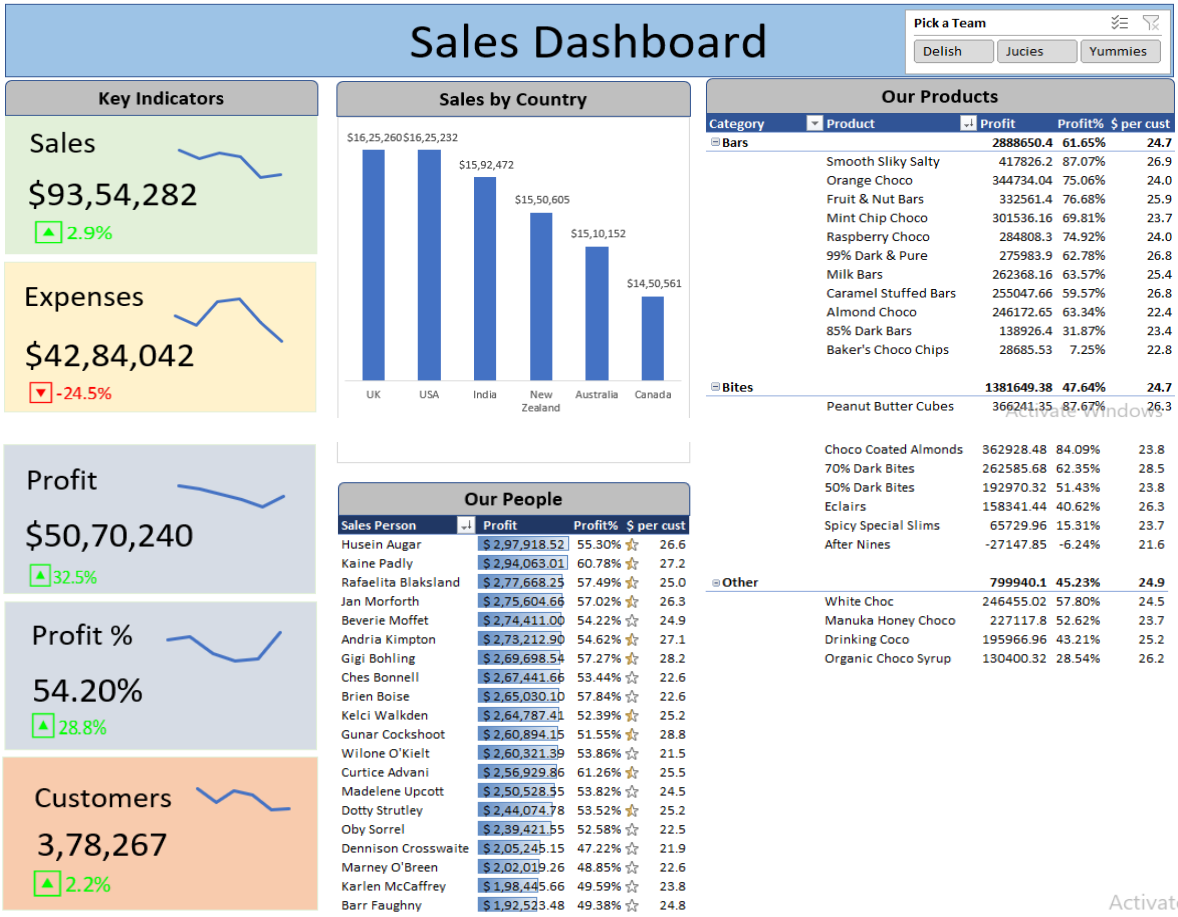
Sales Dashboard in Excel

A Sales Dashboard was created in Excel using sample Chocolate sales data.



Input Data

Data was present as 4 different tables in an excel file. Sales table had details of products(chocolates) purchased on each day, the location at which it was sold, sales person, total sales amount, the number of customers who bought each product and the number of boxes sold. Product table had details of each product such as the product category and the cost of each box. Geography table had location information. Sales person table had details about the team to which they belong and the link to their picture.

Analyzed the data, created relationships between different tables using matching columns and developed data model. Created 2 calculated fields ‘Cost’ and ‘Profit’ using Excel Power Pivot feature with the DAX formula given below.

Cost = [Boxes] * RELATED(products[Cost per box])

Profit = [Amount] - [Cost]

