The background features a large white circle in the center, which is partially overlaid by a dark blue shape at the bottom and sides. The top-left corner is light blue, and the top-right corner is light pink.

# **DATA ANALYTICS – POWERBI & TABLEAU**

# Challenges of Data Analytics



- The amount of data being collected
- Collecting meaningful and real-time data
- Visual representation of data
- Data from multiple sources
- Inaccessible data
- Poor quality data
- Shortage of skills
- Scaling data analysis

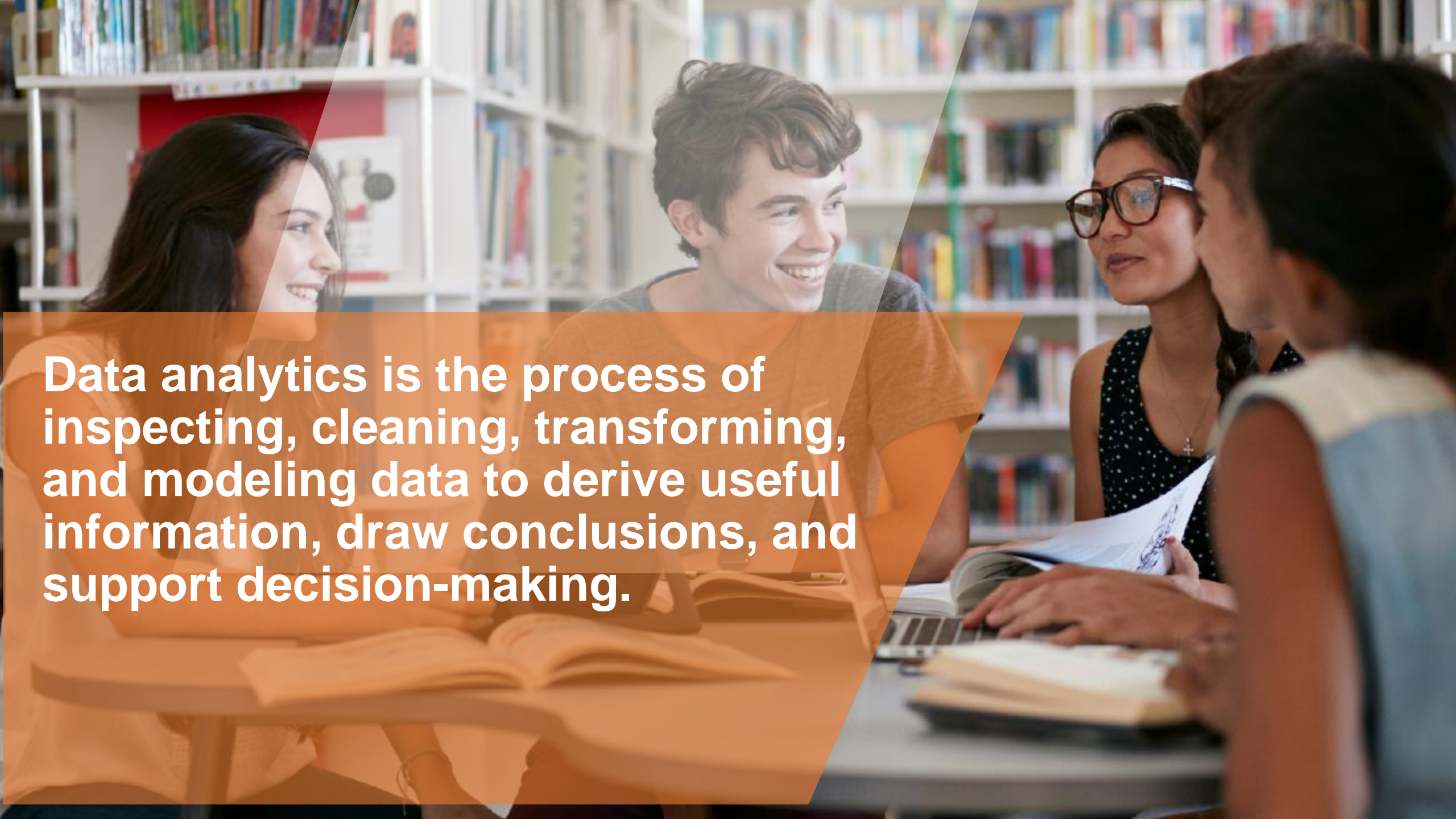
# Why Data Analysis is Important for Every Business

- Better Targeting
- Knowing your Target Customers
- New Innovations
- Cut Costs of Operation
- Helps Solve Problems
- Obtain Accurate Data



Source: <https://businesspartnermagazine.com/5-reasons-why-data-analysis-is-important-for-every-business/>



A group of four students are gathered around a table in a library, looking at a laptop screen. The background is filled with bookshelves. An orange semi-transparent banner is overlaid on the left side of the image, containing white text.

