Introduction to Power BI and Reporting

We have learned the basic introduction of Business Intelligence and Report this week. We have gained fundamental knowledge of BI tools especially Power BI. Power BI is a business analytic tool produced by Microsoft. It’s a cloud-based application that allows you to create dataset, clean, transform or manipulate the data. It also allows you to visualize data, and publish results. One of the key features is to allow you to share your reports with colleagues or stakeholders, and another great feature is capable of many external data resources. “Power BI's user interface is fairly intuitive for users familiar with [Excel](https://searchenterprisedesktop.techtarget.com/definition/Excel) and its deep integration with other Microsoft products makes it a very versatile self-service tool that requires little upfront training.” (Rouse M. Dec 2018)

In business environment, Power BI is used to find useful insights with organizations’ data to make comprehensive executive decision. The data models created by the Power BI would be used for finding optimized results for the organizations. It also forecasts data to ensure departments to meet the business goal. The Power BI also provide user-friendly dashboard for managers or administrators, and it gives management teams more insight into how team members’ perform the tasks.

**Reference:**

Rouse, M. (2018, December). What is Microsoft Power BI? - Definition from WhatIs.com. Retrieved January 13, 2019, from <https://searchcontentmanagement.techtarget.com/definition/Microsoft-Power-BI>

Extract, Transform and Load Data

This week we have learned the process of getting data, transforming for cleaning process of the data in the Excel and Power BI. With getting data, we have learned to import the data from various channels, which includes manually adding data into Excel and Power BI. Transforming data is important during cleaning data process. I have learned fixing metadata, filtering rows, renaming and combining queries, eliminating and also adding columns. As I mentioned in the discussion, cleaning data is an important process in the business environment, and bad quality of data would affect management’s executive decision-making.

This new knowledge I learned with Power BI and Excel would definitely benefit me in the future work environment. With this new knowledge and skills I learned in this module I would be able to better operate Power BI or Excel to clean the data. I would also be able to extract, transform, and load data to complete the tasks that managements assign with the processing of data.

Modeling data for analysis and enhancing the data model

In this module, I have learned the overview of data analysis modeling. That included creating the data relationships in each table, concatenating columns, performing a look up to related function, using “if” function. I also learned how to add a data table in both Power BI and Excel. I have also gained knowledge about DAX (Data Analysis Expression), whose formulas are written in a line to format functions correctly. To enhance data model, I have learned about hierarchies, basic properties configurations, and new measures with DAX.

In the business environment, those technical skills are helpful in Power BI functions. I would be able to use data relationship to analyze data across multiple tables. I could add new columns to display values in a new way by combining columns into one or by bringing in a value from a related table or by translating a value into something new that’s useful for report. I could define hierarchies to drill down to more detailed information in a report. I would be able to sort data, and hide any not useful for reporting with properties configuration. Finally, I could define measures such as counts and totals in a report for analysis needed.

**Data relationship and how visualizations used to interpret data.**

Data relationship plays an extremely important role in the business environment. It connects two tables with primary and foreign keys that allow them to join together. The purpose of joining tables is to create comprehensive data for data visualization in the business environment. I have learned data analysis expressions (DAX) in the class, which allow working with relational data and dynamic aggregation in business intelligence tools such as Excel or Power BI.

Data visualization gathers massive data and interprets them into graphs, chart, matrix, map and etc. In the modern business environment, data analysts would need to provide reports to stakeholders that do not have any technical background for decision-making. Data visualizations would be ideal tools and technologies, and they are essential to data-driven decision-making and a massive amount of data and information handling. Data visualization tools have summarized the massive information into graphs, charts, matrix and other methods that allow stakeholders easily understand.