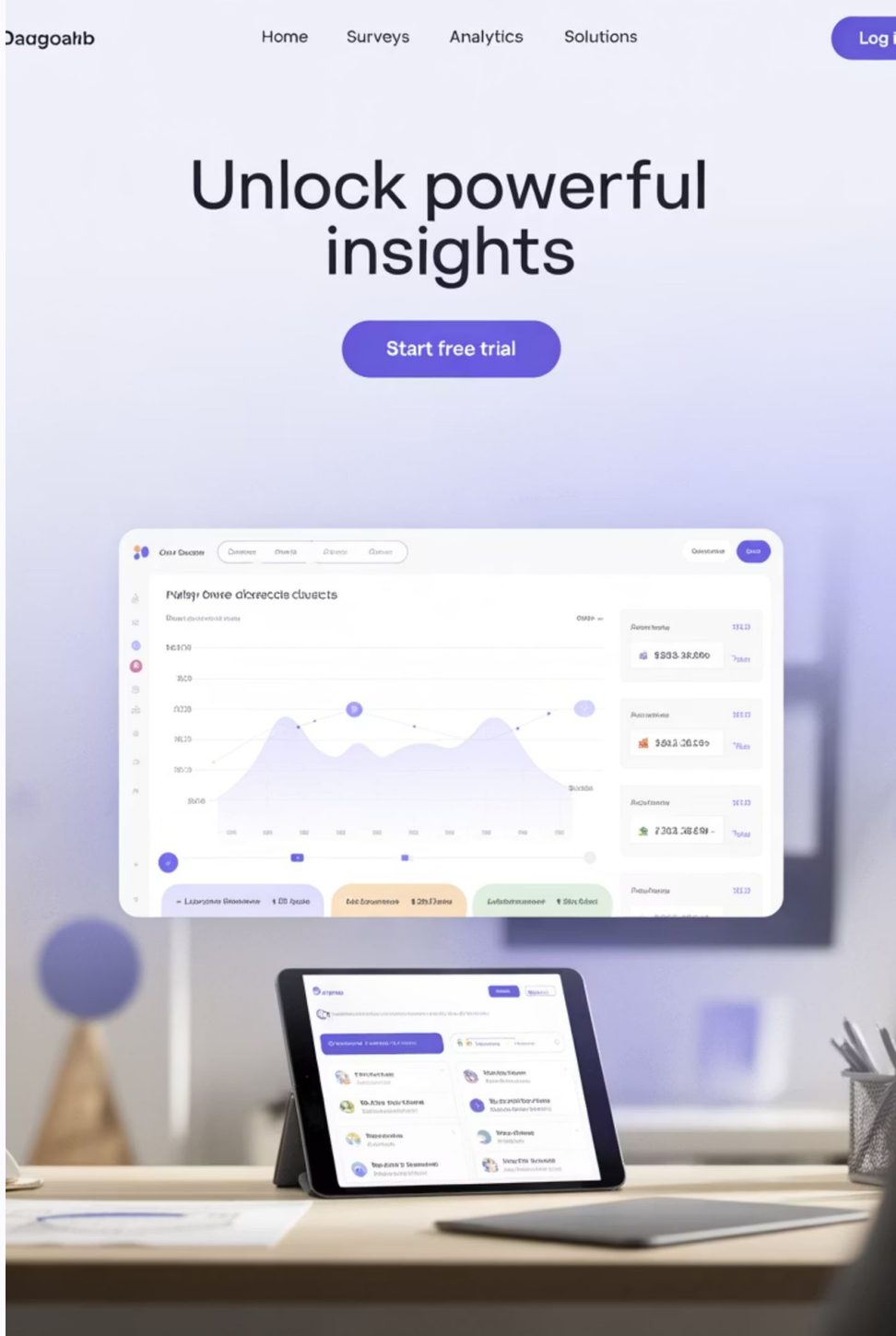
Data Collection Techniques and Tools

Welcome to week 5. This presentation is a comprehensive guide to gathering quality research data for your projects



Planning for Data Collection

Define Research Questions

Clearly articulate what you need to know and why it matters to your research objectives.

Select Appropriate Methods

Choose techniques that align with your research questions, timeline, and available resources.

Create Data Collection Plan

Develop a detailed timeline, identify required resources, and establish protocols for consistent data gathering.

