ASSIGNMENT

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Course	Foundation of Data-Driven Decision Making
Code	ETSEDD111
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* [TASK - 1] Real-World Scenario Using Data

A good real-world scenario example of data-driven decision making can be seen in the healthcare industry.

Hospitals and clinics use patient data such as medical history, test results and treatment responses to make better decisions.

For instance, during the COVID-19 pandemic, hospitals relied heavily on data to track infection rates, identify high-risk areas, and predict oxygen or bed requirements. Government used these insights to plan lockdowns and allocate vaccines. This shows how data can guide large-scale decisions and help save lives.

Even in regular cases, doctors use data analytics to identify the most effective treatments for certain diseases, ensuring that decisions are based on evidence rather than assumptions.

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* [Task 2 : Descriptive, Predictive, and Prescriptive Models]

-> In the world of data, there are three major types of models that help in decision-making — descriptive, predictive and prescriptive.

1) Descriptive Model :

This model focuses on understanding what has already happened. It involves collecting and summarizing past data to find trends and patterns. Example : A company reviewing its last quarter's sales report to see which products performed well.

2) Predictive Model :

This model uses existing data to predict future outcomes or behaviours. It relies on stastical and machine learning techniques.
Example : Netflix recommending Shows you might like based on what you've already watched.

3) Prescriptive model :

This model goes a step further by suggesting possible actions to achieve a goal. It not only predicts outcomes but also recommends what should be done.
Example : Google Maps suggesting the fastest route by analyzing real time traffic data and predicting delays.

Teacher's Sign ....

[TASK - 3] Internal and External Data Sources

Every organisation depends on various data sources to operate efficiently. These sources can be categorized as internal or external.

* Internal Data Sources :

1) Customer Purchase History
2) Website and app search logs
3) Inventory management data
4) Employee performance and HR data
5) Product return and complaint records

* External Data Sources :

1) Market research and Competitor analysis reports
2) Social media trends and user reviews
3) Supplier and vender information
4) Government or industry reports
5) Seasonal and economic data

By combining these two types of data, an Example company like Amazon can improve its product recommendations, pricing strategies and marketing campaigns to enhance customer satisfaction and profit.

4. Reflect on how adopting a data-driven approach can improve decision quality in daily life or business.

→ The adoption of a data-driven approach has a transformative impact on decision making processes in both personal and professional contexts. By relying on factual information and analytical evidence, individuals and organizations can significantly reduce uncertainty and improve decision quality.

In personal life, data assists in better time management, financial planning, and health tracking. For instance, individuals can analyze spending data to control expenses or use fitness applications to monitor health metrics and set realistic goals.

In business, data-driven decision-making helps organizations identify inefficiencies, predict market trends, and assess strategy effectiveness. It also promotes accountability and Continuous improvement through measurable feedback, while fostering innovation and agility to stay competitive in a changing environment.

In conclusion, adopting a data-driven mindset empowers individuals and organizations to make well-informed, objective and strategic decisions, ultimately leading to enhanced performance and long term success.