Weeks	1	2	3	4	5	6	7	8	9	10	11
Chap.1 Intro	X										
Qualtrics	X										
Chap.2 MR Process		X									
Chap.3 Data			X	X							
Chap.4 Getting Data				X							
Guest Lecture: Research Ethics					X						
Chap.5 Descriptive Statistics						X					
Chap.10 Communicating the Results							X				
Chap.6 Hypothesis Testing								X			
Chap.7 Regression Analysis									X		
Gauss-Markov and GLM										X	
Guest Lecture: Business Application											X

3. Data
3.6. Reliability and Validity

- Summary
  - To plan data collection and assess the collected data:
    - minimize the systematic error at all costs
    - minimize the random error if possible
  - Reliability
    - If the measure is free from random error (formally $X_R=0$)
  - Validity
    - If we are measuring the right way in order to find what we wanted to measure ($X_S=0$)

3. Data
3.7. Population and Sampling

- Population = group of units we want to observe, e.g.
  - All students in this class
  - All lakes in East Sussex
  - All hotel guests in Brighton
- Sample = set of units drawn from the population

3. Data
3.7. Population and Sampling

- Sampling = process through which the sample is drawn
  - Three sampling strategies:
    - Census
    - Probability sampling
    - Non-probability sampling
  - Most important with sampling: representativity of the sample!
    i.e. characteristics of the sample match those of the population

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3. Data
3.7. Population and Sampling

- Census
  - "Sample" includes every unit of the population
  - Possible when population is ...
    - small
    - well-defined
    - easily accessible

3. Data
3.7. Population and Sampling

- Census
  - Pro:
    - Gives a perfect picture of the population
  - Cons:
    - Very costly
    - Very time-consuming
    - Very risky (if parts of the population are not participating)

3. Data
3.7. Population and Sampling

- Probability Sampling
  - Every unit in the population has an equal chance of participating in the study
  - Achieved by sampling frame
    - Useful to plan the sampling process
    - Is the base for selection
    - Contains the list of units in a population