Primary Data: Survey and Interview Design

Survey Design Principles

- Use clear, unambiguous language
- Avoid leading or double-barreled questions
- Balance question types (open/closed)
- Test surveys before full deployment
- Consider response scales carefully

Interview Best Practices

- Prepare structured or semi-structured guides
- Create comfortable environment for participants
- Use probing questions effectively
- Record with permission and take notes
- Practice active listening techniques

Secondary Data: Sources and Use

Government Databases

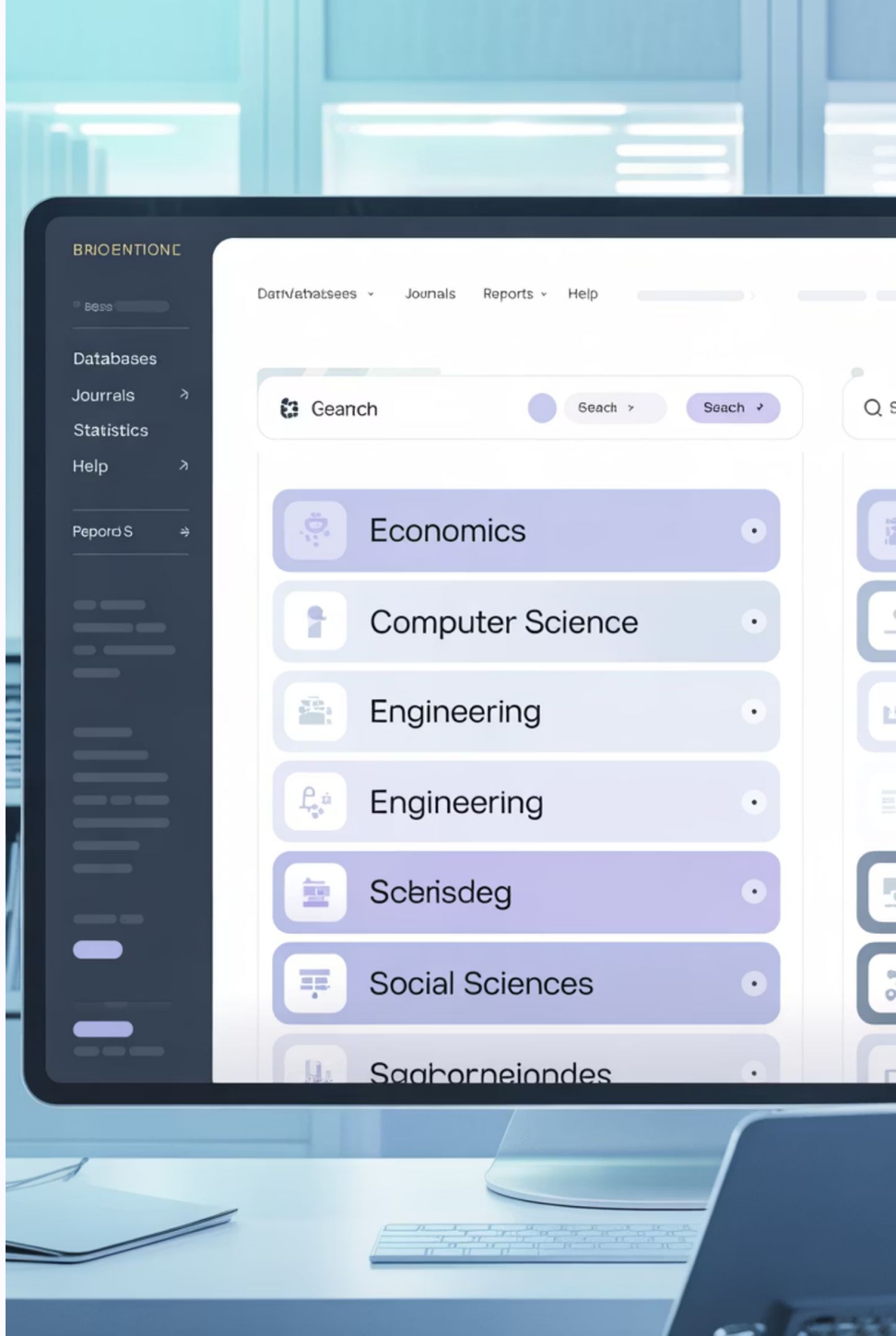
Census data, economic indicators, health statistics, and other official records that provide comprehensive population-level information.

Academic Publications

Journal articles, research papers, and scholarly books containing previously analyzed data and findings relevant to your research area.

Industry Reports

Market analyses, trend reports, and business intelligence that offer specialized insights into specific sectors or industries.



Reliability and Validity in Tools

Reliability

The consistency of your measurement tools across time and different researchers.

- Test-retest reliability
- Inter-rater reliability
- Internal consistency

Validity

The accuracy of your tools in measuring what they're intended to measure.

