NESTLE FMCG INFLATION & PROFITABILITY RISK ANALYTICS

1. Introduction

Nestle is one of the world's largest FMCG companies, operating across multiple categories such as Dairy, Beverages, Nutrition, Instant Food, Snacks, and Confectionery.

In recent years, the FMCG industry has faced major challenges due to:

- Rising raw material prices
- Supply chain disruptions
- Packaging and logistics cost increases
- Inflation-driven consumer demand shifts

These factors have significantly impacted Nestlé's profitability and pricing strategy.

This project focuses on analyzing inflation-driven cost pressures and identifying high-risk product segments using SQL and Power BI.

2. Business Problem Statement

Nestlé is experiencing increasing cost inflation across its supply chain, leading to margin pressure in several product categories.

The company faces difficulty in answering key questions such as:

- Which product categories generate the highest revenue?
- Which categories are most affected by inflation?
- Which products are at high profitability risk?
- Which regions contribute most revenue but also carry risk?
- What actions should management take immediately?

Without a centralized analytics system, decision-making becomes slower and reactive.

3. Key Issues Faced by Nestle

3.1 Raw Material Inflation

The prices of commodities such as milk, cocoa, wheat, sugar, and edible oils have increased, raising production costs.

3.2 Profit Margin Decline

Even if revenue remains strong, increasing costs reduce profit margins, especially in price-sensitive categories.

3.3 High-Risk Product Segments

Some categories show low or negative margins, meaning urgent pricing or sourcing decisions are required.

3.4 Regional Revenue Imbalance

Certain regions contribute major sales volumes, but inflation impact and risk vary geographically.

3.5 Lack of Executive-Level Visibility

Nestlé managers need an interactive dashboard to track:

- Revenue
- Risk concentration
- Margin health
- Action recommendations

4. Project Objectives

The main objectives of this analytics project were:

1. Build a profitability and inflation risk monitoring system
2. Identify high-risk categories and products
3. Provide strategic action recommendations
4. Enable region-wise business performance tracking
5. Develop an executive dashboard using Power BI

5. Data Sources Used

This project was built using structured datasets representing Nestlé's business operations:

Dataset	Description
Regional Sales Data	Product sales volume and revenue by region
Product Cost Structure Data	Material, packaging, logistics cost contribution
Raw Material Price Data	Commodity price variation over time

6. Tools and Technologies Used

SQL (MySQL)

SQL was used for:

- Data extraction
- Cleaning and transformation
- Creating structured business tables
- Aggregating sales and cost metrics

Power BI

Power BI was used for:

- Data modeling and relationships
- KPI calculations using DAX
- Interactive dashboard creation
- Business insight generation

7. SQL Implementation (Backend Analytics)

SQL was used to create a master-ready analytical structure.

Example Operations Performed:

- Total revenue calculation per category
- Product-wise cost breakdown
- Region-wise sales aggregation
- Inflation-based price trend preparation

SQL helped Nestlé organize raw operational data into business-friendly reporting form.

8. Power BI Data Modeling

A star-schema model was created by linking:

- Product dimension table
- Regional sales fact table
- Raw material price fact table

Relationships ensured slicers and filters worked across the dashboard.

9. Dashboard Solution Delivered

The final Nestle Executive Dashboard provides:

KPI Summary Cards

- Total Revenue
- Profit Margin %
- High Risk Products
- Inflation Overview

Revenue Breakdown

Category-wise revenue contribution for business prioritization.

Risk Concentration View

Categories segmented by risk level.

Action Recommendation Table

Automatically highlights:

- Urgent review categories
- Monitor categories
- Stable categories

Regional Business Map

Revenue and margin distribution across regions.

10. Business Insights & Findings

Key insights generated:

- Dairy and Beverage categories contribute highest revenue
- Certain categories like Snacks show low/negative margins
- High-risk products require immediate pricing revision
- Medium-risk categories need monitoring for future inflation impact
- Regional contribution varies significantly

11. Strategic Recommendations

Nestle should:

1. Review pricing strategy for low-margin categories
2. Optimize raw material sourcing for high-inflation commodities
3. Focus expansion on stable, high-margin categories
4. Monitor medium-risk categories proactively
5. Use dashboards for monthly executive decision reviews

12. Conclusion

This project successfully demonstrates how Nestlé can use SQL and Power BI to:

- Track inflation-driven cost pressure
- Monitor profitability risk
- Identify high-risk categories
- Provide actionable recommendations
- Enable data-driven FMCG strategy planning

This dashboard acts as a decision-support system for Nestlé leadership.

Dashboard:-