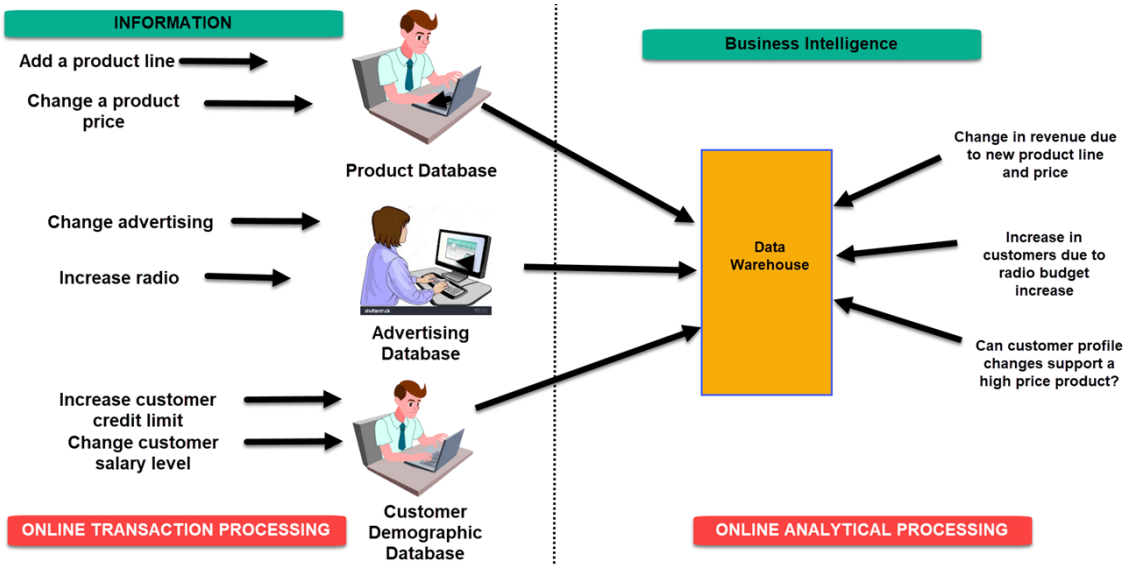
Power BI Assignment 1

1. What do you mean by BI? Explain.

Ans. BI is a broad term that encompasses data mining, process analysis, performance benchmarking, and descriptive analytics. BI parses all the data generated by a business and presents easy-to-digest reports, performance measures, and trends that inform management decisions



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

Ans. 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.

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3. Explain Descriptive analytics?

Ans. escriptive 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.

EXAMPLES OF DESCRIPTIVE ANALYTICS

1. Traffic and Engagement Reports

One example of descriptive analytics is reporting. If your organization tracks engagement in the form of social media analytics or web traffic, you're already using descriptive analytics.

These reports are created by taking raw data—generated when users interact with your website, advertisements, or social media content—and using it to compare current metrics to historical metrics and visualize trends.

2. Financial Statement Analysis

Another example of descriptive analytics that may be familiar to you is financial statement analysis. Financial statements are periodic reports that detail financial information about a business and, together, give a holistic view of a company's financial health.