- Content validity
- Construct validity
- External validity

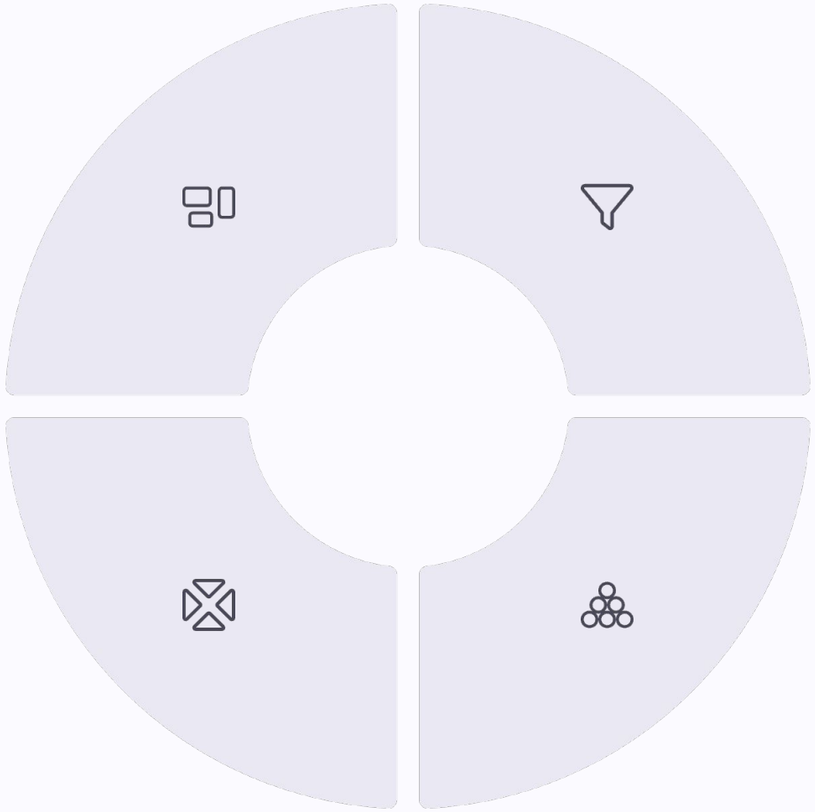
Sampling and Participant Access

Random Sampling

Every member of the population has an equal chance of selection, minimizing selection bias.

Stratified Sampling

Population divided into subgroups (strata) with samples taken from each to ensure representation.

