

# Introduction to Data Analytics

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## Types of Data Analysis

As you go for Data Analysis, there are four analyses you need to follow to get insights from a given dataset. These four analyses work on different questions to get insights from the processed data.

- **Descriptive** Analysis
- **Diagnostic** Analysis
- **Predictive** Analysis
- **Prescriptive** Analysis

## Descriptive Analysis

Descriptive Analysis tells **What happened?**

- Based on previous data it will tell what has happened in the past
- It helps in identifying underlying issues
- There are two main techniques in Descriptive Analysis:  
Data Aggregation and Data Mining

**Example:** Identify Sales Trends. Identify social media best return

## Diagnostic Analysis

Diagnostic Analysis tells **Why did this happen?**

- It explains why particular things are happening

- Learn from the past and analyze the previous decisions
- In Diagnostic Analysis, different techniques are used: Probability theory  
Regression analysis, filtering, etc.

**Example:** Reason for Sales Drop. Reason for high/poorly performed ads

## Predictive Analysis

Predictive Analysis tells **What is likely to happen?**

- It is based on historical data and helps make assumptions
- Forecasts the future outcomes that can happen
- In Predictive Analysis, you can use regression algorithms such as Linear Regression

**Example:** Expected Sale, Revenue likely to generate in next month

## Prescriptive Analysis

Prescriptive Analysis tells **What do you need to do?**

- It is based on the current data and helps in future decision-making
- It uses some Algorithms to predict future outcomes
- Statistical methods, Machine Learning algorithms and computational modelling procedures are used in Prescriptive Analysis

**Example:** Actions to increase the sale. Which product to promote