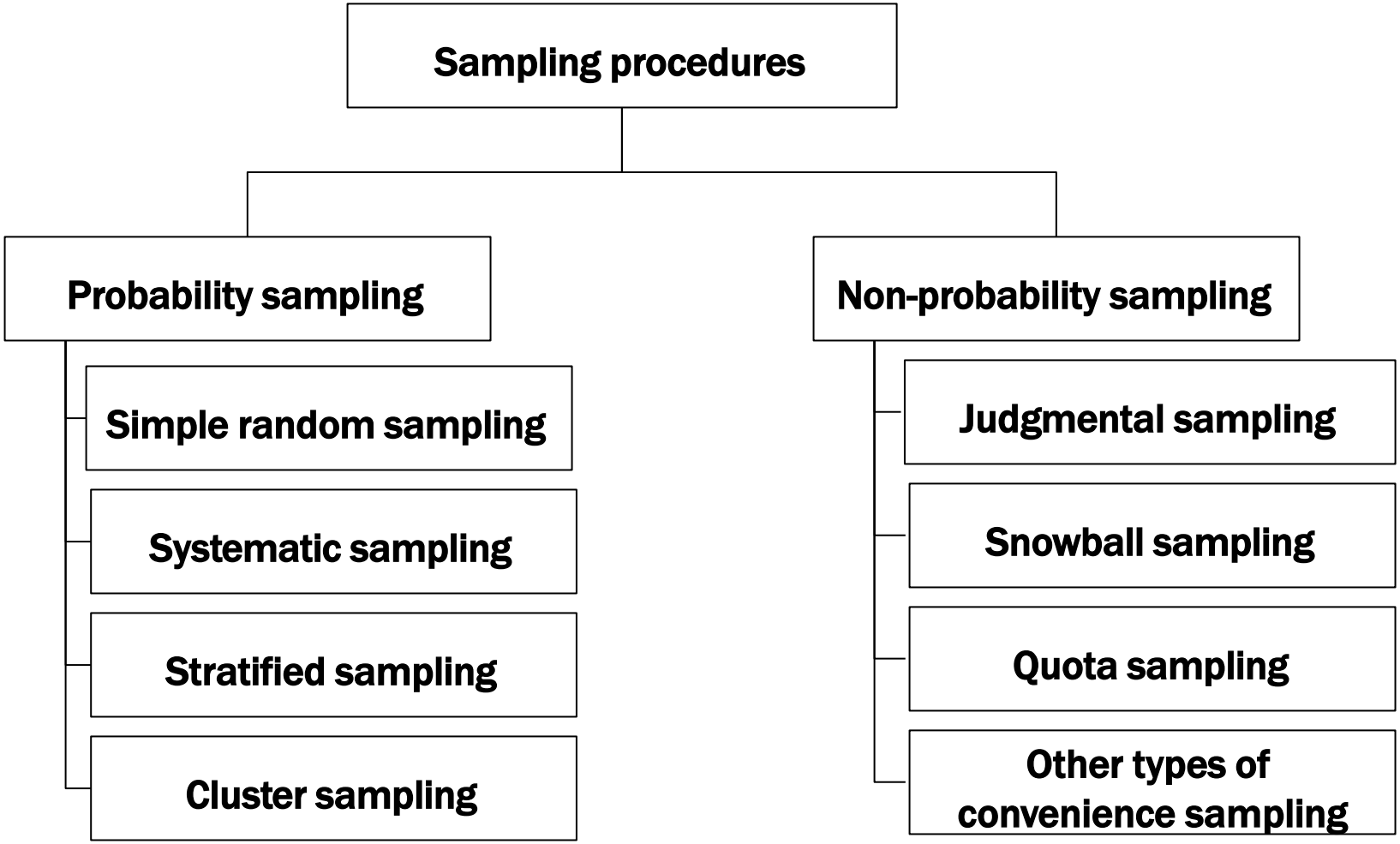
3. Data
3.7. Population and Sampling

- Probability Sampling
  - Selection methods ("how to draw")
    - Simple random sampling (e.g. with Excel randomizing)
    - Systematic sampling (e.g. each 20^{th} will be drawn)
    - Stratified sampling (divide sample in groups ("strata") and then draw)
    - Cluster sampling (build clusters that match the population and then draw)

3. Data
3.7. Population and Sampling

- Non-Probability Sampling
  - Not every unit in the population has the same chance of participating
  - Sampling frame usually does not exist (sampling frame error)
  - Selection methods
    - Judgmental sampling (selection by an informed guess)
    - Snowball sampling (if access to people is difficult, e.g., top managers)
    - Quota sampling (like stratified random sampling, but recruiting units to the sample until the required number is complete)
    - Convenience sampling (researcher makes a subjective judgment whom to add to the sample, e.g., on-campus)

3. Data
3.7. Population and Sampling



3. Data
3.7. Population and Sampling

- Sample sizes
  - Intuition says: increasing sample size of a randomly selected sample helps to reduce random error, but costs/time/…
  - The marginal benefit
    - Becomes smaller with increasing sample sizes
    - An increase from n=40 to n=60 is more beneficial than from n=1,000 to n=1,020.

3. Data
3.7. Population and Sampling

- Sample sizes
  - The sample size
    - required size is (almost) unrelated to the size of the population
  - Problems:
    - Market research companies are often interested in large samples
    - Good minimum size for commercially analyzing data is n=100
      - Each subgroup to be analyzed separetely also needs 100 respondents
      - n=100 is the net amount of respondents (you will have to ask more)

3. Data
3.8. Resume

- Secondary data can be collected by a range of internal and external sources from databases, articles, studies etc.
- Nominal-, ordinal-, interval-, and ratio-scaled data contain different degrees of information.
- Validity refers to the degree of systematic error, reliability to the degree of random error in measurement.
- There are many types of sampling procedures, each with distinct benefits.

