**Historical Performance Model**

This Model will keep tract of the Vendors performance over the period of time

* Vendor – The Foreign Key of the specific vendor, whose performance is being tracked
* Date – The Date on which the Performance is being logged
* On\_Time\_Delivery\_Rate – The Current On-Time Delivery Rate of the Vendor
* Quality\_Rating\_Avg – The Current Quality Rating Average of the Vendor
* Average\_Response\_Time – The Current Average Response Time of the Vendor
* Fulfilment\_Rate – The Current Fulfilment Rate of the Vendor

This model will help us analyse the trends in the Customer purchase behaviour

**Implementation of Metrics of Performance**

The Performance metrics for a vendor depends on 4 variables, we will use **signals** to capture the request/response that will trigger the condition of recalculation of these Metrics

* On Time Delivery Rate
* Quality Rating Average
* Average Response Time
* Fulfilment Rate
* Status ( From PO Model )

When the Status of the PO is set to “Completed” three of there Metrics will be calculated On Time Delivery Rate, Quality Rating Average & Fulfilment Rate

**On Time Delivery Rate**

In the On Time Delivery Rate we will calculate the % of time when the vendor delivered the PO before or on the date of Delivery

This Metric will be calculated upon setting the PO status as “Complete”

**Quality Rating Average**

First we will retrieve all the PO’s whose vendor is set to the current vendor, after that we will store all the PO’s rating in a list/set.

After that we will iterate over the list/set and add up the values then divide it by the no. of ratings

This Metric will be calculated upon setting the PO status as “Complete”

**Average Response Time**

The average difference between the issued date of PO and the date on which the PO was acknowledged by the vendor

This Metric will calculated only when the vendor will make the POST Request for acknowledgement of the PO.

**FulFilment Rate**

The Total Orders delivered by vendor

This metric will be calculated upon making the Status of the PO as ‘Complete”