**Power BI Assignment 3**

1. **List and explain different PowerBi products?**

* **Power Bi Desktop:** The Power Bi desktop is important desktop application that is mostly used by analyst to conduct their analysis. The analyst can import data from various sources in Power Bi desktop, model that data to find the relationship between different data and make changes if required. The Power Bi Desktop provide analyst with various techniques to visualize the data and that too in a easy way just drag and drop. In Power Bi Desktop analyst create reports and dashboard. The Power Bi comes with different version that are free, pro and premium. The subscription or version depends on use case of the user the length of projects or if user want to share the report or dashboard online.
* **Power Bi Mobile:** The Power Bi Mobile is basically a mobile application that provide tools that help business stakeholders or the analyst to stay connected with data whenever business takes them. In Power Bi mobile the user can access the reports and dashboard but can’t create one. The work published online could be accessed by Power Bi mobile.
* **Power Bi Service:** The Power Bi comes with Power Bi service that allows the user to share their work with other people by uploading their work on a cloud platform. The business stakeholder or the other users can access the reports and dashboard created by developer and analyst through power bi service and monitor their business performance time to time whenever required. The business stakeholder can also check if the task assigned to particular team or a person is completed or not in provided amount of time. They can also create and modify dashboard on their own.

1. **What limitations of Excel, Microsoft solved by PowerBi?**

The following limitations of Excel were solved by Power Bi:

* In Excel the data can be imported from limited data sources whereas in Power Bi the data can be imported from 80+ data sources that are .csv, .xlsx, and different databases so we can say that the data import limitation of Excel is solved by Power Bi
* There different charts and different visualization available in Power Bi which are advanced and smart, interactive as compared to Excel. In Power Bi we can download and access different charts and visualization if required.
* In Power Bi users can share their work with organization by publishing on their workspace, on the other hand the organization can access their work through Power Bi Service, where as this cannot be achieved using Excel
* There is limitation in number of columns and rows **1,048,576 rows and** 16,384 columns where as in Power Bi there no such limitation on dimension od data
* The analytical engine in Power Bi is much more advance and faster as compare to Excel which save lot of time in to processing the data.

1. **Explain Power Query?**

The Power Query is the heart of Power Bi. The Power Query allow user to transform and prepare data for the processing or to run analysis on it. Using power query editor user can create different queries and transform the data whenever required and load the data in main window to visualize it. Power Query provide wide variety of way to transform the data. Power Query is just one piece of the suite of Power Bi and Excel product from Microsoft. The Power Query also records each step done during data transformation that allow users to keep track what they are doing, and user can delete the step whenever needed.

Using Power Query for data transformation one can do following tasks:

* Change the datatype of data – text, date/time, number
* Merge or split the columns
* Group the data
* Summarize the data
* Pivot and unpivot the data
* Sort and Filter, the data
* Add calculated columns
* Delete columns and rows
* Find and relace particular text
* Aggregate and summarize the data

Power Query is important tool for the analyst as it can be used to clean the data before visualizing it and drawing the insights and conclusion from it.

1. **Explain PowerMap?**

Power Map is the three-dimensional visualizing tool that allow one to look at information in a different or new way. It comes with both Microsoft Excel as well as Power Bi. The Power Map allow you to discover the insights that are not usual seen using basic two-dimensional tables and charts. It’s more advanced way of visualizing the data. Using power map user can plot geographic and temporal data on 3-D globe or custom map, show it over time. The data based on geographical location can be highlighted.

1. **How PowerBi eliminated the need to host SharePoint Server on premises?**

There has been a lot of buzz and questions around connecting your Office 365 tenant to data located on Premises. This is a common requirement and is now made possible with Power BI. Connecting to your data source is made possible with the Data Management Gateway (DMG) The awesome part of the DMG is that is makes the connection outside the firewall. That means, no reverse proxies, custom web services or firewalls to deal with. Overall, there are few requirements and caveats that I encountered while setting up my demo environment. FYI, I set this up in under and hour, including the time it took to spin up a Power BI trial.

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* The DMG must be installed on a non-SQL server in your on-premises environment. I could not get anything to work on my SQL server so I am thinking this has to be done on a member server.
* A new Gateway must be created via your bi admin center.
* You must register the gateway with the on premises DMG client.
* You can then store your credentials for the data sources on premises OR in the cloud. The benefit to storing the creds in the cloud is you can recover quicker from a system failure.

1. **Explain the updates done in Power Bi Service (power BI 2.0) as compared to older version?**

* Admin and governance
* Allow sharing links to include your changes to report
* Email subscriptions access via Admin API
* Announcing Public Preview of Hybrid Tables in Power Bi Premium