Postgraduate Certificate in Design Thinking and Project Management

Data-Driven Decision Making

Data-Driven Decision Making is a critical component of the Postgraduate Certificate in Design Thinking and Project Management. In this course, students will learn how to utilize data to make informed decisions that drive successful project outcomes. To excel in this field, it is essential to understand key terms and vocabulary related to data-driven decision making.

Data:
Data refers to raw facts and figures that are collected and stored for analysis. It can be in various forms, such as numbers, text, images, or multimedia. Data is the foundation of data-driven decision making and is used to derive insights and make informed decisions.

Data Analysis:
Data analysis is the process of inspecting, cleansing, transforming, and modeling data to uncover useful information, conclusions, and support decision-making. It involves various techniques and tools to extract meaningful insights from data sets.

Data Visualization:
Data visualization is the graphical representation of data to provide insights into complex datasets. It includes charts, graphs, maps, and dashboards that help in understanding trends, patterns, and relationships within the data.

Descriptive Analytics:
Descriptive analytics focuses on summarizing historical data to understand what has happened in the past. It involves identifying patterns, trends, and relationships in the data to describe the current state of affairs.

Predictive Analytics:
Predictive analytics uses historical data to predict future outcomes or trends. It involves statistical algorithms and machine learning techniques to forecast possibilities based on patterns and relationships in the data.

Prescriptive Analytics:
Prescriptive analytics goes beyond predicting outcomes to recommend actions that can optimize results. It leverages advanced algorithms to suggest the best course of action based on data analysis and business objectives.

Big Data:
Big data refers to large and complex datasets that cannot be easily managed or analyzed using traditional data processing techniques. It includes massive volumes of data from various sources that require advanced tools and technologies for processing and analysis.

Machine Learning:

Machine learning is a subset of artificial intelligence that enables systems to learn and improve from experience without being explicitly programmed. It uses algorithms to analyze data, identify patterns, and make decisions or predictions without human intervention.

Artificial Intelligence (AI):
Artificial intelligence refers to the simulation of human intelligence processes by machines, including learning, reasoning, problem-solving, perception, and language understanding. AI technologies are used to automate tasks, make predictions, and improve decision-making processes.

Business Intelligence (BI):
Business intelligence involves strategies and technologies used to analyze and present business information to support decision-making. It includes tools for data visualization, reporting, and analysis to help organizations make informed decisions based on data insights.

Data Mining:
Data mining is the process of discovering patterns and relationships in large datasets using techniques from statistics, machine learning, and database systems. It helps in uncovering hidden insights that can drive decision-making and improve business outcomes.

Data Warehouse:
A data warehouse is a centralized repository that stores structured and unstructured data from various sources for analysis and reporting. It enables organizations to access and analyze data for decision-making and business intelligence purposes.

Data Governance:
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Data Quality:
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