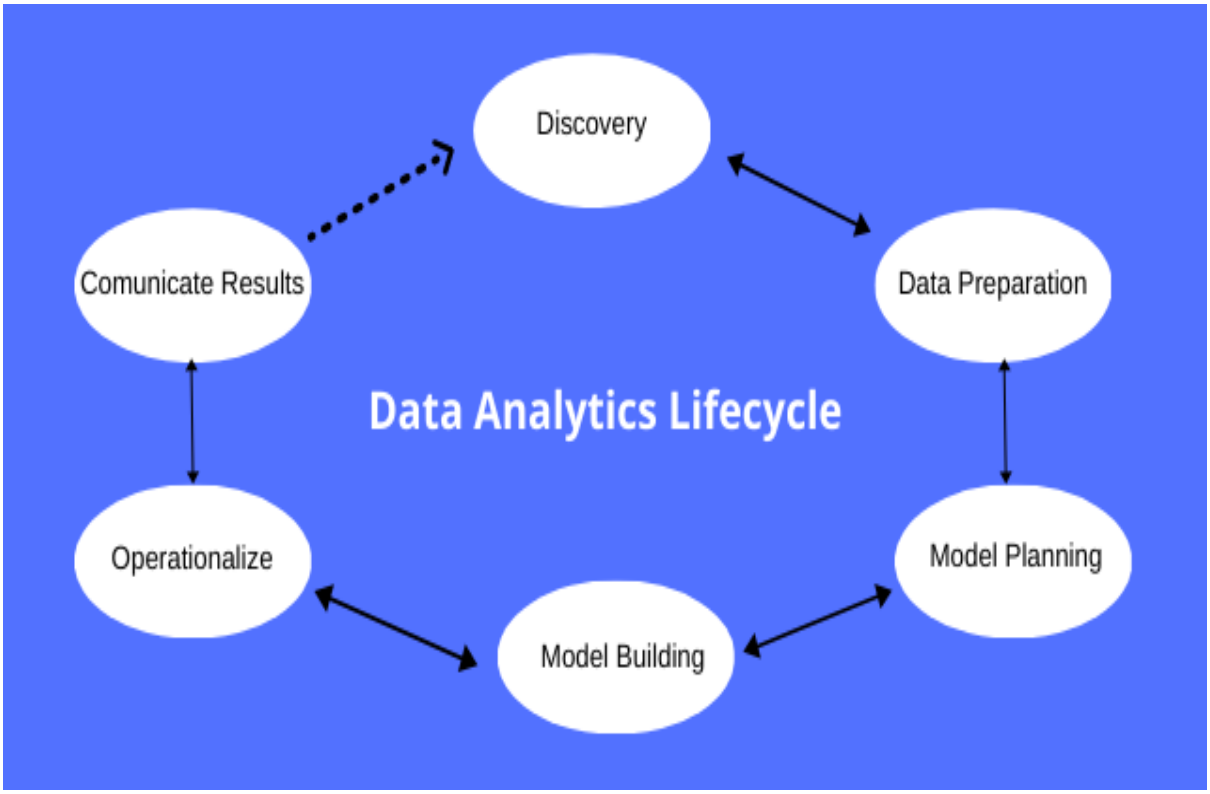
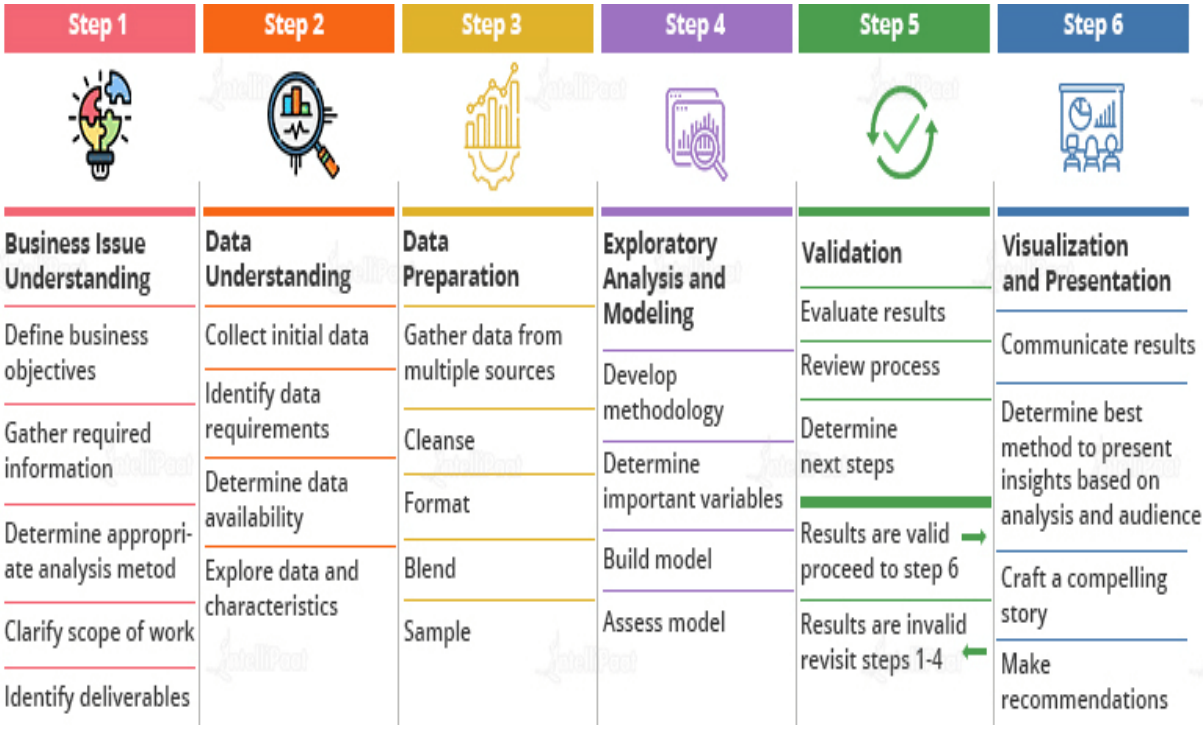
Importance of Data Analytics Life Cycle

