**Power BI Assignment 1**

1. What do you mean by BI? Explain.

Business intelligence includes data analytics and [business analytics](https://www.tableau.com/learn/articles/business-intelligence/bi-business-analytics) but uses them only as parts of the whole process. BI helps users draw conclusions from data analysis. Data scientists dig into the specifics of data, using advanced statistics and [predictive analytics](https://www.tableau.com/learn/articles/what-is-predictive-analytics) to discover patterns and forecast future patterns.

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

Business intelligence (BI) is a set of capabilities and technologies that transforms data into actionable insights to help businesses make smarter, data-driven decisions. Business intelligence is delivered through BI tools which enable a simple drag-and-drop interface for analysts to perform activities such as:

* **Data preparation:** Compiling data from multiple sources and formatting them for analysis.
* **Data querying:** Obtaining answers from datasets to answer specific data questions.
* **Data visualization:** Creating visual representations of analysis in charts, graphs, histograms, and more for easy understanding.
* **Performance metrics reporting:** Comparing current performance to historical data and sharing results with stakeholders for decision-making.
* **Data mining:** Using statistics and machine learning to uncover trends in big datasets.

**Use of BI tools in the industry**

The concept of BI has been around since the 1960s. Therefore, it is no surprise that dozens of well-established BI tools are already available in the market to help organizations leverage data for business analytics. The two most popular BI tools are Microsoft’s Power BI and Tableau.

The main value of modern BI tools is that they enable self-service analytics, faster speed to insight, and an easy-to-use user interface. Instead of the conventional approach of sending requests to a central data team, modern BI tools empower staff to access data quickly and answer business questions by themselves.

Here are some examples of BI tools used in the industry:

[**Volvo Group used Qlik**](https://www.qlik.com/us/resource-library/volvo-groups-journey-to-data-adoption-and-collaboration-with-qlik) to improve the reporting efficiency of key financial results, leading to embedded, autonomous decision-making within the organization.

[**UChicago Medicine utilized Tableau**](https://www.tableau.com/solutions/customer/uchicago-medicines-data-driven-response-covid-19) to create real-time dashboards as part of the medical center’s data-driven operational response to the COVID-19 pandemic

[**Zurich Insurance Group turned to Power BI**](https://customers.microsoft.com/en-us/story/854431-zurich-insurance-azure-power-bi) to build a unified platform for business users to mine and leverage company data more efficiently.

[**JPMorgan Chase adopted Tableau**](https://www.tableau.com/solutions/customer/jpmorgan-chase-chooses-tableau-enable-self-service-analytics-keeping-rapid) to shift from IT-owned to business-owned self-service analytics to keep up with rapid industry changes and optimize processes for business success.

**What is Power BI?**

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

According to Gartner, Power BI is the leading data visualization tool with more than 6 million users and 97% of Fortune 500 companies using it to democratize data insights. Power BI is made up of two components:

* Power BI Desktop is a free desktop version that allows for data analysis and report creation and includes the Power Query Editor.
* Power BI Service is a cloud-based version of Power BI, which has lightweight report editing functionality and is designed to share and distribute reports across the organization.

1. Explain Descriptive analytics?

**Descriptive analytics** is the process of using current and historical data to identify trends and relationships. It’s sometimes called the simplest form of data analysis because it describes trends and relationships but doesn’t dig deeper.

Descriptive analytics is relatively accessible and likely something your organization uses daily. Basic statistical software, such as [Microsoft Excel](https://online.hbs.edu/blog/post/data-visualizations-in-excel) or [data visualization tools](https://online.hbs.edu/blog/post/data-visualization-tools), such as Google Charts and Tableau, can help parse data, identify trends and relationships between variables, and visually display information.

Descriptive analytics is especially useful for communicating change over time and uses trends as a springboard for further analysis to [drive decision-making](https://online.hbs.edu/blog/post/data-driven-decision-making).

1. Explain Predictive analytics?

Predictive analytics is a branch of advanced analytics that makes predictions about future outcomes using historical data combined with statistical modeling, data mining techniques and[machine learning](https://www.ibm.com/cloud/learn/machine-learning). Companies employ predictive analytics to find patterns in this data to identify risks and opportunities. Predictive analytics is often associated with big data and[data science](https://www.ibm.com/analytics/data-science).

Today, companies today are inundated with data from log files to images and video, and all of this data resides in disparate data repositories across an organization. To gain insights from this data, data scientists use[deep learning](https://www.ibm.com/cloud/learn/deep-learning) and machine learning algorithms to find patterns and make predictions about future events. Some of these statistical techniques include logistic and [linear regression](https://www.ibm.com/topics/linear-regression) models,[neural networks](https://www.ibm.com/cloud/learn/neural-networks) and decision trees. Some of these modeling techniques use initial predictive learnings to make additional predictive insights.

1. Explain perspective analytics?

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](https://www.investopedia.com/terms/t/timehorizon.asp), from immediate to long-term

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

Waiting On Figures. ...

Using Data From Old Reports. ...

Excessive Time Spent Preparing For Presentations. ...

Being Unable To Find Specific Data Sets. ...

Not Being Able To Determine Your Level Of Success