Need of Data Analytics

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- Large and complex data sets
- Business insights
- Competitive advantage
- Improved decision making
- Customer engagement
- Cost savings

Evolution of Analytic Scalability

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This evolution has been driven by a number of factors, including:

- Big Data
- Cloud computing
- Artificial intelligence
- Parallel processing
- Real-time analytics

Evolution of Analytic Scalability

The evolution of analytic scalability can be divided into the following stages:

- Traditional Analytics
- Distributed Analytics
- Cloud Analytics
- Real-time Analytics
- Multi-cloud Analytics

Analytic Process and Tools

Analytic Process and Tools

The analytics process typically consists of the following steps:

- Data Collection
- Data Preparation
- Data Exploration
- Modeling
- Evaluation
- Deployment
- Monitoring

Analytic Process and Tools

Some popular analytics tools used in each of these steps include:

1. **Data Collection:** SQL, Python, R.
2. **Data Preparation:** Excel, KNIME, RapidMiner.
3. **Data Exploration:** Tableau, Power BI, Google Analytics.
4. **Modeling:** SAS, R, Python, KNIME.
5. **Evaluation:** SAS, R, KNIME.
6. **Deployment:** Tableau, Power BI, Google Analytics.
7. **Monitoring:** Power BI, Google Analytics, Tableau.

Analysis vs Reporting

Analysis vs Reporting

The goal of data analysis is to gain a deeper understanding of the data and make informed decisions based on the insights generated.

The goal of data reporting is to communicate the insights and results of data analysis to stakeholders in a clear and concise format.

Modern Data Analytic Tools

Modern Data Analytic Tools

- Hadoop and Apache Spark
- Tableau
- Power BI
- Google Analytics
- Alteryx
- SAP Lumira
- QlikView
- IBM Cognos Analytics
- TIBCO Spotfire

Applications of data analytics

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- Marketing
- Finance
- Healthcare
- Retail
- Manufacturing
- Telecommunications
- Energy
- Sports
- Transportation

Key Roles for Successful Analytic Projects

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- Project Manager
- Data Engineer
- Data Analyst
- Business SME (Subject Matter Expert)
- Data Scientist
- Decision Maker
- IT/Technical Support

Data Analytics Lifecycle

Data Analytics Lifecycle

- Discovery
- Data Preparation
- Model Planning
- Model Building
- Communicating Results
- Operationalization