

Supermarket Sales Analysis Using Excel

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Business Objective

To analyse supermarket sales performance and uncover trends in revenue, customer behaviour, and branch performance to support better business decision-making.

Data Source

The dataset used in this project is the Supermarket Sales Dataset sourced from Kaggle. It contains detailed transactional data including product categories, branch locations, customer types, payment methods, dates, times, and sales-related figures. The dataset represents real-world retail sales activity and is suitable for analysing revenue performance, customer behaviour, and sales trends.

<https://www.kaggle.com/datasets/faresashraf1001/supermarket-sales>

Business Questions

1. **What are the total sales by product category?**
2. **Which branch/location generates the highest revenue?**
3. **What are the monthly sales trends?**
4. **Which customer type spends more on average?**
5. **What are the peak sales days and times?**
6. **Which payment method is used most and generates the most revenue?**

Tools Used

- Microsoft Excel – Used for data cleaning, transformation, PivotTables, and data visualisation
- PivotTables & PivotCharts – Used to summarise revenue, customer behaviour, time trends, and branch performance
- Conditional Formatting – Used to highlight errors and inconsistencies in date format
- Chart Formatting & Axis formatting – Used to create clean, professional visualisations

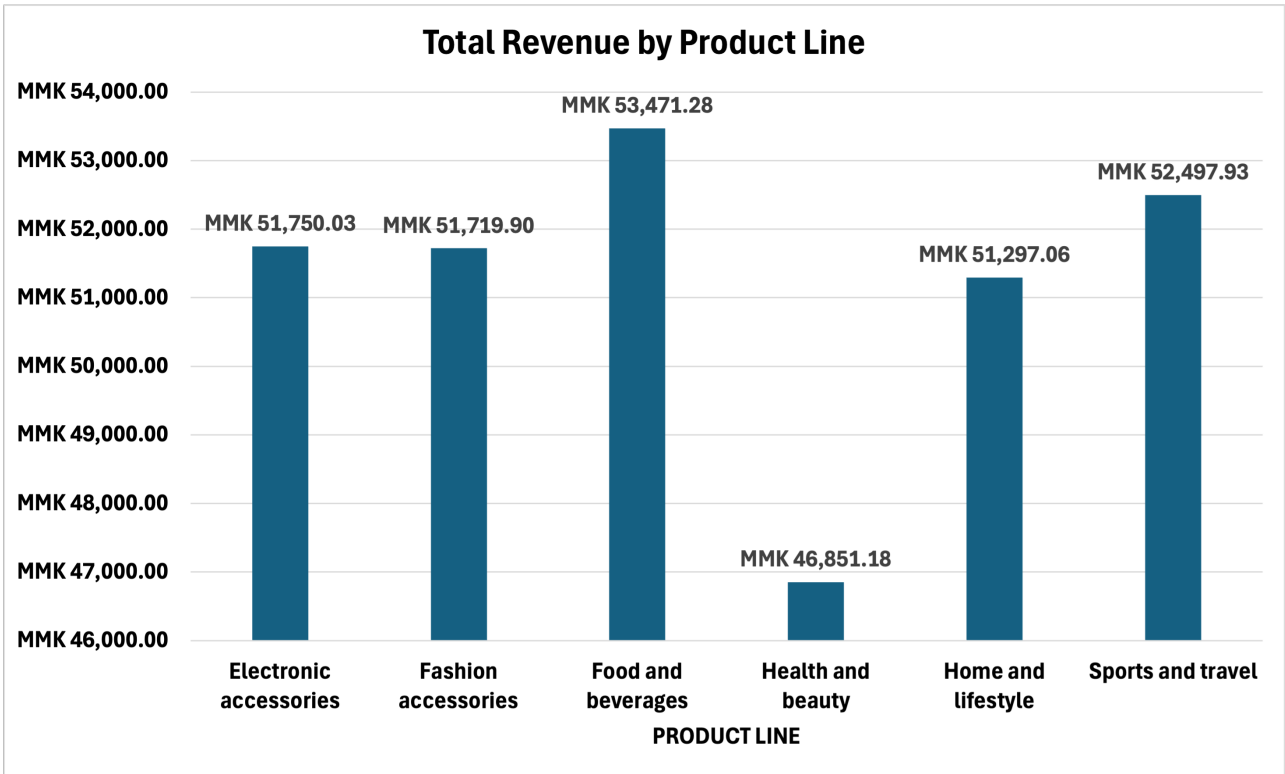
Data Cleaning Summary

Started by removing duplicates and blanks within the dataset. Standardised text formatting across categorical fields. Corrected date formats to ensure consistency for time-based analysis. Created a Revenue column by calculating: $\text{Revenue} = \text{Unit Price} \times \text{Quantity}$. Extracted additional time fields such as: Month, Day of Week, Hour. Verified that all numerical fields were correctly formatted for accurate PivotTable calculations.

