PowerBI Assignment 1

1. What do you mean by BI? Explain.

The full form of BI is Business Intelligence. It uncovers the insights for making business strategic decisions. It enables 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.

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

PowerBI helps the BI to analyse the historical and current data, and it will present the findings in the visual form. It transforms data into actionable insights to help businesses make smarter, data-driven decisions. It works in the following steps below:

1. Collect the data from resources:

Collecting the data from the available resources (resources like first-party, second party) for the analysis.

2. Data Querying:

Getting some answers from the questions which were built through the data provided.

3. Data Visualisations:

By using a BI tool we can create charts, graphs, histograms, maps for better understanding and to convey the insights effectively.

4. Reporting:

By comparing the current trends with the historical data, we can share the results to the stakeholders for the decision-making.

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3. Explain Descriptive analytics?

Descriptive analysis is the process in which it uses the current data with the historical data to trends and relationships. It answers the question "WHAT HAPPEND?". It is also sometimes called as the simplest form of data analysis as it doesn't dig deeper but it identifies the trends and relations.

Some of the examples of Descriptive analysis are:

- **Traffic and engagement reports**

    To identify the trends based on the number of users visiting your websites or ads and using it to compare to the historical metrics.

- **Financial statements analysis**

    It is like periodic reports that detail financial information about a business and, together, give a holistic view of a company's financial health.

- **Demand trends**

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

4. Explain Predictive analytics?

Predictive analytics the use of data to predict future trends and events. It answers the question "WHAT MIGHT HAPPEN IN THE FUTURE?". It uses historical data to forecast potential scenarios that can help drive strategic decisions.

It can be done manually or by machine learning algorithms. It is used to make assumptions of the future. One of the tools is regression analysis, which determines the relationship between two variables. Ex: Weather Forecasting, Healthcare early detection of allergic reactions.

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5. Explain perspective analytics?

Prescriptive analysis is the process of using the data to get the optimal solution and action. It answers the question " WHAT SHOULD WE DO NEXT? ". It considers all the factors, analyses it and yields the recommendations for further steps. It also adds value to data-driven decision-making. Ex: Fraud detections in Banks, Venture capitals: Investment decisions.

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

- A Data Ware warehouse will need to know "Why did a security breach occur in the database?, what data is lost?" to concentrate on data recovery and tightening the security layer of the database.

- An E-commerce company might dig their data to see the drop in sales, patterns in sales, understand customer buying behaviour to know the reason "Why sales is not increasing?" despite demand being there in the market.

- A software product company may need to know "Why should users opt for competitor company products/services?" to maintain their current product sustainability and provide better service to their users.

- Government may need to know "What topic are most people talking about?" during any social evil event that led to burst in protests and revolts to stop the spread of false information or to mute people's voices in specific regions to outside regions.

- A Telephone network organisation may look around for a reason for "why customers shift to other networks?" by using the details of customers and their feedback who changed their network to other network operators.