

B.Com.(Business Analytics) Sem I

Data Driven Decision Making

Unit II: Business Analytics Pre-Requisites

1. What is Business Analysis?

Business Analysis:

Business Analysis is the set of tasks, knowledge, and techniques required to identify business needs and determine solutions to an enterprise's business problems. Business analysis may also be performed to understand the current state of an organization or to serve as a basis for the identification of business needs. In most cases, however, business analysis is performed to define and validate solutions that meet business needs, goals, or objectives.

The following are the principles of Business Analysis:

- ❖ **Principle 1: Focus on the Product**
- ❖ **Principle 2: First Define the Problem, then the Solution**
- ❖ **Principle 3: Users Don't Have Requirements**
- ❖ **Principle 4: Focus on Information, Not Individuals**
- ❖ **Principle 5: Separate Elicitation from Analysis**
- ❖ **Principle 6: Improve the Process First, then Add Technology**
- ❖ **Principle 7: Communicate, Cooperate, Collaborate**
- ❖ **Principle 8: The Business Analyst Owns the Solution Requirements**
- ❖ **Principle 9: Gain Acceptance as Well as Approval**
- ❖ **Principle 10: Make the Business Community Ready For the Product**

2. What are the Categories of Analytical People?

There are four categories of Analytical People

- ❖ **Analytical:** The analytical personality type is very deep and thoughtful. They are serious and purposeful individuals. They set very high standards, so they have very high standards of performance personally and professionally. Analytical are orderly and organized. They also tend to have that really dry but witty sense of humor.
- ❖ **Driver:** Drivers are the dynamic and active personality type. They exude confidence and naturally gravitate toward leadership positions. They move very quickly to action, but they are not detail oriented. They are independent and they are productive.
- ❖ **Amiable:** The amiable personality type is a very patient and well-balanced individual. They're quiet but witty. They're very sympathetic, kind, and inoffensive and do not like to offend people.
- ❖ **Expressive:** the expressive the social specialist because they love to have fun. They are individuals who turn disaster into humour, they prevent dull moments, and they are very generous people.

3. What are the roles and responsibilities of Data Analyst/Business Analyst?

Data Analyst: A Data Analysts deliver value to their companies by taking information about specific topics and then interprets, analyzes, and presents findings in comprehensive reports. Many different types of businesses use data analysts to help. As experts, data analysts are often called on to use their skills and tools to provide competitive analysis and identify trends within industries.

Business Analyst

One data role that data analysts may cross over into is that of a business analyst. When a data analyst performs their explorations and creates their reports, they may not necessarily be required to interpret their findings in terms of company actions. On the other hand, a business analyst will be primarily focused on their use of data to answer business questions and suggest future actions to take. In a way, a business analyst might be considered as a data analyst that acts in a specialized domain. Although the data analyst might make use of domain knowledge and business ideas to guide their exploration, they will be more concerned that trends and patterns in the data are identified than collaborating with others to enact strategies based off those findings.

Roles and Responsibilities of a Data Analyst

Data Mining: Data mining is a process to structure the raw data and formulate or recognize the various patterns in the data through the mathematical and computational algorithms. It helps to generate new information and unlock the various insights. Data Analysts have to often mine or collect data. Getting data from the company database or extracting it from external sources to do any sort of research is one of the major roles of any Data Analyst.

Data Cleansing: Data cleansing is the first step in the overall data preparation process and is the process of analysing, identifying and correcting messy, raw data. When analysing organizational data to make strategic decisions Data Analysts must start with a thorough data cleansing process. The good analysis rests on clean data—it's as simple as that. Cleaning involves removing data that may distort your analysis or standardizing your data into a single format.

