**Dashboard requirements for Superstore**

The purpose of this dashboard is to monitor returns so its intended user, Superstore’s CEO, can find out what is causing the high returns in Superstore. With its data source coming from Superstore.xls, the dashboard should be able to help its user to understand current problems such as what is causing customers to return their orders and how to reduce the volume of returned orders. Some important Key Performance Indicators (KPI) include Return Rate, Total Sales, and Total Returns. Total Profit may also be included in the dashboard but will not serve as the main focus since the objective is to find out the reasons behind the returns.

**Structure of Dataset:**

Each row is uniquely identified by the Row ID and the combination of how many (Quantity) of a particular product (Product ID, Product Name) was purchased by who (Customer ID, Customer Name) and when (Order Date). Therefore, the Order ID may not be unique to one row and could appear in multiple rows if one customer ordered different products in that same order. After using the Orders table to left join the Returns table, there is now an additional column (Returned) indicating whether the product was returned for each row.

**Interpretation of Return Rate:**

The return rate is based on the number of times the product in an order was returned.

The general formula for return rate is SUM(Returned) / COUNT(Returned).

For example, the return rate by customer:

Although one customer may order multiple quantities of the same product, by indicating a 1 in the Returned column we assume all quantities of that product in the same row were returned.

Therefore, for the following example, the return rate for customer CG-12345 would be: SUM(Returned) / COUNT(Returned) = 1/2 = 50%.

i.e. Customer CG-12345 returned their purchase once.

| Row ID | Order ID | Customer ID | Product ID | Order Date | Quantity | Returned |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | CA-2020-12345 | CG-12345 | FUR-BO-12345678 | 12/3/2020 | 3 | 1 |
| 2 | CA-2020-12345 | CG-12345 | FUR-CH-12345678 | 12/3/2020 | 5 | 0 |

**Create new variable Quantity Returned:**

Following the above assumptions, because Returned column doesn’t tell us the returned volume of the product, we create a new column, Quantity Returned, for further insight:

Quantity Returned = Quantity \* Returned

**Key functions of the dashboard should include:**

* Relationship between total sales and total returns
* Return rate by product category
* Return rate by customer
* Return rate by geographic measure
* Return rate by measure of time
* Composite charts showing return rate for a mix of multiple factors