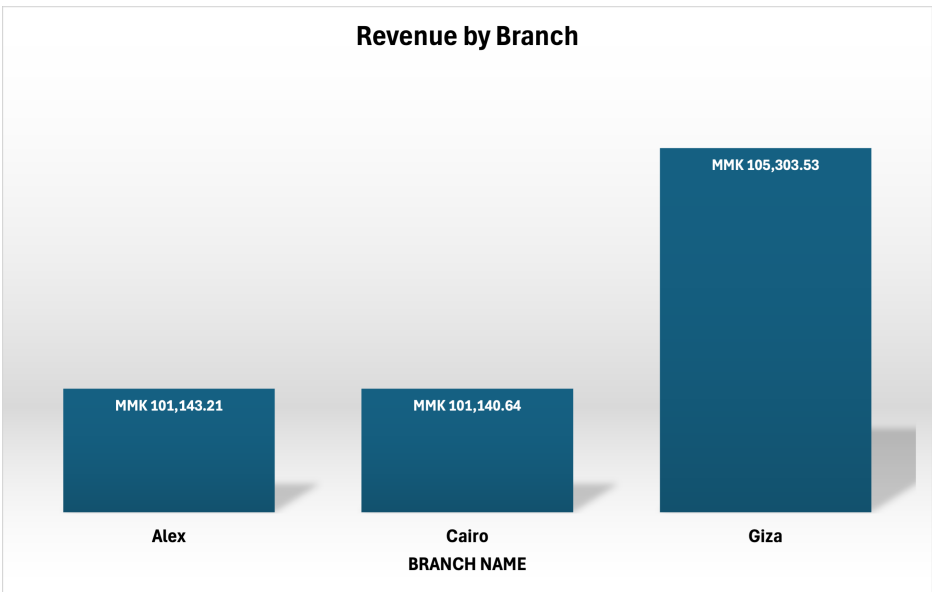
Visualisations and Insights

What are the total sales by product category?

Food and Beverages generated the highest revenue (MMK 53.47K), while Health and Beauty produced the lowest (MMK 46.85k). Other categories performed similarly, averaging around MMK 51–52k.



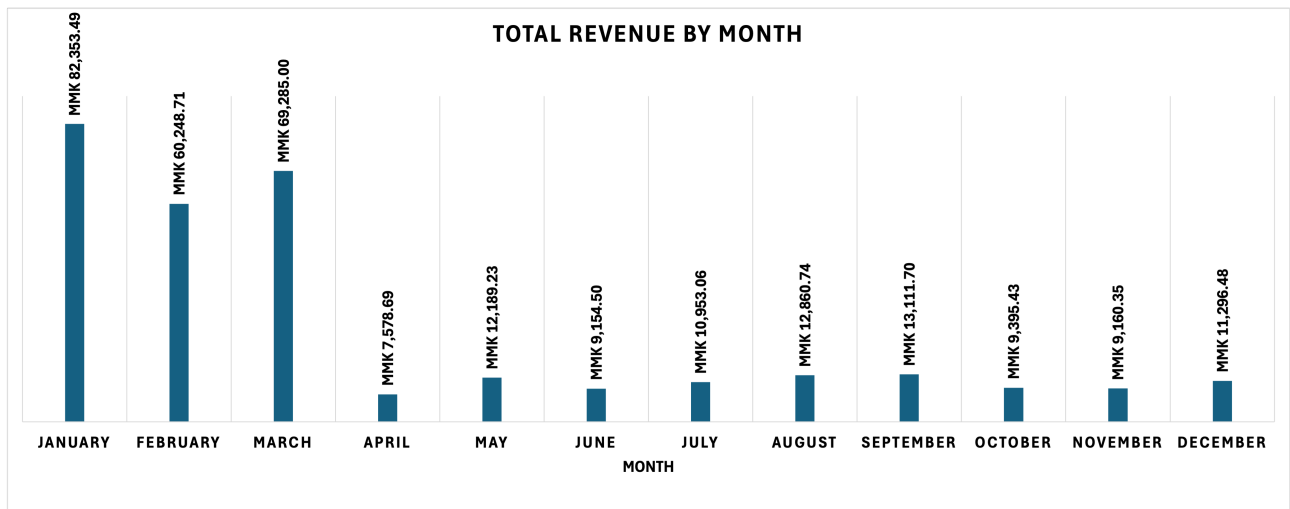
Which branch/location generates the highest revenue?