**Data analytics is the process of inspecting, cleaning, transforming, and modeling data to derive useful information, draw conclusions, and support decision-making.**

# Overview of Data Analytics Components

Data Exploration	Data analytics involves exploring and examining large datasets to identify patterns, trends, and insights. Analysts use various statistical and visualization techniques to understand the structure and characteristics of the data.
Statistical Analysis	Statistical methods are applied to analyze and interpret data. This includes descriptive statistics to summarize data and inferential statistics to make predictions or inferences about a population based on a sample.
Machine Learning	Data analytics often involves the application of machine learning algorithms to uncover patterns and make predictions. These algorithms learn from the data and can be used for tasks such as classification, regression, clustering, and anomaly detection.
Data Visualization	Visualization is a key component of data analytics, allowing analysts to represent data graphically. Various charts, graphs, and dashboards are created to communicate complex information in an understandable way. Visualization enhances the interpretation of data, making it easier to identify trends, outliers, and patterns.
Data-Driven Insights	Data analytics transforms raw data into actionable insights. These insights help organizations make informed decisions, identify areas for improvement, and capitalize on opportunities for innovation and growth. Data analytics is a crucial component in fostering a data-driven culture within organizations.



# **POWER BI FOR DATA ANALYTICS**



# POWERBI

- Power BI is a robust business analytics tool developed by Microsoft, designed to transform raw data into meaningful insights.
- It empowers users to visualize and share data across an organization, making it an invaluable asset for data analytics.



# KEY FEATURES

## **1.Data Connectivity**

Connects to diverse sources, facilitating seamless data consolidation and analysis.

## **2.Data Transformation**

Power Query Editor simplifies cleaning, shaping, and preparing raw data for analysis.

## **3.Data Visualization**

Creates understandable charts, graphs, and dashboards, enhancing data storytelling.

## **4.Analytics and Insights**

Utilizes built-in analytics for trend analysis, forecasting, and advanced machine learning.

## **5.Collaboration and Sharing**

Securely shares insights and reports, fostering real-time collaboration and data-driven decisions.

## **6.Mobile Accessibility**

Accesses dashboards and reports on-the-go through mobile apps, ensuring continuous connectivity.

## **7.Integration with Microsoft Ecosystem**

Seamlessly integrates with Excel, Azure, and SQL Server, forming a unified analytics ecosystem.





# BENEFITS

- **User-Friendly Interface:**

Power BI's intuitive interface makes it accessible to both technical and non-technical users, fostering a data-driven culture across the organization.

- **Scalability:**

Whether handling small datasets or big data, Power BI scales to meet the needs of varying analytical complexities.

- **Cost-Effective:**

Power BI offers a range of pricing plans, including a free version, making it cost-effective for businesses of all sizes.

- **Real-Time Insights:**

The ability to work with real-time data allows users to make informed decisions based on the latest information.

# POWERBI RESOURCES

- <https://powerbi.microsoft.com/en-us/data-analytics-tools/>
- <https://learn.microsoft.com/en-us/power-bi/fundamentals/>
- <https://learn.microsoft.com/en-us/power-bi/developer/>



# **TABLEAU FOR DATA ANALYTICS**



# TABLEAU

- Tableau is a powerful data visualization tool, simplifying complex data into interactive, insightful visualizations for informed decision-making and analysis.
- Tableau enables users to explore and understand data trends, patterns, and outliers through intuitive and user-friendly interactive dashboards.



# KEY FEATURES

## 1.Data Connectivity

Connects to diverse data sources, enabling seamless analysis and consolidation.

## 2.Data Visualization

Creates compelling visualizations, including interactive dashboards, for clear data representation.

## 3.Ad Hoc Analysis

Allows spontaneous analysis with a user-friendly interface for on-the-fly insights.

## 4.Real-Time Collaboration

Facilitates collaborative work on projects in real-time, enhancing teamwork efficiency.

## 5.Data Storytelling

Employs intuitive tools to weave narratives around data, conveying insights effectively.

## 6.Advanced Analytics

Integrates statistical analysis and predictive modeling for in-depth analytical capabilities.

## 7.Mobile Accessibility

Provides mobile compatibility for accessing and interacting with data from anywhere.





# KEY FEATURES

## 1. Security and Governance

Implements robust security measures and governance policies for data protection.

## 2. Scalability:

Scales effortlessly to handle varying data volumes, from small datasets to big data.

## 3. Integration Options

Seamlessly integrates with other tools and databases, fostering a unified analytics environment.

## 4. Community Support

Benefits from a strong community for knowledge sharing and issue resolution.

## 5. Training and Resources

Offers extensive training resources and documentation for user skill development.

## 6. Customization

Allows customization of dashboards and reports to meet specific business requirements.

# TABLEAU RESOURCES

- <https://www.tableau.com/resources>
- <https://public-pantheon.tableau.com/en-us/s/resources>
- [https://www.tableau.com/trial/tableau-cloud?gad\\_source=1&utm\\_campaign\\_id=2017019&utm\\_campaign=APAC\\_SG\\_FY24Q3\\_DATABUYER\\_Google\\_Analytics\\_Exact\\_Base\\_NB&utm\\_medium=Paid+Search&utm\\_source=Google+Search&utm\\_language=EN&utm\\_country=SEA](https://www.tableau.com/trial/tableau-cloud?gad_source=1&utm_campaign_id=2017019&utm_campaign=APAC_SG_FY24Q3_DATABUYER_Google_Analytics_Exact_Base_NB&utm_medium=Paid+Search&utm_source=Google+Search&utm_language=EN&utm_country=SEA)