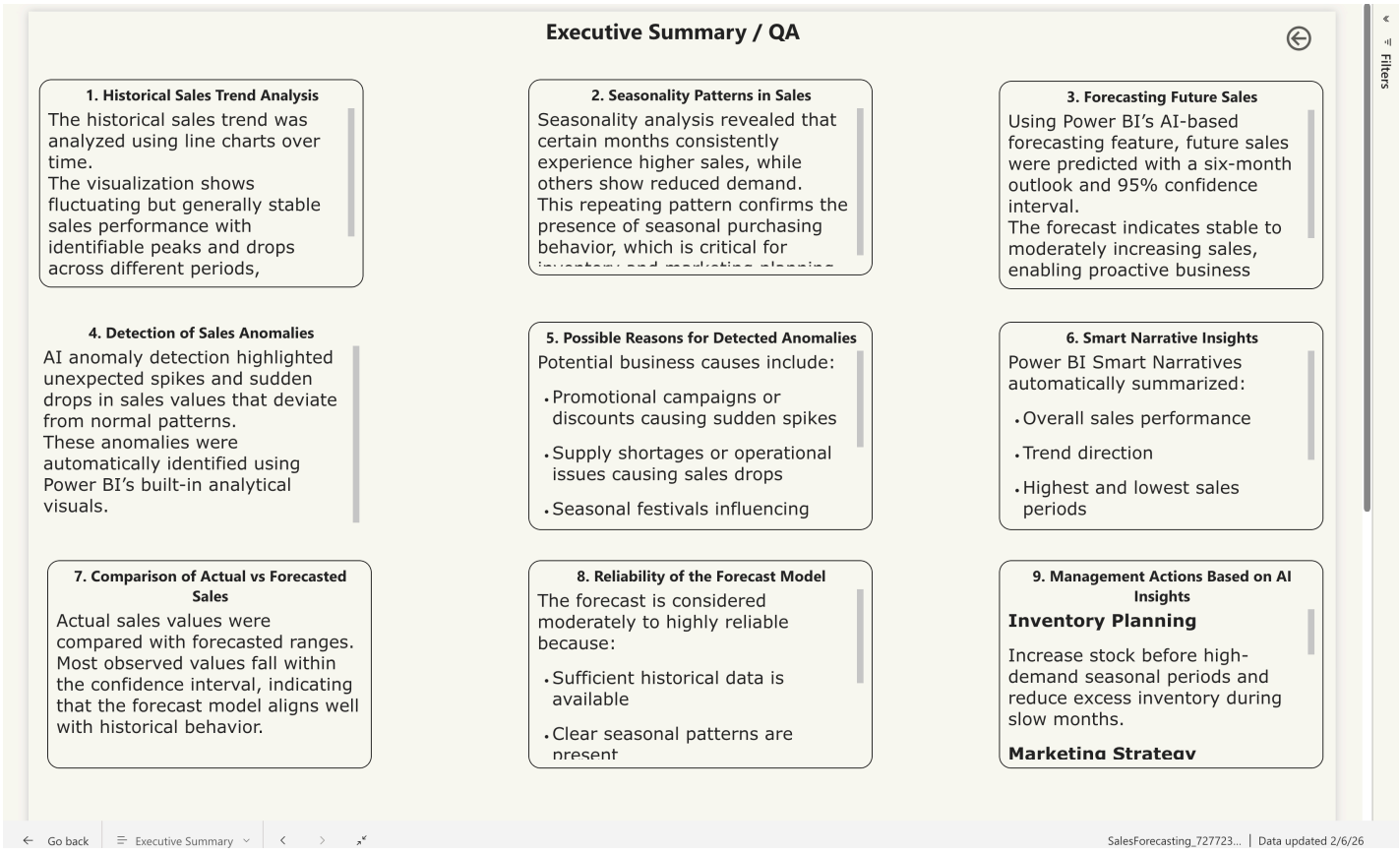


Caption



Product Category	Sum of Total Amount	Sum of Qu
Beauty	143,515.00	
Clothing	155,580.00	
Electronics	156,905.00	
Total	**456,000.00**	

Caption



Caption

~Q/A~

1. Historical Sales Trend Analysis

The historical sales trend was analyzed using line charts over time.
The visualization shows **fluctuating but generally stable sales performance** with identifiable peaks and drops across different periods, indicating changing customer demand and business activity.

2. Seasonality Patterns in Sales

Seasonality analysis revealed that **certain months consistently experience higher sales**, while others show reduced demand.
This repeating pattern confirms the presence of **seasonal purchasing behavior**, which is critical for inventory and marketing planning.

3. Forecasting Future Sales

Using Power BI's **AI-based forecasting feature**, future sales were predicted with a **six-month outlook and 95% confidence interval**.
The forecast indicates **stable to moderately increasing sales**, enabling proactive business planning instead of reactive decision-making.

4. Detection of Sales Anomalies

AI anomaly detection highlighted **unexpected spikes and sudden drops** in sales values that deviate from normal patterns.
These anomalies were automatically identified using Power BI's built-in analytical visuals.

5. Possible Reasons for Detected Anomalies

Potential business causes include:

- Promotional campaigns or discounts causing sudden spikes
- Supply shortages or operational issues causing sales drops
- Seasonal festivals influencing demand
- Data entry or transactional irregularities

Understanding these reasons helps reduce **future operational risks**.

6. Smart Narrative Insights

Power BI **Smart Narratives** automatically summarized:

- Overall sales performance
- Trend direction
- Highest and lowest sales periods

This demonstrates how **AI can convert raw data into meaningful business insights** without manual interpretation.

7. Comparison of Actual vs Forecasted Sales

Actual sales values were compared with forecasted ranges.
Most observed values fall **within the confidence interval**, indicating that the **forecast model aligns well with historical behavior**.

8. Reliability of the Forecast Model

The forecast is considered **moderately to highly reliable** because:

- Sufficient historical data is available
- Clear seasonal patterns are present
- Majority of actual values lie within the confidence band

However, extreme market disruptions could still affect accuracy.

9. Management Actions Based on AI Insights

Inventory Planning

Increase stock before **high-demand seasonal periods** and reduce excess inventory during slow months.

Marketing Strategy

Focus promotions on **high-performing categories** and stimulate demand during **low-sales periods**.

Risk Management

Investigate detected anomalies early to **prevent revenue loss or supply issues**.

Data-Driven Decision Making

Adopt **AI-based forecasting dashboards** for continuous monitoring and strategic planning.