# Abstract

Nowadays, the demand for data analysis and forecasting has been grown higher and higher. However, with that increase in demand, there is also a surge in misunderstandings. Have you heard about one of the following statements? Or do you even agree with one?

* Forecasting is only for data scientists.
* You cannot do data science without knowing Python or R.
* I need to talk to IT for everything related to Machine Learning.
* Machine Learning or Neural Network is the answer to everything.
* The more complicated the model is, the more accurate it is.
* Etc.

In this article, we are going to see how an analyst with Statistics 101 knowledge can do time series analysis in **Power BI** **without Python or R**. You do not have to know Python or R; you do not need to talk to IT department; you do not need to install anything extra; and you do not need to sweat about it.

In this model, we are going to use the **Decomposition Method** for the time series forecasting. If you are not familiar with the term, no worries, it will be covered later.

Without further ado, let’s jump right in.

# Prerequisite

1. You will need to have the Power BI Desktop client installed. If you do not have Power BI, you can download it from here.
2. Because of the properties of the **Decomposition Model**, it is highly recommended to have a data input with strong seasonality. If you do not have the data by hand, you can use the fictional data I generated from here.

# Decomposition Method

According to Wikipedia, Decomposition of time series is defined as the following:

The **decomposition of time series** is a statistical task that deconstructs a time series into several components, each representing one of the underlying categories of patters.

In other words, the **Decomposition Method** is striping out all the possible date related elements before building the model. After the model is created, we then add those elements back into the model.

For instance, if I know my sales data will have a surge every weekend, I will “remove” the rise for every weekend before we build our model. This way, I will be able to build my model with the simplest model possible without the consideration of the “anomalies.” Once the model is completed, I can “add” the surge back for every weekend for a more accurate forecast.

However, keep in mind, I’m using the term **Decomposition Method** instead of **Decomposition Model**. There is a difference between these two terms. The **Decomposition Method** is a way of thinking, where the **Decomposition Model** is a defined statistical model which is also used in *fbprophet* (a Facebook developed time series forecasting tool). However, conceptually, these two are very similar about striping elements away.