**Objective:**

The purpose of this exercise is to perform a market basket analysis on the data provided to reveal hidden patterns and relationships among factors. The main objective is to gain a deeper understanding of consumer buying behavior and identify potential cross-selling opportunities for the retail business. This research will use association analysis techniques, in particular Apriori algorithms, to identify multiple co-occurrences and generate business insights for business improvement

**Problem Understanding:**

**Data Source:**

We can perform market basket analysis on variety of datasets. The dataset will have the information about product purchased by customer.

**Data Preprocessing:**

It’s about cleaning and pre-processing the data, and turning it into a format that’s compatible with associative research programs.

**Association analysis:**

This includes identifying important associative rules and interpreting insights into consumer purchase behaviour.

**Insight generation:**

Once an association rule is created, it is important to scrutinize it to identify the most important rules. The most important rules are the ones that are most likely to provide valuable insights into consumer purchasing behavior.

**Visualize:**

We can use use an visualization library to visualize the result.

**Recommendations for business:**

Based on the insights gained from the association’s regulatory analysis, recommendations can be made to the retail industry in terms of positioning, promotions and cross-border sales strategies.