Chapter 4: Getting Data

Objectives:

- Know how to gather secondary and primary data
- Design a basic questionnaire
- Set up basic experiments
- Set up basic qualitative research

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Weeks	1	2	3	4	5	6	7	8	9	10	11
Chap.1 Intro	X										
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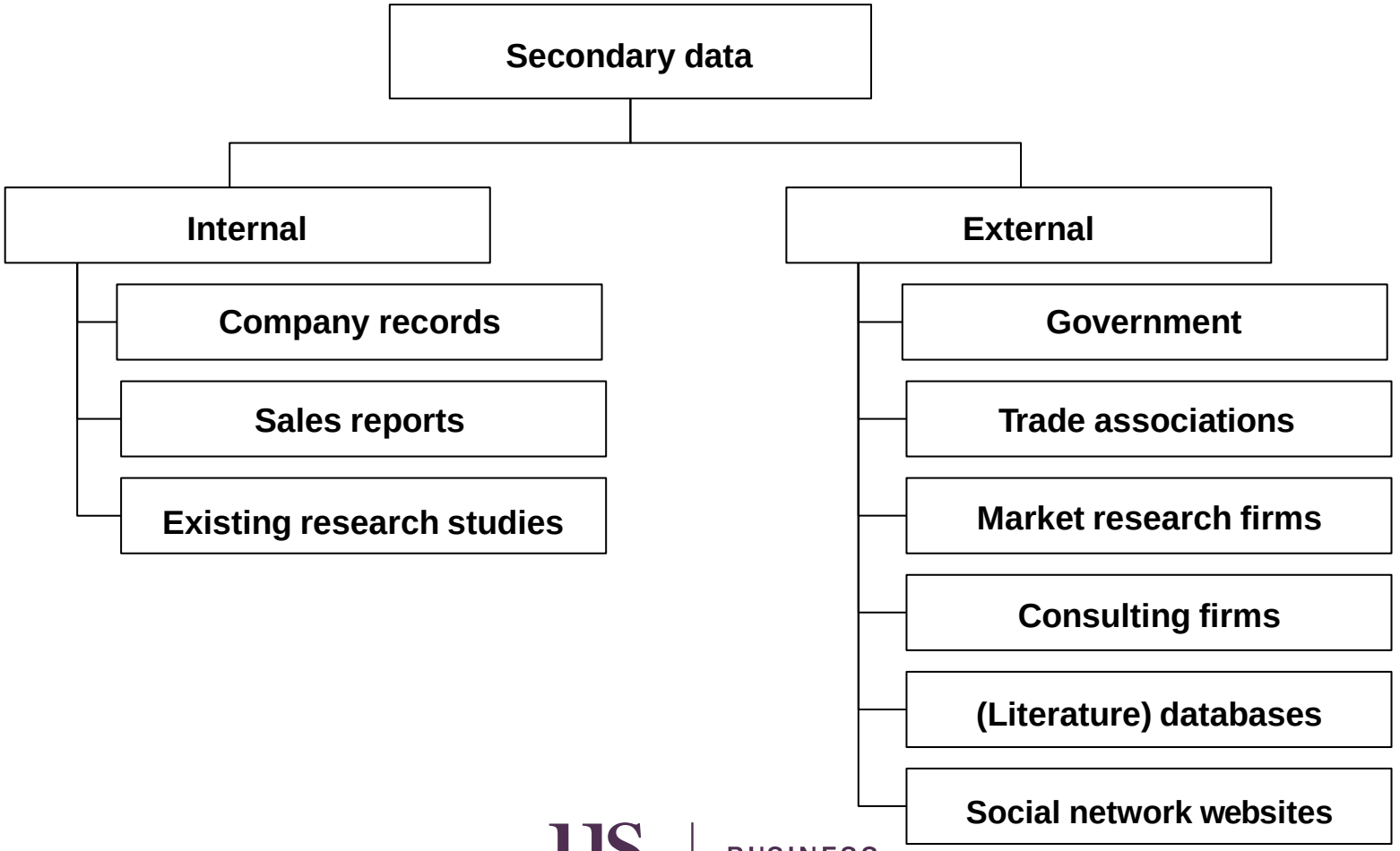
Chap.2 MR Process		X									
Chap.3 Data			X	X							
Chap.4 Getting Data				X							
Guest Lecture: Research Ethics					X						
Chap.5 Descriptive Statistics						X					
Chap.10 Communicating the Results							X				
Chap.6 Hypothesis Testing								X			
Chap.7 Regression Analysis									X		
Gauss-Markov and GLM										X	
Guest Lecture: Business Application											X

