Problem statement formation

What opportunities exist in the Superstore market to forecast sales for the next 7 days in order to optimize inventory decisions, reduce stockouts and overstocking, and enable regional managers to respond proactively to demand shifts — potentially lowering excess inventory costs by 15% and improving product availability in top-performing categories, all while supporting a data-driven supply chain strategy for the upcoming quarter?

Context

Retail stores like Superstore often struggle to keep the right amount of products in stock. If they order too much, items don't sell and money is wasted. If they order too little, they run out and miss sales. This is a common issue that affects both customers and store managers. I want to explore how using past sales data can help predict what people might buy over the next 7 days. With better short-term forecasting, stores can make smarter decisions about inventory, avoid overstocking or running out, and improve how they manage supplies in different regions.

Criteria for success

Build a model that predicts daily sales for the next 7 days using past data showing useful trends to help store managers decide how much of each product to order .

Scope of solution space

By using ARIMA and SARIMA to predict short-term sales for the next 7 days, this project aims to improve inventory management by helping Superstore anticipate demand more accurately. Doing so will support better alignment between stock levels and customer needs.

Constraints

- Delays in restocking or supply chain disruptions can prevent accurate response to demand even when forecasts are correct.
- Superstore operates across multiple regions, which may have different demand patterns, making forecasting more complex.

Stakeholders

- Store managers
- Inventory planners
- Sales team
- Operations team

Data sources

The dataset comes from the Superstore Sales Data available on Kaggle.