

Data Analytics Workshop

By Techgyan Technologies

In today's data-driven world, the ability to extract insights from vast amounts of information is a highly valuable skill. Organizations across industries—from healthcare and finance to e-commerce and manufacturing—rely on data analytics to drive decision-making, optimize operations, and enhance customer experiences. To equip professionals and aspiring data enthusiasts with the foundational skills required to navigate this landscape, we present the **Data Analytics Workshop**, a hands-on, immersive learning experience designed to introduce participants to key data analytics concepts and tools.

This **one-day workshop** is structured to provide a comprehensive introduction to data analysis using widely accessible tools such as **Google Sheets** and **Power BI**. It blends theoretical knowledge with practical exercises, enabling participants to apply concepts in real-world scenarios. Whether you are a business professional looking to leverage data for decision-making, a student eager to explore analytics, or an entrepreneur aiming to enhance business insights, this workshop will empower you with the skills to work with data confidently.

Duration: 1 Day (7 hours of learning and hackathon)

Session 1: Welcome & Icebreaker (1 Hour)

- Welcome & Introduction (15 minutes)
 - Overview of the workshop agenda and objectives.
 - Introduction to facilitators and participants.
 - Icebreaker: Participants share one real-world data problem they have encountered.
- Interactive Discussion (45 minutes)
 - Real-world applications of Data Science: Exploring how data is used for various tasks.
 - Brainstorming potential use cases from participants' industries.
 - Overview of data collection, cleaning, analysis, and visualization.
 - Introduction to data pipelines and organizational data flow.
 - Roles in Data Science: Data Engineer, Data Analyst, Data Scientist.

Session 2: Intro to Google Sheets, Basic Features, and Dashboarding (2 Hours)

- Learning Google Sheets (45 minutes)
 - Basic navigation of Google Sheets.
 - Core formulas: SUM, AVERAGE, COUNT, IF, VLOOKUP, INDEX-MATCH.
 - Conditional formatting and data validation.
 - Creating charts (bar, pie, line charts).
 - Data filtering and sorting.
- Exercise 1 (15 minutes)
 - Use a dataset to solve different data analytics problems.
 - Discuss the roles of Data Engineers, Analysts, and Scientists in each step.
- Exercise 2 (30 minutes)
 - Analyze a pre-provided dataset (e.g., e-commerce sales or hospital patient data).
 - Visualize insights using Google Sheets.
- Exercise 3 (30 minutes)

- Create a dashboard for the given dataset using charts and calculated fields.

Session 3: Power BI Data Analysis (1.5 Hours)

- Basics of Power BI
 - Introduction to Power BI: Interface and functionalities.
 - When to use Google Sheets vs. Power BI.
- Creating Dashboards in Power BI
 - Different types of charts and when to use them.
 - Hands-on exercise: Create a dashboard from scratch using a sample dataset.

Session 4: Hackathon - Day 1 (1.5 Hours)

- Team Activity
 - Participants work on a data cleaning and visualization project.
 - Start analyzing small data chunks in Google Sheets.
 - Transition insights to Power BI dashboards.
- Example Project
 - Analyze customer feedback data to identify sentiment trends.
 - Create dashboards and visualizations to present insights.

Session 5: Wrap-Up & Reflection (15 Minutes)

- Recap Key Concepts
 - Review of day's activities and key learnings.
- Q&A
 - Open floor for clarifications and questions.
- Preview of Day 2
 - Overview of advanced Data Science topics and Machine Learning.

Workshop Outcomes

- Understand the basics of Data Science and Analytics.
- Gain hands-on experience with tools like Google Sheets, Power BI, and scikit-learn.
- Solve real-world data problems and present insights effectively.

What Next?

- Continuing Education
 - Explore advanced topics like deep learning, big data, and cloud computing.
 - Use platforms like Kaggle or Coursera to enhance skills.
- Practical Applications
 - Apply concepts in your domain to improve workflows and decision-making.
- Building a Portfolio
 - Document projects and build dashboards/models to showcase expertise.