Low Level Design

# Deloitte Study Case

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# 1. Problem Statement

It is used as a collective term to refer to a broad range of economic services provided by the finance industry, which encompasses a broad range of organizations that manage money, including credit unions, banks, credit card companies, insurance companies, consumer finance companies, stock brokerages, investment funds A banking domain is comprised of all the components needed to run a financial service end-to-end. It covers the transaction and distribution process; the ways in which customers interact with the system, products, and services the organization offers; and the technology involved.

# 2. Aim

The time-series data for CPI, Exchange Rate and Exports (in Millions) data for 200 countries pulled from “The World Bank” site. We can look into the following aspects while judging the individual’s excel skills:

1. As the data is quite unstructured, if the individual is able to structure it and draw insights from it

2. The typical dashboard will have slicers for Country and Time period (Monthly, Quarterly and Yearly) and trend analysis for Exchange Rate, CPI and Exports in a single tab

3. If the individual is able to do a YoY, CAGR analysis on that dataset

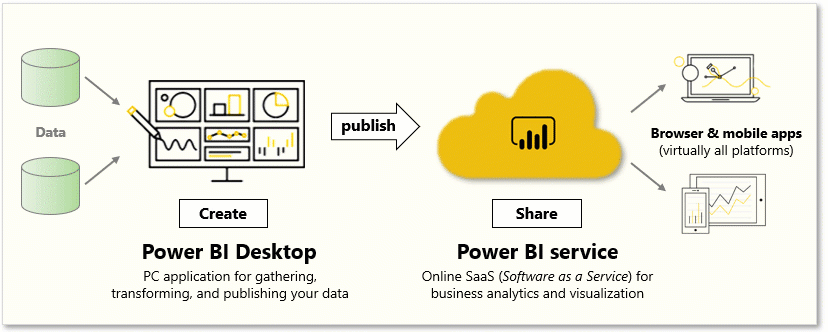
4. Graphical representation of data and whether it is dynamic in nature i.e., if the data changes for all three charts when slicers are applied Deduplication and removal of redundancies – whether the individual is able to remove redundancies and erroneous results

# 3.Architecture

Power Bi is a business suite that includes several technologies that work together. To deliver outstanding business intelligence solutions, Microsoft Power Bi technology consists of a group of such components such as:

* Power Query (for data mash-up and transformation)
* Power BI Desktop (a companion development tool)
* Power BI Mobile (for Android, iOS, Windows phones)
* Power BI Pivot (for in-memory tabular data modelling)
* Power BI View (for viewing data visualisation)
* Power BI Map (for visualizing 3D geo-spatial data)
* Power BI Q&A (for natural language Q&A)

The architecture of entire project is shown below:



* Our entire data source is our excel file. This excel file is connected to the Power Bi server. From the server, data can be shown and accessed.
* Power Bi server has various architectural components regarding to solve the query.
* The functionalities show the result according to query entered by the end user or client.
* Client entered the query to show the graph, after selecting the data in form of rows and columns it will go inside the Power Bi server. In Power Bi server, it understands the query and generates the best recommended charts based on selected data and return it into the Power Bi screen.
* Based on recommended charts, client can make the visual aspect of the same.
* If client is not satisfied with the result, he/she has to select data accordingly otherwise make required changes to show the expected result.

# 4. Data Description

Data was given in three excel file named as

CPI Data cleaned.csv

Exchange rate cleaned.csv

Exports Merchandise cleaned new.csv

* CPI Data cleaned new.csv includes
* Year
* Month
* Quarter
* Country
* Data
* CPI Data cleaned new.csv includes
* Year
* Month
* Quarter
* Country
* Data
* Exchange rate cleaned new.csv includes
* Year
* Month
* Quarter
* Country
* Data

# 5. Connect Data With Powerbi

* Open PowerBi desktop.
* Connect it with the Excel files
* Import and Load these files.
* Make sure there is good internet connection for better experience.