The Giza Branch generates the highest revenue (MMK105.3K) with the Alex and Cairo branches each generating revenue of around MMK 101.1K.

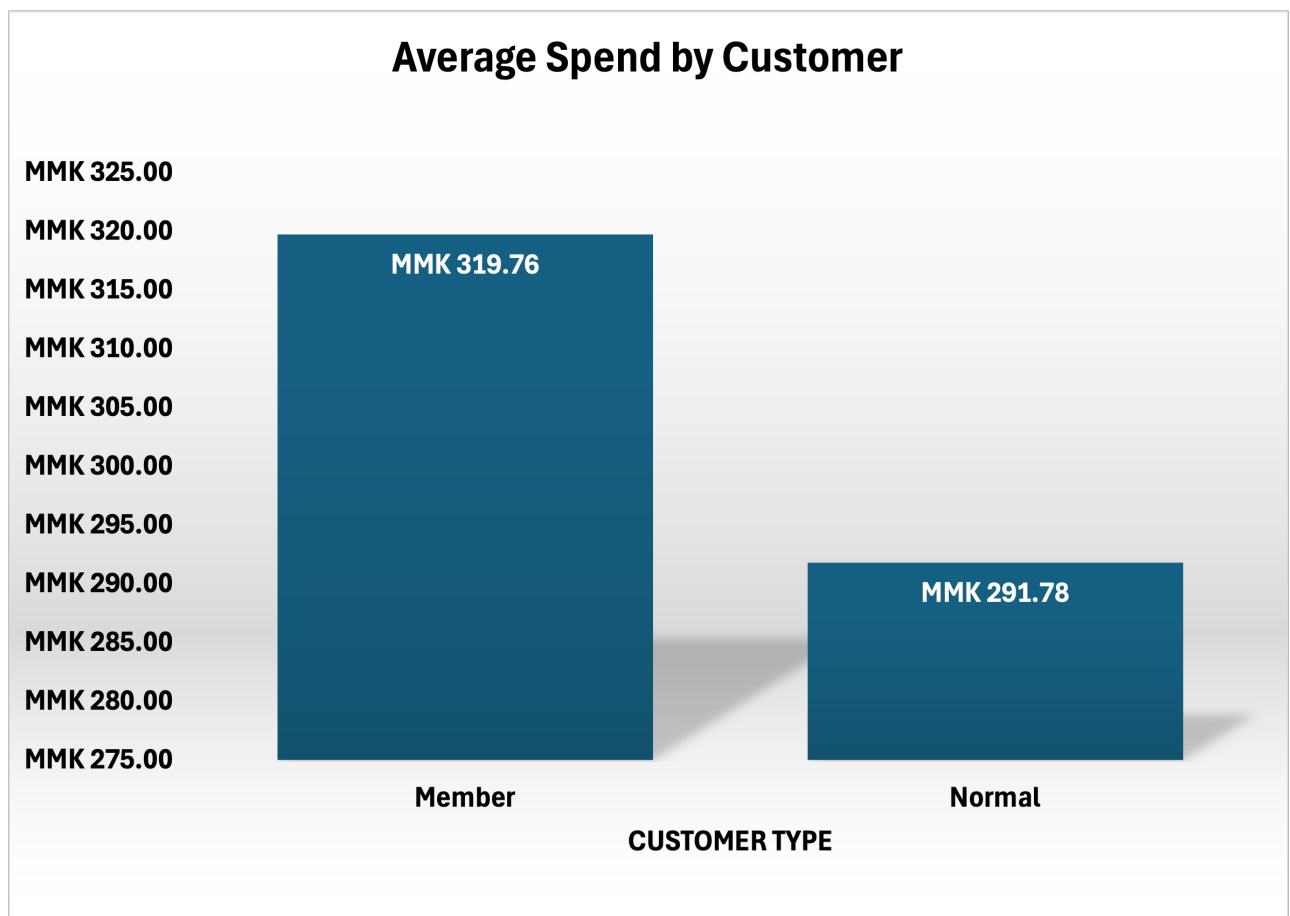
What are the monthly sales trends?

