Case Study: Optimising Pizza Sales Through Data Analysis

Background
In the competitive pizza industry, understanding customer preferences and sales trends is essential for enhancing profitability and improving operational strategies. The pizza sales analysis aimed to identify trends, optimise product offerings, and drive sales growth.

Problem Statement
The pizza outlet faced challenges in managing inventory, maximising revenue, and understanding customer preferences. Management needed a thorough analysis of sales data to identify best-selling products, peak sales periods, and areas for improvement.

Objectives
The primary objectives of the data analysis were to:

- Identify sales trends by day and month to optimise staffing and inventory management.
- Determine the average order value to enhance marketing strategies.
- Analyse sales distribution across pizza categories and sizes to guide menu adjustments.
- Identify top and bottom-performing pizzas to inform marketing and product development efforts.

Data Collection
The analysis included the following key performance indicators (KPIs):

- **Total Revenue:** $817,860
- **Average Order Value:** $38.31
- **Total Pizzas Sold:** 49,574
- **Total Orders:** 21,350
- **Average Pizzas per Order:** 2.32

Additionally, the analysis utilised various charts to visualise:

- Daily Trend for Total Orders
- Monthly Trend for Total Orders
- Percentage of Sales by Pizza Category
- Percentage of Sales by Pizza Size
- Top and Bottom 5 Pizzas by Revenue, Quantity, and Total Orders

Analysis Methodology
The data analysis was conducted through the following steps:

1. **Data Cleaning:** The dataset was reviewed for duplicates and inconsistencies to ensure accuracy.
2. **Data Visualization:** Charts were created to depict sales trends and product performance visually.
3. **KPI Calculation:** Key performance indicators were computed to quantify overall sales performance.
4. **Product Performance Assessment:** Sales data was analysed to identify best-selling and underperforming pizzas, guiding future marketing and product decisions.

Key Findings

- **Sales Trends:** Total orders peaked on Fridays (3,538), indicating a strong demand heading into the weekend.
- **Monthly Trends:** The highest number of orders occurred in July (1,935), suggesting seasonal demand fluctuations that could inform promotions.
- **Sales Distribution:** The Classic pizza category generated the highest sales (26.91%), while large-sized pizzas dominated overall sales (45.89%).
- **Top Products:**
    - Top Revenue Generators: The Thai Chicken Pizza and Barbecue Chicken Pizza (both $43,000).
    - Top by Quantity: The Classic Deluxe Pizza (2,500).
- **Underperforming Products:** The Soppressata Pizza had the lowest sales (961), indicating a need for reevaluation of its marketing strategy.

Recommendations

Based on the analysis findings, the following recommendations were made:

1. **Targeted Marketing Campaigns:** Focus marketing efforts on high-performing pizzas, especially those popular on weekends, to maximise sales.
2. **Inventory Management:** Adjust inventory levels based on identified peak sales periods and popular pizza sizes to reduce waste and improve customer satisfaction.
3. **Menu Optimization:** Consider discontinuing or revamping low-performing pizzas, such as the Soppressata and Brie Carre pizzas, to streamline offerings and focus on customer preferences.
4. **Promotions:** Implement seasonal promotions during peak months, particularly July, to further boost sales during high-demand periods.

Conclusion

The data analysis provided critical insights into the operational challenges faced by the pizza outlet. By implementing the recommended strategies, management aims to enhance sales performance, optimise product offerings, and improve overall customer satisfaction. Future

analyses will be essential in tracking the effectiveness of these strategies and identifying new opportunities for growth.