# 🧁 Bakery Budget & Revenue Dashboard Report

## 📌 Project Overview

This dashboard presents a complete view of the bakery event’s budget allocation, actual spending, revenue sources, and preorder product insights. It allows stakeholders to quickly assess financial performance, spending efficiency, and product demand.

## 🧠 Key Insights

• Spending Efficiency: All departments stayed within their budgets, demonstrating excellent financial control.

• Top Saver: Decorations recorded the highest savings against its allocated budget.

• Most Preordered Item: Muffins led product demand with 81 preorders.

• Primary Revenue Stream: Sponsorships contributed the highest portion to total revenue.

• Order Peaks: Customer activity was highest between 12–1 PM and 4–8 PM on Friday, Thursday, and Saturday.

## 🛠️ Tools & Technology Used

### 🗃️ SQL

- Extracted structured data from bakery sales and budgeting databases.  
- Performed joins, aggregations, and filtering to prepare data for analysis.  
- Sample queries included:  
 • Budget allocation by department.  
 • Total revenue and category-wise splits.  
 • Hourly and daily sales breakdowns.

### 🐍 Python (Automation & Analysis)

- Automated data cleaning and KPI calculations using Pandas.  
- Created logic to categorize KPIs: ✅ Within Budget, ⚠️ Close to Budget, ❌ Over Budget.

## 📈 Dashboard Features

1. KPI Table with color-coded indicators based on **spending vs. budget**.
2. Bar & Line Charts to visualize:  
    • Budget vs. Spending by category.  
    • Revenue source performance.  
    • Product preorders.
3. Donut & Pie Charts for revenue distribution and sales breakdown.
4. Insights Boxes to highlight key business takeaways.

## 📊 KPI Overview & Analytical Insights

To ensure clarity and strategic decision-making, the dashboard incorporates several key performance indicators (KPIs) that provide a comprehensive view of the bakery event's financial planning and execution. Each KPI is designed to highlight specific aspects of the budget, revenue, and customer demand.

## 1️. Budget Allocation by Categories

**Description:**  
Displays the initially allocated budget for each department (e.g., Catering, Staff, Marketing, Equipment, etc.) in a clear bar chart format.

**Purpose & Insight:**  
This KPI allows stakeholders to understand how financial resources were distributed across different operational areas. It sets the foundation for comparing planned vs. actual expenditure.

**Key Finding:**

* **Catering** had the highest budget allocation, indicating its priority and scale.
* This visual helps identify high-cost departments, allowing for better scrutiny and resource planning in future events.

## 2️. Actual Spending vs. Budgeted Amount

**Description:**  
A line chart comparing actual spending against the allocated budget per category.

**Purpose & Insight:**  
This comparison highlights whether departments overspent, stayed within, or underutilized their budget. It is crucial for evaluating financial discipline and operational efficiency.

**Key Findings:**

* All departments managed to stay within budget.
* **Decorations** recorded the highest cost savings, spending only about 54% of its allocated amount.
* The visual also includes status indicators (✅, ⚠️, ❌) that give immediate clarity:
  + ✅ **Within Budget** (Green)
  + ⚠️ **Close to Budget** (Yellow)
  + ❌ **Over Budget** (Red — not triggered here)

This chart supports budget optimization strategies and encourages accountable spending.

## 3️. Revenue Streams Breakdown

**Description:**  
A donut chart and accompanying line graph breaking down total revenue by source:

* **Donations**
* **Product Sales**
* **Sponsorships**
* **Ticket Sales**

**Purpose & Insight:**  
It identifies the key drivers of income, helping prioritize which revenue channels are most profitable or reliable.

**Key Findings:**

* **Sponsorships** contributed the largest share to the revenue pool, followed by product sales.
* **Donations** had a stable, though smaller, contribution.
* This segmentation allows future planning to focus on nurturing high-value revenue streams while exploring opportunities to grow others.

## 4️. Profit/Loss of Revenue Sources

**Description:**  
A line graph visualizing changes in profits/losses over different revenue sources.

**Purpose & Insight:**  
This shows trends over time or category to determine performance consistency or volatility.

**Key Findings:**

* **Sponsorships** showed the highest growth trend among all revenue sources.
* **Ticket sales** displayed some fluctuation, indicating potential seasonal or promotional impact.

Understanding which streams are growing or declining helps guide fundraising strategies and promotional efforts.

## 5️. Preorder Product Trends

**Description:**  
A vertical bar chart visualizing preorder volumes by product: Bread, Cake, Cupcake, Donut, Muffin, and Pastry.

**Purpose & Insight:**  
Identifies consumer preferences and product demand, helping align inventory and production.

**Key Findings:**

* **Muffins** were the top preordered item, followed by **Cupcakes**.
* **Bread** had the lowest preorders, signaling a potential reevaluation of its positioning or promotion.

This insight supports product planning and marketing decisions.

## 📈 Why These KPIs Matter

These indicators are more than just visualizations—they are decision-making tools that:

* Reveal **where money is being spent efficiently or wastefully**
* Indicate **which revenue channels to invest in**
* Highlight **customer preferences** to tailor offerings
* Provide a **data-backed narrative** for stakeholders or investors