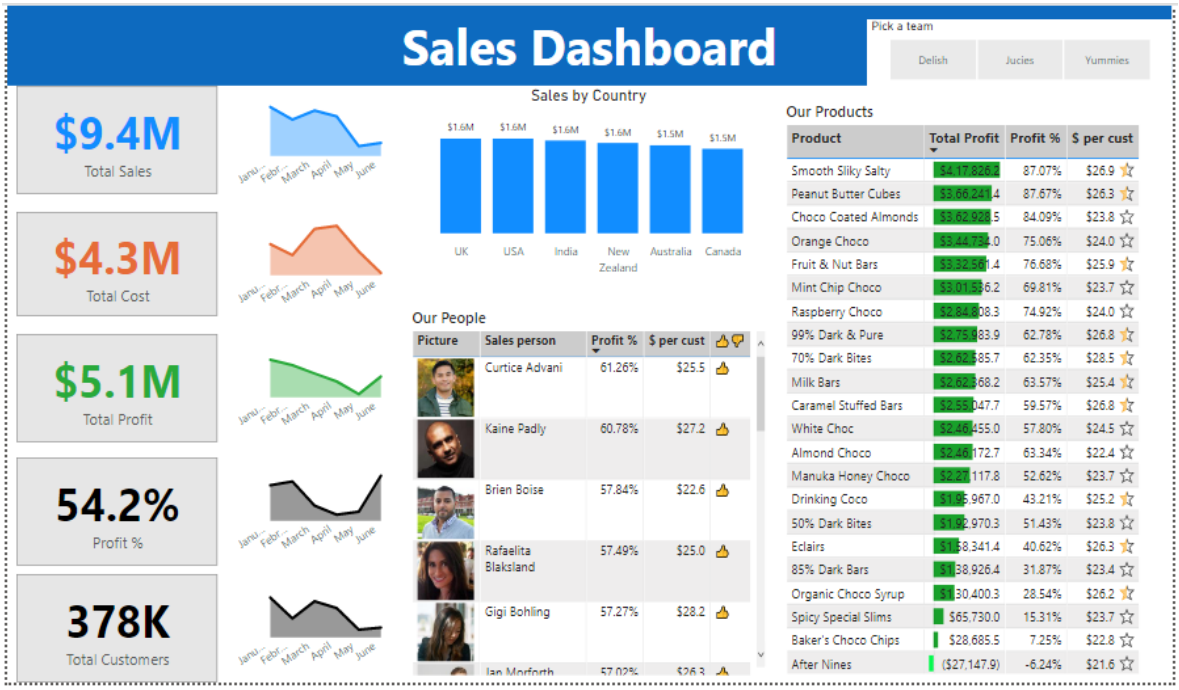
Created Pivot tables to calculate values for each datacard showing Sales, Expenses, Profit, Profit% and Customers under the Key Indicators tab in the dashboard. Created 2 measures ‘Profit%’ and ‘$ per cust’ using the below given dax formula.

Profit% = SUM([Profit]) / SUM(Sales[Amount])

$ per cust = SUM(Sales[Amount]) / SUM(Sales[Customers])

Each datacard has total values (Sales, Expenses, Profit, Profit% and Customer), percentage difference of the value from previous month and a line chart showing the values for each month. Designed a column chart displaying country wise total Sales. Developed a tabular report showing the profit and $ per cust for each sales person, which helps in identifying the top performing sales persons. Added conditional formatting on Profit and $ per cust columns. Created another report showing the category and product wise profit and $ per cust details. Added a slicer showing teams of salespersons so that the dashboard is made interactive.

Sales Dashboard in Power BI



Created a Sales Dashboard in Power BI using the same Chocolate sales data. Imported the data present in excel file into Power BI and a data model was created by defining relationships between different tables.

Created a calculated field 'Cost' in Sales table by using the dax formula given below.

Cost = sales[Boxes] * RELATED(products[Cost per box])

Created different measures as given below.

Total Sales = SUM(sales[Amount])

Total Cost = SUM(sales[Cost])

Total Profit = [Total Sales] - [Total Cost]

Profit % = DIVIDE([Total Profit],[Total Sales])

Profit Target Met? = IF([Profit %] > 0.5,"👍","👎")

$ per customer = DIVIDE([Total Sales],SUM(sales[Customers]))

Similar to excel dashboards, developed card visuals for each KPI like Total Sales, Total Cost, Total Profit, Profit% and Total Customers and corresponding area charts for each KPI. Added a column chart showing country wise sales. Created 2 tabular reports displaying Profit and $ per cust for each salesperson and Product. Added conditional formatting for Total Profit and $ per cust columns. Also, added a slicer to pick each team and visualize data accordingly.

Power BI vs Excel comparisons

Compared Power BI and Excel based on certain parameters.

1.Data Preparation

Both Power BI and Excel has Power Query feature which can be used to connect to the data source, import data to Power BI and Excel and do the necessary cleansing and transformations.

2.Calculations

Both Power BI and excel can use DAX formulas to create new calculated fields and measures which can be used in visuals. Excel can use the pivot table feature to create additional calculations for eg, in the Sales Dashboard created in excel, % difference of the value from previous month is also shown in the card visual. This can be achieved in Power BI as well by adding more DAX formulas. Strong knowledge of DAX is required to create such calculations in Power BI whereas in Excel, this can be done easily in pivot tables.

3.Visuals

On comparing both dashboards, Power BI dashboard has picture of the salesperson in tabular report. This is achieved by categorizing the column containing link to the picture as 'Image URL'. This was not possible in excel dashboard. Also, card visual is available in Power BI, hence creating KPI cards was much easier compared to excel.

4.Interactions

Power BI dashboard is more interactive than excel dashboard because in addition to slicers, clicking on a particular visual in Power BI automatically filters out all remaining visuals. This is not possible in excel, excel visuals can only be filtered using slicers.

5.Sharing

Both Power BI and excel dashboards can be shared via email. Power BI dashboard can be published to web and a link can be given to users so that they can access the dashboard and interact with it without having access to the underlying data. Excel dashboard can also be published and accessed using excel online, but interactivity is quite less. Considering the cost of sharing, excel dashboards are cost effective since most of the users will have excel installed in their system but to work on the Power BI dashboards which you have shared, users should have Pro or Premium license of Power BI.

6.Updating

Both Power BI and excel dashboards can be updated with the new data using Refresh button.

7.Security

Row level security (RLS) can be set in Power BI by creating roles on certain conditions and assigning users to roles so that users can only access data specific to their role. This is not possible in excel.