**Power BI Assignment 1**

1. What do you mean by BI? Explain.

Business Intelligence (BI) is a set of processes, architectures and technologies that convert raw data into meaningful information that drives profitable business actions. It ia suite of software and services to transform data into actionable intelligence and knowledge.

BI has a direct impact on organization’s strategic, tactical and operational business decisions. BI supports fact-based decision making using historical data rather than assumptions and gut feeling.

BI tools perform data analysis and create reports, summaries, dashboards, maps, graphs, and charts to provide users with detailed intelligence about the nature of the business.

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

Power BI is a cloud-based BI service that was released by Microsoft in 2014. It uses years of experience in SQL Server, Access, MS Excel, etc. It enables businesses to clean and transform data into meaningful insights by thoroughly analyzing the data.

**Ease of Use**

Power BI has a very easy-to-use interface. Even without prior knowledge and experience in programming, one can use Power BI. Its inbuilt intelligence allows one to choose attributes for reports by suggesting the best reporting element.

**Ease of Learning**

Power BI was built based on the founding platform of MS Excel and follows a similar approach for designing reports. Excel is a widely used software around the world, which makes Power BI easy to pick up as well. It is easy for users and programmers to learn the data modeling of Power BI. Besides, it comes with learning guides on the official website as well.

**Ease of Collaboration**

Power BI comes with options that make it really easy to collaborate. Users can collaborate with others to compile interactive reports and dashboards in app workspaces.

**Cost-effectiveness**

Power BI Desktop is available for free and the user can create simple or complex reports and dashboards.

**Wide Coverage of Data Sources**

Power BI comes with a wide array of connectors for data sources like MySQL database, SQL Server database, Oracle database, IBM Informix, Microsoft Excel, IBM DB2 database, MailChimp, Facebook, GitHub, IBM Netezza, PostgreSQL database, SAP HANA, Sybase database, [Amazon Redshift](https://intellipaat.com/blog/what-is-amazon-redshift-in-aws/), Azure SQL Database, Azure SQL Data Warehouse, Azure Analysis services database, Azure Blob Storage, Salesforce, and many more.

1. Explain Descriptive analytics?

Descriptive analytics as the 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.

The practice of descriptive analytics produces business metrics, reports, and KPIs (Key Performance Indicators) to help businesses track their performance and different trends. As a result, 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.

Here’s a descriptive analytics example — a very timely one in today’s digital world — social media engagement. Descriptive analytics provides metrics that help businesses figure out the return rate on different social media initiatives. These initiatives include engagement rates, numbers of followers, whether they’re growing or declining, and revenue generated via social media platforms.

Marketing professionals can use the descriptive analytics with social media engagement to decide which promotions work and which should be dropped. Social media metrics can also help businesses prioritize their social media outreach campaigns.

Other descriptive analytics examples include financial metrics that assess a business's health. This includes reports that show expenses and revenue, inventory and production logs, accounts receivable and payable records, cash flow, movement in the supply chain, internal and external surveys, and more.

1. Explain Predictive analytics?

Predictive analytics is a significant analytical approach used by many firms to assess risk, forecast future business trends, and predict when maintenance is required. [Data scientists](https://www.simplilearn.com/tutorials/data-science-tutorial/how-to-become-a-data-scientist) use historical data as their source and utilize various [regression models](https://www.simplilearn.com/tutorials/machine-learning-tutorial/linear-regression-in-python) and [machine learning techniques](https://www.simplilearn.com/tutorials/machine-learning-tutorial/what-is-machine-learning) 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 analytics from descriptive analytics, which assists analysts in analyzing what has previously occurred, and prescriptive analytics, which uses optimization techniques to detect optimal solutions to address the trends revealed by predictive analytics.

Examples of Predictive Analytics

* Customer Service
* Higher Education
* Supply Chain
* Insurance
* Software Testing

Tools Used

* SAS Advanced Analytics
* IBM SPSS
* RapidMiner Studio

1. Explain perspective analytics?

Prescriptive analytics is the process of using data to determine an optimal course of action. By considering all relevant factors, this type of analysis yields recommendations for next steps. Because of this, prescriptive analytics is a valuable tool for data-driven decision-making.

Machine-learning algorithms are often used in prescriptive analytics to parse through large amounts of data faster and often more efficiently than humans can. Using “if” and “else” statements, algorithms comb through data and make recommendations based on a specific combination of requirements. For instance, if at least 50 percent of customers in a dataset selected that they were “very unsatisfied” with customer service team, the algorithm may recommend additional training.

Once you predict a set of potential outcomes, prescriptive analytics helps control those outcomes, which are beneficial to business in the long run. It helps understand how and which variables can be choreographed to achieve the desired result.

1. Write five real-life questions that PowerBi can solve.

**Waiting On Figures**

[Power BI](https://www.kizan.com/big-data-and-analytics) allows to access company's data analytics almost instantly. On top of that, it also makes the data easy to decipher with advanced visualizations which can be shared at the touch of a button.

**Using Data From Old Reports**

Using Power BI reduces the possibility of error by allowing reports to be run in seconds using only the most current data. This ensures that reports can’t be altered or deleted and eliminates the time spent sifting through files to find the correct data.

**Excessive Time Spent Preparing For Presentations**

Power BI can quickly and easily create visual representations of data and provide stunning and accurate presentations for meetings. Using Power BI’s [automated reporting tools](https://info.kizan.com/business-process-automation-ebook) can save hours of preparation.

**Being Unable To Find Specific Data Sets**

Power BI allows IT members to publish data catalogs for others to view. This makes it easier for to find the data sets needed to perform an analysis. Additionally, using natural language technology and its Question & Answer feature provides a more natural experience to locate and better understand BI.

**Not Being Able To Determine Level Of Success**

Common business issues are slowing down**,** and it’s not only a poor use of time but it may also be costing business. competition is using business intelligence tools to stay ahead of the game, and it’s only a matter of time before fall behind. Take advantage of Power BI solutions that can make company’s day-to-day activity far more efficient, tech-savvy, and less frustrating for and employees.