- Introduction to Data Collection
  - Data collection is the process of gathering and evaluating information.
  - It is used for research, decision-making, and trend forecasting.
  - Data collection helps in making well-informed decisions.

Importance of Data Collection

- Why Do We Need Data Collection?
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  - Supports informed decision-making.
  - Provides insights into trends and phenomena.
  - Crucial for research, businesses, and government activities.
  - Data is essential for understanding surroundings and their impact.

Types of Data

- Qualitative vs. Quantitative Data
  - **Qualitative Data**:
    - Descriptions (e.g., color, size, quality).
    - Focus on subjective interpretation.
  - **Quantitative Data**:
    - Numbers (e.g., statistics, percentages).
    - Provides measurable, concrete information.

Key Steps in Data Collection

- The 5 Key Steps in Data Collection
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  1. **Decide What Data to Gather**: Define scope and source.
  2. **Set a Deadline**: Establish timelines for data collection.
  3. **Select a Method**: Choose the right approach (surveys, interviews, etc.).
  4. **Gather Information**: Implement the plan and collect data.
  5. **Analyze and Apply**: Use tools to analyze and derive insights.

Challenges in Data Collection

- Common Data Collection Challenges
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  - Big data complexities.
  - Low response rates in surveys.
  - Poor design leading to irrelevant data.

- The high cost of collecting large data sets.

Best Practices in Data Collection

- Best Practices for Effective Data Collection
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    1. **Evaluate Cost**: Balance data quantity with the cost.
    2. **Plan Methods**: Choose the right tools and techniques for each data type.
    3. **Consider Mobile Data Collection**: Use mobile devices for quicker and accurate data.
    4. **Identify Relevant Data**: Focus on collecting useful and necessary data.
    5. **Use Identifiers**: Track successes and failures with proper identifiers.

Big Data

- Dealing with Big Data
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    - Massive data sets with intricate structures.
    - Requires advanced tools for analysis.
    - Used extensively in sectors like healthcare, social networks, and businesses.

Low Response Rates

- Addressing Low Response Rates
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    - Common issue in surveys, especially health-related.
    - Incentivize participation to improve response rates.

Modern Data Collection Techniques

- Data Collection with Mobile Devices
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    - IVRS (Interactive Voice Response).
    - SMS data collection.
    - Field surveyors with mobile apps.

- Mastering data collection is key to credible research and business insights.

- Address challenges and follow best practices to enhance results.