

# Sales Performance Dashboard - Problem Description

## Business Context:

This project analyzes the sales performance of a **specialty cookie company** operating across multiple international markets. The company manufactures and sells six different cookie varieties in five key markets spanning Asia, Europe, and North America. The dataset covers a critical business period from **September 2019 to December 2020**, capturing 457 days of operational data during a time that includes both normal business operations and the COVID-19 pandemic impact.

## Business Challenge:

The cookie company faces several key challenges in managing their multi-market, multi-product business:

### 1. Market Performance Variability

- **Geographic Diversification:** Operating in 5 countries (India, Malaysia, Philippines, United Kingdom, United States) with varying market conditions
- **Performance Disparities:** Need to understand which markets are driving profitability and which require strategic intervention
- **Cross-market Comparison:** Lack of standardized metrics to compare performance across different geographical regions

### 2. Product Portfolio Optimization

- **Product Mix Strategy:** Managing 6 different cookie varieties (Chocolate Chip, Fortune Cookie, Oatmeal Raisin, Snickerdoodle, Sugar, White Chocolate Macadamia Nut)
- **Profitability Analysis:** Identifying which products generate the highest margins and volumes
- **Inventory Management:** Understanding demand patterns to optimize production and stock levels

### 3. Financial Performance Monitoring

- **Revenue Tracking:** With total revenue of \$8.28M across 1,225 transactions
- **Cost Management:** Total operational costs of \$3.40M need optimization
- **Profit Optimization:** Current profit margin of 58.92% requires analysis for improvement opportunities
- **Transaction Analysis:** Average revenue per transaction of \$6,757 suggests B2B or bulk sales model

### 4. Time-Series Performance Analysis

- **Seasonal Patterns:** Understanding sales fluctuations throughout the business cycle
- **Trend Identification:** Detecting growth or decline patterns across different time periods
- **External Impact Assessment:** Analyzing how external factors (like COVID-19) affected sales performance

## Business Objectives:

### A) Primary Objectives:

1. **Sales Performance Optimization:** Identify top-performing markets and products to focus resources effectively

2. **Profitability Enhancement:** Analyze cost structures and profit margins to improve overall financial performance
3. **Market Expansion Strategy:** Determine which markets and products offer the best growth opportunities
4. **Operational Efficiency:** Optimize inventory and production based on demand patterns

## **B) Secondary Objectives:**

1. **Risk Management:** Identify underperforming segments that may require intervention
2. **Strategic Planning:** Provide data-driven insights for future business decisions
3. **Performance Benchmarking:** Establish KPIs and benchmarks for ongoing performance monitoring
4. **Competitive Positioning:** Understand market positioning based on sales volume and profitability

## **Data Characteristics**

### **A) Dataset Overview:**

- **Time Period:** September 2019 - December 2020 (457 days)
- **Transaction Volume:** 1,225 total transactions
- **Geographic Coverage:** 5 countries across 3 continents
- **Product Range:** 6 specialty cookie varieties
- **Financial Scope:** \$8.28M revenue, \$4.88M profit, \$3.40M costs

### **B) Key Metrics:**

- **Revenue Performance:** \$8,277,489 total revenue
- **Profit Margin:** 58.92% overall profit margin
- **Volume Metrics:** 1,986,974 total units sold
- **Transaction Efficiency:** Average of 1,622 units per transaction
- **Market Penetration:** Operations across 5 international markets

## **Expected Deliverables:**

### **1. Interactive Dashboard**

- Real-time performance metrics and KPIs
- Geographic performance visualization
- Product performance comparison
- Time-series trend analysis
- Profit margin analysis by market and product

### **2. Strategic Insights**

- Market performance ranking and recommendations
- Product portfolio optimization suggestions
- Cost reduction opportunities

- Revenue growth potential identification
- Seasonal pattern analysis

### 3. Business Intelligence Reports

- Executive summary of key findings
- Detailed market analysis
- Product performance assessment
- Financial performance evaluation
- Risk assessment and mitigation strategies

### **Success Criteria:**

The project will be considered successful if it provides:

1. **Actionable Insights:** Clear, data-driven recommendations for business improvement
2. **Performance Transparency:** Easy-to-understand visualizations of key business metrics
3. **Strategic Guidance:** Evidence-based recommendations for market and product strategy
4. **Operational Efficiency:** Insights that can directly impact cost reduction and profit improvement
5. **Scalable Framework:** A dashboard system that can accommodate future data and business growth

### **Impact Assessment:**

This analysis will enable the cookie company to:

- **Optimize Resource Allocation:** Focus marketing and production efforts on high-performing markets and products
- **Improve Financial Performance:** Identify opportunities for cost reduction and margin improvement
- **Strategic Decision Making:** Make informed decisions about market expansion and product development
- **Competitive Advantage:** Gain insights that can improve market positioning and customer satisfaction
- **Risk Mitigation:** Identify and address underperforming segments before they impact overall business performance

The dashboard will serve as a critical business intelligence tool for executive decision-making, operational planning, and strategic business development in the competitive specialty food market.