The peak month is month is January with generated revenue of around MMK 82.3K followed by March (MMK 69.2K) and February (MMK 60.2K). The other month performed similarly averaging around MMK 7-11K.



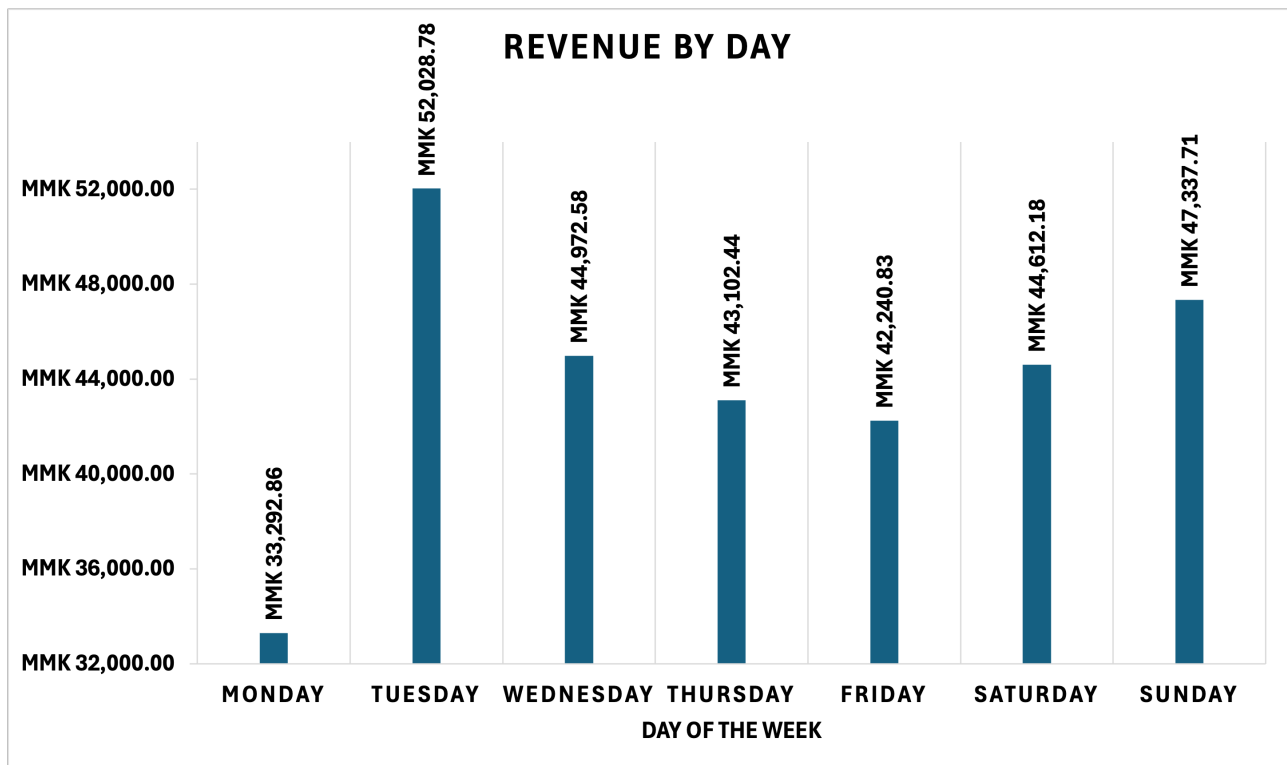
Which customer type spends more on average?

Members spend more than normal customers as the average spend of members is MMK 319.76 whereas the average spend of a normal customer is MMK 291.78.