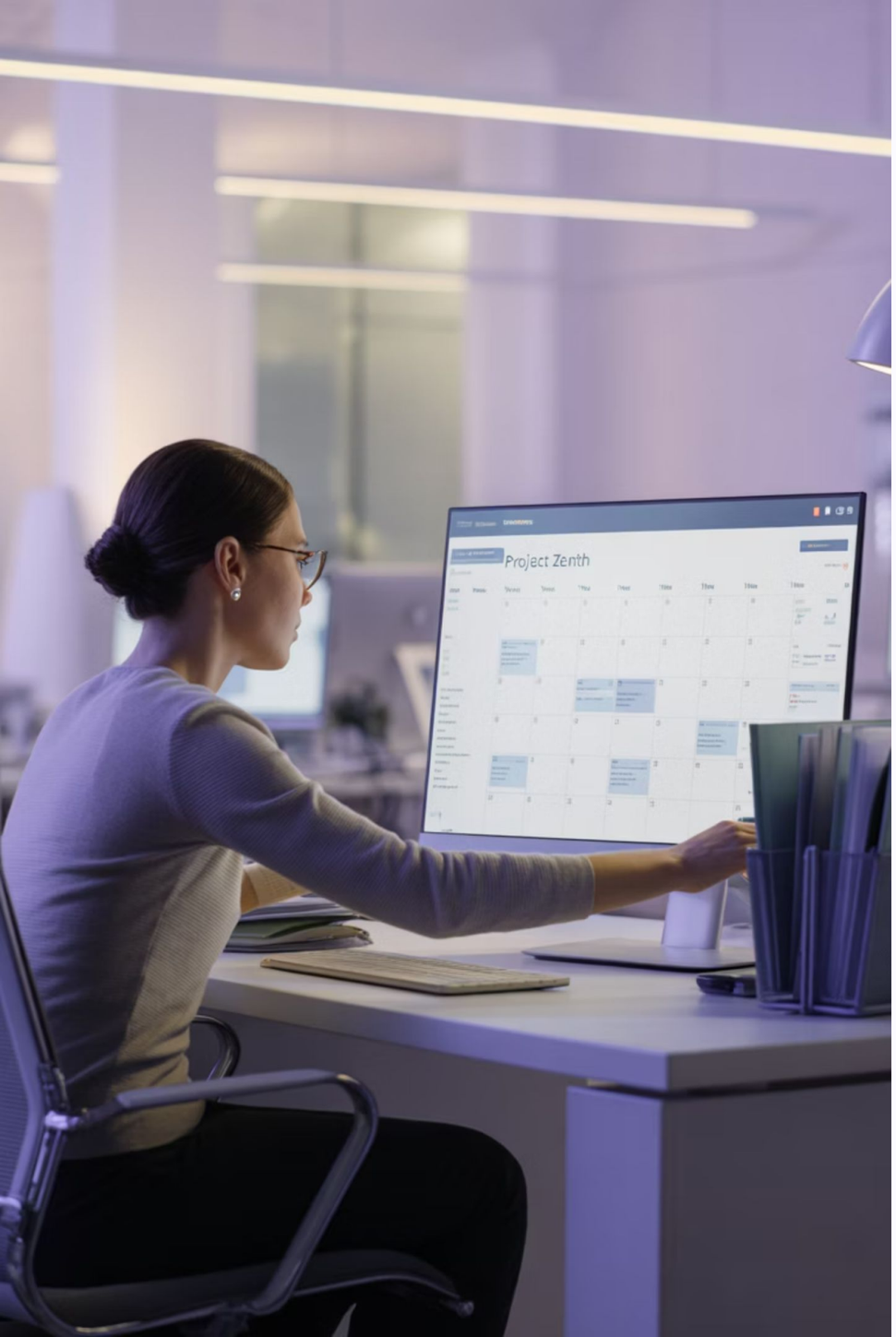


Purposive Sampling

Deliberately selecting participants based on specific characteristics relevant to research questions.

Snowball Sampling

Participants refer others, useful for hard-to-reach populations or specialized groups.



Managing Time and Data Integrity

1 Create Realistic Timelines

Allow buffer time for recruitment challenges, unexpected delays, and iterative improvements to your data collection process.

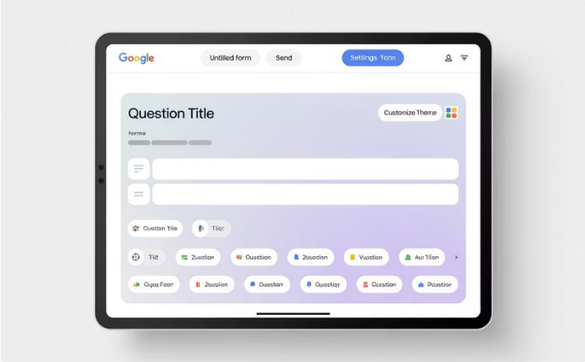
2 Establish Data Security Protocols

Implement secure storage systems, anonymization procedures, and access controls to protect participant information and research integrity.

3 Document Everything

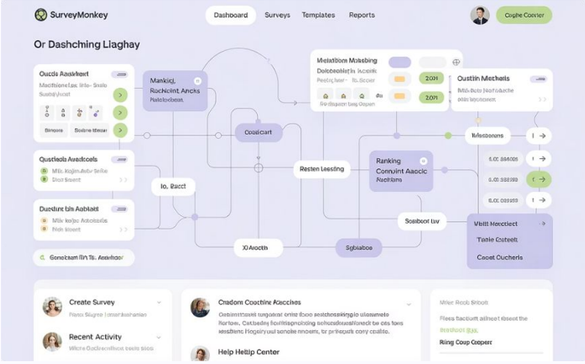
Maintain detailed records of collection procedures, changes to protocols, and any anomalies encountered during the data gathering process.

Tool Examples: Digital Research



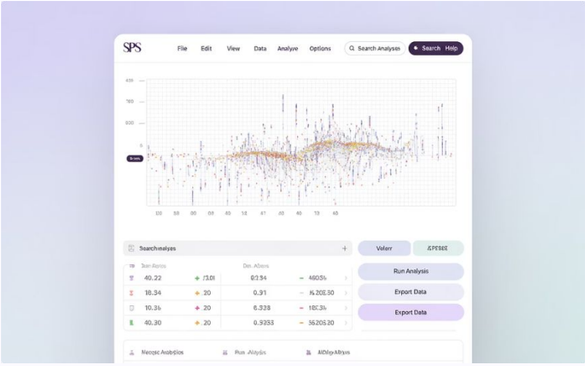
Google Forms

Free, user-friendly platform for creating basic surveys with automatic data collection in spreadsheets. Ideal for simple research needs with limited budget.



SurveyMonkey

Robust survey platform with advanced features like skip logic, randomization, and sophisticated analysis tools for more complex research designs.



SPSS

Powerful statistical software for comprehensive data analysis, hypothesis testing, and advanced statistical modeling of research findings.