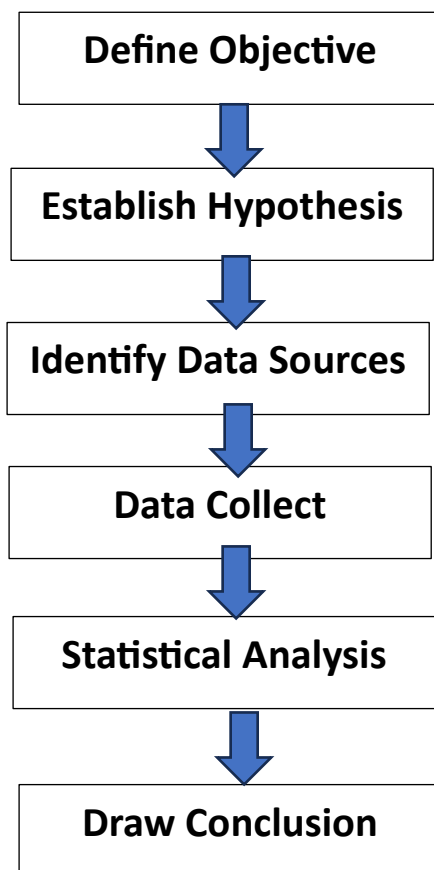
Analyzing Data: Data analytics is the art of exploring the facts from the data with specific to answer a specific question. It is the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. One uses statistical tools to analyze and interpret the data.

Pinpointing Trends and Patterns: A large time of a Data analyst is spent on finding trends, correlations, and patterns in the complicated datasets. Trends are also important. Data Analysts look for both short-term and long-term trends. Trend analysis helps you understand how your business has performed and predict where current business operations and practices will take you.

Maintaining Databases and Data Systems: Data Analysts have to ensure that the storage, availability, and coherence of electronically stored data meet an organization's needs. Data Analyst needs to have technical expertise regarding data models, database design development to make the best use of it.

4. Identify six steps of Data Driven Decision Making Model?

Data Driven Decision Making Model:



Step 1: Define Objective

When any organization wants to move on to DDDM, it has to be clear with its strategy. It has to figure out what are the goals that the business wants to achieve through DDDM. It needs to identify – what can data do for the organization? The business objectives could be as specific as increasing sales numbers as increasing brand awareness. At this initial stage, even if the strategy is not completely defined, the organization needs to know how the data will help to achieve the targeted outcomes. All the members of the organization need to be communicated about its committed for DDDM.

Step 2: Establish Hypothesis

Focus on specific business area which needs the most attention like either customers or operations or finances or all the three. Determine and prioritize the area which has greater impact on the organization's growth. Now formulate the Hypothesis related to the goals determined in the previous step. The Hypothesis is like "if-then" statement. For an example, if advertising expenditure is increased, then the sales number will also increase.

Step 3: Identify Data Sources

The data relevant to the business should be collected. There are two broad categories of data

- ❖ **Qualitative Data:** This data type is non-numerical and subjective in nature. This type of data is collected through the methods of observations, one-to-one interviews and similar methods.

- ❖ **Quantitative Data:** This type of data whose value is measured in the form of numbers or counts with a unique numerical value associated with each data set. Quantitative data describes numerical variables.

Step 4: Collect the Data

Data collection is the process of gathering and measuring information on variables of interest in an established systematic manner that enables one to answer research questions, test hypothesis and evaluate outcomes. Data may be collected through automated methods if it is big data. The data may be collected by a machine or a human but the method of data collection has to be precisely defined. When collecting data from several streams and with manual input from users, information can carry mistakes. The data which is collected has to be cleansed before conducting analytics which involves verifying information. Data Cleansing is the process of preparing data for analysis by removing or modifying data that is incorrect, incomplete, irrelevant, duplicated or improperly formatted.

Step 5: Statistical Tools

Once the data is cleansed, it is ready for use. Now the data can be analyzed. Analytics is the systematic computational analysis of data. It is used for the discovery, interpretation and communication of meaningful patterns in data. It is also entails applying data patterns towards effective decision making. Trained specialists can handle the more advanced and valuable analytics. Analyzing different data types calls for different skill sets. Dealing with quantitative data is relatively straight forward but qualitative data like image, video, text and audio needs different conceptual knowledge and technical skills.

Step 6: Draw Conclusion

Findings has to be drawn from the data analytics. The conclusions drawn from the analysis will ultimately help the organization make more informed decisions and drive towards the strategy. The findings can be nearly useless if they are not presented effectively. The findings have to be delivered to the right people at the right time in the right way. The people responsible for presenting the data has to acquire the art of data story telling to effectively communicate their findings with the stakeholders. The aim is to connect the insights gained to the actions that will benefit the organization.