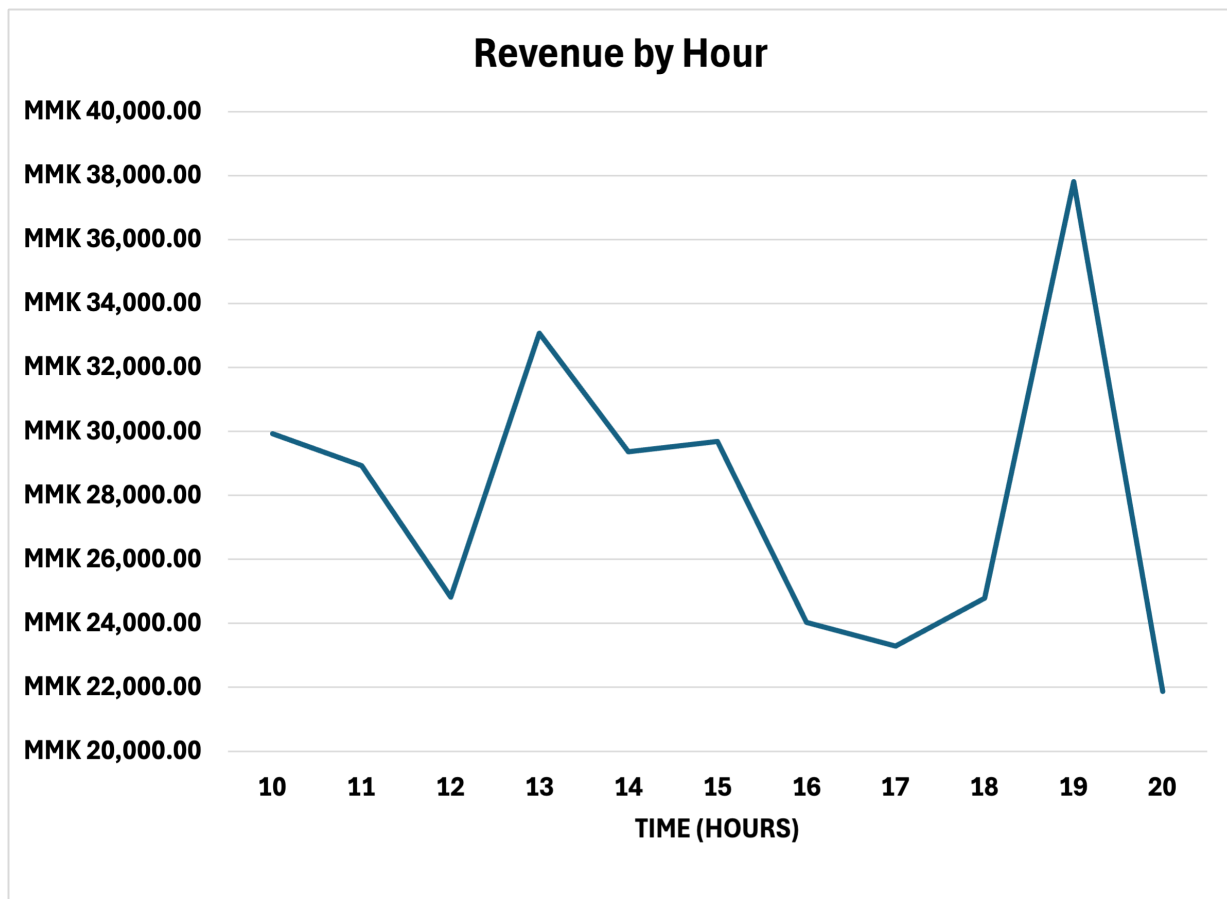


What are the peak sales days and times?

The peak sales day is Tuesday with generated revenue of MMK 52K, while the lowest is Monday with generated revenue of MMK 33.2K. Other days averaged around MMK 42-47K.

