**Power BI Assignment 1**

1. What do you mean by BI? Explain.

Business intelligence combines business analytics, data mining, data visualization, data tools and infrastructure and best to help organizations make more data driven decisions. In practice, you know you’ve got modern business intelligence when you have a comprehensive view of your organization’s data and use that data to drive change, eliminate inefficiencies and quickly adapt to market or supply changes. Modern BI solutions prioritize flexible self-service analysis, governed data on trusted platforms, empowered business users and speed to insight.

1. How Power-BI helps in BI, and how does it help Analysts? Explain.

Power BI is a BI and data visualization tool, that leverages visual analytics to empower people and organizations is making the most of their data. The engaging visualization created in power BI take the excel workflow to the next level and help stakeholder make sense of the massive amounts of data available.

Power BI in analytics industry-

Data Visualization – Power BI allows users to create interactive dashboard s and reports that make it easy to understand and communicate large amounts of data. This can help organizations make better decisions and identify new opportunities.

Data integration – It can connect to a wide range of data sources, including databases, spreadsheets, and cloud services. This makes it easy to bring together data from different systems and create a single, unified view of an organization’s data.

Self-service analytics – With power BI, business users can easily create and share their own reports and dashboards without relying on IT and data scientists. This empowers employees to explore data find insights on their own.

Collaboration and sharing – Power BI makes it easy for users to share their insights and collaborate with others. Reports and dashboards can be shared with colleagues, partners and customers and data can be accessed from anywhere via web and mobile app.

1. Explain Descriptive analytics?

Descriptive analytics as most common fundamental form of business analytics used to monitor trends and keep track of operational performance by summarizing and highlighting patterns in past and existing data. It produces business metrics, reports and KPIs to help businesses track their performance and different trends. As a results, companies understand what’s happened thus far and when combined with the other types of business analytics, get an idea of why things happened, what things may occur and how to prepare for future events.

1. Explain Predictive analytics?

Predictive analytics is significant analytical approach used by 3 many firms to assess risk, forecast future business trends and predict when maintenance is required. Data scientists use historical data as their source and utilize various regression models and machine learning techniques to detect patterns and trends in the data. The basic goal of predictive analytics is to forecast what will happen in the future with a high degree of certainty. This distinguishes predictive from descriptive analytics, which assists analysts in analysing what has previously occurred and prescriptive analytics, which uses optimization techniques to detect optimal solutions to address the trends revealed by predictive analytics.

1. Explain perspective analytics?

Prescriptive analytics is answering the question "What do we need to do to achieve this?" It involves the use of technology to help businesses make better decisions through the analysis of raw data. Prescriptive analytics specifically factors information about possible situations or scenarios, available resources, past performance, and current performance, and suggests a course of action or strategy. It can be used to make decisions on any time horizon, from immediate to long-term. It is the opposite of descriptive analytics, which examines decisions and outcomes after the fact.

Prescriptive analytics can cut through the clutter of immediate uncertainty changing conditions. It can help prevent fraud, limit risk, increase efficiency, meet business goals, and create more loyal customers. When used effectively, it can help organizations make decisions based on highly analysed facts rather than jump to under-informed conclusions based on instinct.

Prescriptive analytics can simulate the probability of various outcomes and show the probability of each, helping organizations to better understand the level of risk and uncertainty they face than they could be relying on averages. Organizations that use it can gain a better understanding of the likelihood of worst-cast scenarios and plan accordingly.

1. Write five real-life questions that Power Bi can solve.

Power Bi solve day to day problem of data analyst, let me explain five of them.

ONE-OFF REPORTING IS TIME CONSUMING -

Gathering a huge amount of data from different sources can be an uphill task. You must rely on different departments to get data, interpret it, and then produce actionable insights. These reports need to be replicated during set intervals. You must manually regenerate the report from the beginning. This is a challenge faced by many corporations. But as the business grows, waiting for data and then reworking on the reports to get the updated data is not a good approach as it affects your timeline and your productivity.

Power BI helps you to access your data instantly with less manual work. It can handle a huge amount of data making it easy to decipher using advanced visualizations. It allows you to get data from different data sources by automatically connecting with them, saving you time and effort. Once a report is created, you only must hit refresh or enable a schedule refresh to get real-time insights. This will prevent any human error and skewed results.

### FINDING SPECIFIC DATA IN LARGE DATA VOLUMES WITH POWER BI -

Going through spreadsheets in search of specific datasets is cumbersome. Data is presented in a non-user-friendly way and finding specific data from a vast amount of data can be quite inefficient.

Here comes Power BI, providing the users with an easy search of datasets. Once you have imported a dataset in Power BI Desktop, you can access that anytime, from anywhere, as many times as you want. For instance, in the Query Editor, you can go to “View” in the header and select the “Go to Column” to navigate to the column you want. And on the main report page and in the data section there is a search right at the top of Fields. With that, you can search and filter all your objects to only those that match. Data can also be shared and published for others to view, so they can also have access to it and take an equal part in the decision-making process.

### DATA QUALITY -

Everyone wants to use high-quality data for their analysis. Data quality is one of the most important aspects of a data analysis and is often overlooked or treated as an afterthought. Poor quality data can lead to inaccurate analytics and ill-conceived business strategies. If data is not accurate, complete, and clean, companies can make costly mistakes.

Power BI helps you quickly identify data quality issues and provides numerous ways to address them. Power Query provides you with exciting features to clean and prepare data for analysis. The data profiling tools can help you remove all the inconsistencies, null values, and data quality problems.

### LACK OF SECURITY -

Data Security is an essential issue for the adoption of any technology. If data is not secured correctly, it can get lost due to system failure, corrupted by a computer virus, deleted, or altered by a hacker. This can lead to consequences like financial loss, reputational damage, and loss of your customers.

Power BI overcomes these issues by leveraging Azure Active Directory for authentication and Power BI login credentials to access the resources.

You can then grant access to your data only to the people of your choice. Row-Level Security is also possible in Power BI, which helps secure data and streamline administration.

And, by using Microsoft Information Protection you can define sensitivity labels and enforces governance policies whenever data is accessed.

### UNABLE TO FORESEE FUTURE TRENDS -

Business Trends keep on changing according to the needs, wants, and tastes of the consumer. Prediction of future trends and opportunities is an essential task in business development. It is challenging for businesses to exist and stay relevant if they are not good at identifying and adapting to current trends. That is why spotting trends and showing how they change over time is essential and can help companies make suitable decisions. This gives them an edge and helps them stay ahead of their competition.

Power BI helps in monitoring the processes of the company. It can easily spot trends with the help of the data gathered during monitoring. Data Analysis Expressions (DAX) provides a wide range of functionalities for trends analysis. The trending AI Capabilities of Power BI help you visualize the future using predictive analytics and other such big data tools. This can help businesses foresee any need to recruit more employees, change a specific requirement, or further invest in technology.