

# **SUPERMARKET SALES ANALYSIS: UNDERSTANDING BUYING PATTERNS**

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### **Abstract:**

This project focuses on analysing supermarket sales data to uncover buying patterns and optimize business strategies. By examining purchase trends, we aim to enhance product placement, promotional strategies, and overall sales performance. The analysis addresses handling missing values, particularly in product category and discount application, ensuring data integrity. Data grouping techniques are used to analyse sales by product type, allowing for better inventory and category management. Basket analysis is conducted to identify frequent item combinations, offering insights for cross-selling and bundling opportunities. Trend visualization highlights peak sales hours, enabling more efficient staffing and resource allocation. Additionally, a comparative analysis of weekend versus weekday sales provides valuable insights into customer behaviour, guiding promotional efforts and store operations. The project integrates multiple analytical methods to optimize decision-making and improve overall supermarket performance.