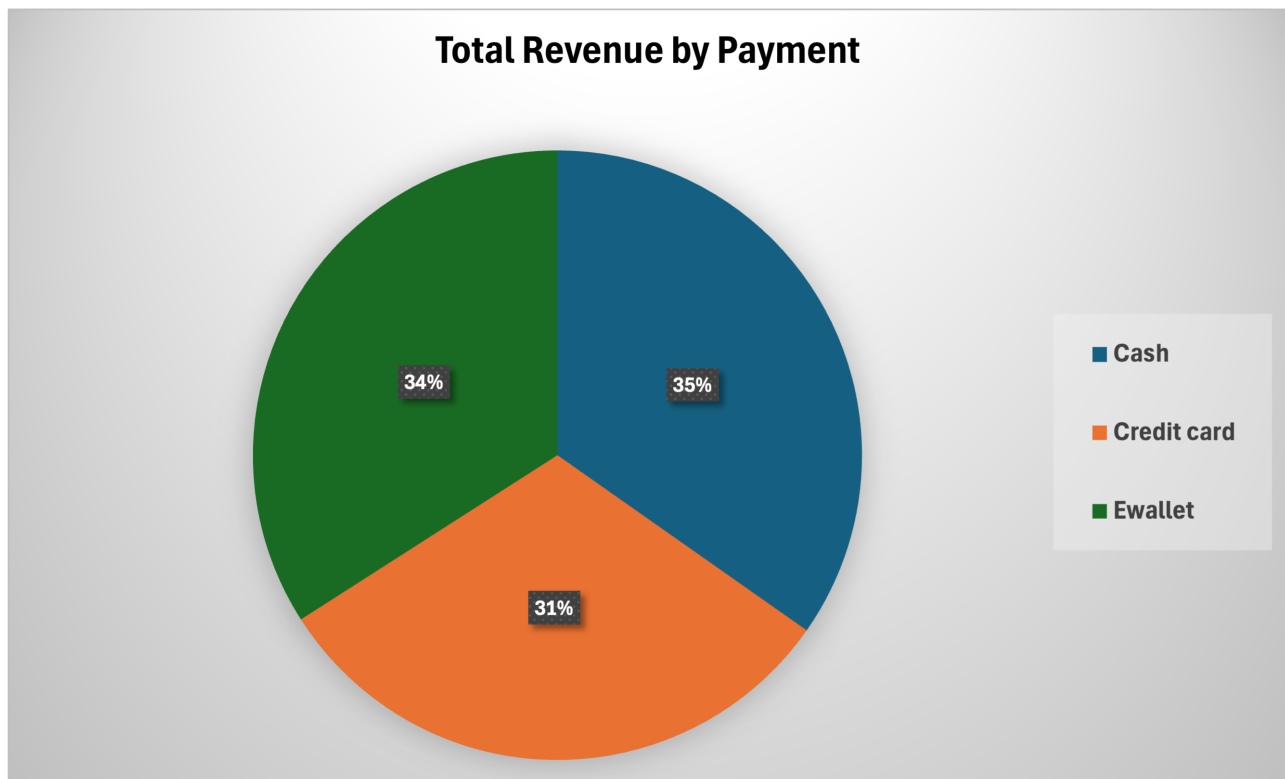


The peak sales hour is 7PM with revenue generated at around MMK 38K with lowest being 8PM with revenue generated at around MMK 22K.



Which payment method is used most and generates the most revenue?

35% of revenue is from cash, 34% of revenue is from Ewallet, 31% of revenue is from Credit card.



Business Recommendations

Increase focus on Food & Beverages and Sports & Travel products

Since Food & Beverages generates the highest revenue and Sports & Travel also performs strongly, the business should prioritise stock availability, promotions, and bundle offers in these categories to maximise revenue.

Improve performance of the Health & Beauty category

Health & Beauty produces the lowest revenue. Targeted discounts, improved in-store placement, and marketing campaigns could help boost demand in this underperforming category.

Optimise staffing and promotions around peak sales days

Since Tuesday is the highest performing day, staff levels should be increased on this day to handle higher customer demand efficiently.

Conversely, Monday promotions could be introduced to stimulate sales on the lowest-performing day.

Leverage high-spending Member customers

Members spend more on average than normal customers. The business should expand its loyalty and rewards programme to encourage repeat purchases and convert more normal customers into members.

Focus marketing activity during peak evening hours

With 7 PM identified as the peak sales hour, targeted promotions, flash sales, and staff scheduling should be aligned with this time window to capture the highest possible revenue.

Encourage digital payments while maintaining all payment options

Since revenue is evenly distributed across Cash (35%), E-wallet (34%), and Credit Card (31), the business should continue supporting all payment methods while promoting E-wallet usage through small incentives such as loyalty points or cash back to improve checkout efficiency and reduce cash-handling costs.