**Supply Chain Management/ Logistic management**

When a customer orders a product, which is not available in the store or temporary out of stock, and the customer decides to wait until the product is available and promised to be shipped, then this scenario is called backorder of that specific product. If backorders are not handled promptly, they will have high impacts on the respective company’s revenue, share market price, customers’ trust, and may end up losing the customer or sale order.

On the other hand, the prompt actions to satisfy backorders put enormous pressure on different stages of the supply chain which may exhaust the supply chain processes or may appear with extra labour and/or production costs, and associated shipment expenses. Moreover, the uncertainty in customers’ demands causes difficulty in forecasting the demand which makes the traditional supply chain management systems less effective in many ways such as inaccurate demand forecasting or misclassifying of back-ordered products.

However, this model can be used to predict the probable backorder products before actual sales take place.

**Problem**

Identify products at risk of backorder before the event occurs so the business has time to react.

**Data**

Data file contains the historical data for the 8 weeks prior to the week we are trying to predict. The data was taken as weekly snapshots at the start of each week.