The data analytics Life Cycle encompasses the process of producing, collecting, processing, using, and analyzing data in order to meet corporate objectives. It offers a systematic way for managing data into useful information that can help achieve organizational or project goals; additionally, it provides guidance and strategies for extracting this information and moving in the appropriate direction in order to meet corporate objectives.





1. Data Discovery and Formation-

In this phase, you will identify your desired data objectives and how best to attain them through data analytics Life Cycle implementation.

In the initial step, data will be evaluated for its potential uses and demands – such as where it comes from, what message you wish for it to send and how this incoming information benefits your business.

- The data science team investigates and learns about the challenge.
- Create context and understanding.
- Learn about the data sources that will be required and available for the project.
- The team develops preliminary hypotheses that can later be tested with data

2. Data Preparation and Processing

Data preparation and processing involves gathering, sorting, processing and purifying collected information to make sure it can be utilized by subsequent steps of analysis. An important element of this step is making sure all necessary information is readily accessible before moving ahead with processing it further.

- Data Collection: Draw information from external sources.
- Data Entry: Within an organization, data entry refers to creating new points of information using either digital technologies or manual input procedures.
- Signal Reception: Accumulating data from digital devices like the Internet of Things devices and control systems

3. Design a Model

After you've defined your business goals and gathered a large amount of data (formatted, unformatted, or semi-formatted), it's time to create a model that uses the data to achieve the goal. Model planning is the name given to this stage of the data analytics process.

This step also involves teamwork to identify the approaches, techniques, and workflow to be used in the succeeding phase to develop the model. The process of developing a model begins with finding the relationship between data points to choose the essential variables and, subsequently, create a suitable model.

4. Model Building

This stage of the data analytics life cycle involves creating datasets for testing, training, and production. The data analytics professionals develop and operate the model they designed in the previous stage with proper effort.

- The team creates datasets for use in testing, training, and production.
- The team also examines if its present tools will serve for running the models or if a more robust environment is required for model execution.
- Rand PL/R, Octave, and WEKA are examples of free or open-source tools.

5. Result Communication and Publication

The communication process begins with cooperation with key stakeholders to decide whether the project's outcomes are successful or not.

The project team is responsible for identifying the major conclusions of the analysis, calculating the business value associated with the outcome, and creating a narrative to summarize and communicate the results to stakeholders.

6. Measuring Effectiveness

As your data analytics life cycle comes to an end, the final stage is to offer stakeholders a complete report that includes important results, coding, briefings, and technical papers or documents.

Furthermore, to assess the effectiveness of the study, the data is transported from the sandbox to a live environment and observed to see if the results match the desired business aim.