3. Demand Trends

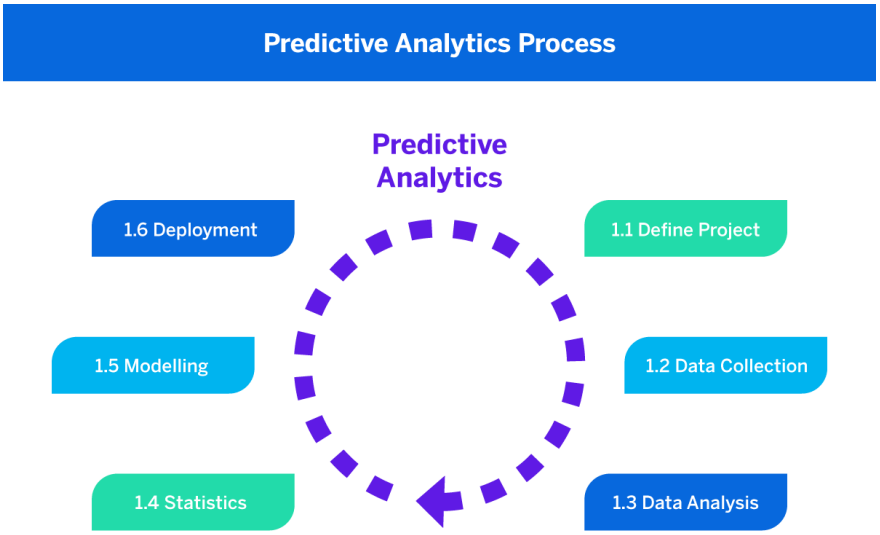
Descriptive analytics can also be used to identify trends in customer preference and behavior and make assumptions about the demand for specific products or services.

Streaming provider Netflix's trend identification provides an excellent use case for descriptive analytics. Netflix's team—which has a track record of being heavily data-driven—gathers data on users' in-platform behavior. They analyze this data to determine which TV series and movies are trending at any given time and list trending titles in a section of the platform's home screen.

4. Explain Predictive analytics?

Ans. 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.

Companies employ predictive analytics to find patterns in this data to identify risks and opportunities.



Types of predictive modelling

Predictive analytics models are designed to assess historical data, discover patterns, observe trends, and use that information to predict future trends. Popular predictive analytics models include classification, clustering, and time series models.

Classification models

Classification models fall under the branch of supervised machine learning models. These models categorize data based on historical data, describing relationships within a given dataset. For example, this model can be used to classify customers or prospects into groups for segmentation purposes. Alternatively, it can also be used to answer questions with binary outputs, such answering yes or no or true and false; popular use cases for this are fraud detection and credit risk evaluation. Types of classification models include logistic regression, decision trees, random forest, neural networks, and Naïve Bayes.

5. Explain perspective analytics?

Ans. 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 your customer service team, the algorithm may recommend additional training.

It’s important to note: While algorithms can provide data-informed recommendations, they can’t replace human discernment. Prescriptive analytics is a tool to inform decisions and strategies and should be treated as such. Your judgment is valuable and necessary to provide context and guard rails to algorithmic outputs.

At your company, you can use prescriptive analytics to conduct manual analyses, develop proprietary algorithms, or use third-party analytics tools with built-in algorithms.

EXAMPLES OF PRESCRIPTIVE ANALYTICS IN ACTION

1. Venture Capital: Investment Decisions

Investment decisions, while often based on gut feelings, can be strengthened by algorithms that weigh risks and recommend whether to invest.

One example in the venture capital space is an experiment—explained in the Harvard Business Review—that tested the effectiveness of an algorithm's decisions about which startups to invest in as compared to angel investors' decisions.

The findings were nuanced. The algorithm outperformed angel investors who were less experienced at investing and less skilled at controlling their cognitive biases; however, angel investors outperformed the algorithm when they were experienced in investing and able to control their cognitive biases.

This experiment sheds light on the complementary role prescriptive analytics must play in making decisions and its potential to aid decision-making when experience isn't present and cognitive biases need flagging. An algorithm is only as unbiased as the data it's trained with, so human judgment is required whether using an algorithm or not.

2.Sales: Lead Scoring

Prescriptive analytics plays a prominent role in sales through lead scoring, also called lead ranking. Lead scoring is the process of assigning a point value to various actions along the sales funnel, enabling you, or an algorithm, to rank leads based on how likely they are to convert into customers.

Actions you can assign value to include:

- Page views
- Email interactions
- Site searches
- Content engagement, such as attending webinars, downloading e-books, or watching videos

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

Ans. Power BI allows you to do more than just access your company's crucial data.

- Here are some examples.
- 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.