











## Data Modelling using Power BI

**Requirement:** Please use Power BI to complete the data modelling and subsequent analysis tasks.

**Analysis Tasks:** Please conduct a graphical insights-based solution for the below set of 5 questions using the 10 different datasets:

**Datasets:**

-  customer\_feedback
-  customers
-  employees
-  inventory
-  products
-  promotional\_campaigns
-  sales
-  sales\_details
-  stores
-  suppliers

1. Analyze the correlation between customer loyalty tier, average purchase amount, and frequency of purchases. Visualize how these factors influence customer lifetime value across different store locations and product categories.
2. Investigate the impact of promotional campaigns on sales performance, considering factors such as campaign duration, target audience, and discount percentage. Create a dashboard that allows users to compare the effectiveness of different campaigns across various product categories and store locations.
3. Develop a predictive model for inventory management that takes into account historical sales data, seasonal trends, and supplier lead times. Visualize the model's predictions alongside actual stock levels and highlight potential stockouts or overstock situations.
4. Create a comprehensive analysis of employee performance, considering factors such as sales generated, customer feedback ratings, and tenure. Visualize how these metrics vary across different store locations, job positions, and time periods.
5. Perform a market basket analysis to identify cross-selling opportunities and visualize product affinities. Create an interactive dashboard that allows users to explore frequently co-purchased items, their profit margins, and how these relationships change across different customer segments and store locations.

**Additional Info:** These questions will require you to demonstrate data modelling skills, create calculations, and produce insightful visualizations using Power BI.