4. Getting Data

- Secondary Data
- Primary Data
- Collecting Quantitative Data: Designing Questionnaires
- Basic Qualitative Research

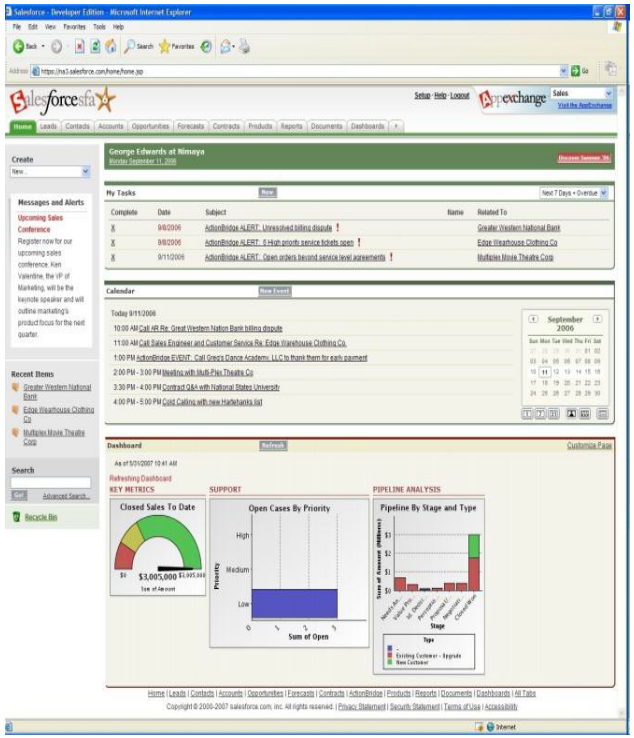
4. Getting Data
4.1. Secondary Data



4. Getting Data
4.1. Secondary Data

- Internal Secondary Data
  - Company records:
    - CRM/ERP systems contain data useful for market research
      - SAP
      - Oracle
      - Salesforce.com
    - Special marketing software

→

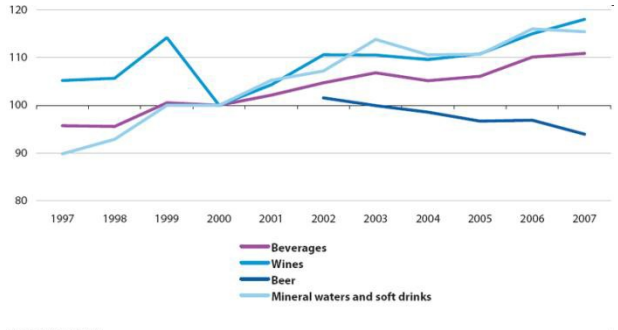


4. Getting Data
4.1. Secondary Data

- Internal Secondary Data
  - Sales reports: provide useful insight into clients' needs
  - Existing research studies:
    - reports that were generated internally or by outside MR-firms
    - useful basis for new research studies
    - Important: data, details, and facts should be available

4. Getting Data
4.1. Secondary Data

- External Secondary Data
  - Governments produce useful (macro) statistics
    - Eurostat (all kinds of statistics) http://epp.eurostat.ec.europa.eu/
    - CIA fact book
  - Trade associations
  - Market research firms
  - Consulting firms
  - (Literature) databases
  - Social networks
  - Google (see next slide)



4. Getting Data
4.1. Secondary Data

- **Use Google to find**

- Use **Google Scholar** (http://scholar.google.com) if you are looking for scholarly information, such as those found in academic journals. Occasionally, you can only access the information if you have an organizational, university, or library account.
- With **Google Books,** (http://books.google.com/books) you can search within catalogues of digital books. Google returns in which books the keywords you have used are found. Google may also provide a text preview.
- Under ***advanced search***, you can tell Google to only return searches from e.g. Excel documents by selecting Excel under file type. Under advanced search you can also tell Google to return searches from universities only by typing ".edu" in "*Search Within Site or Domain"* (mainly USA)

4. Getting Data
4.1. Secondary Data

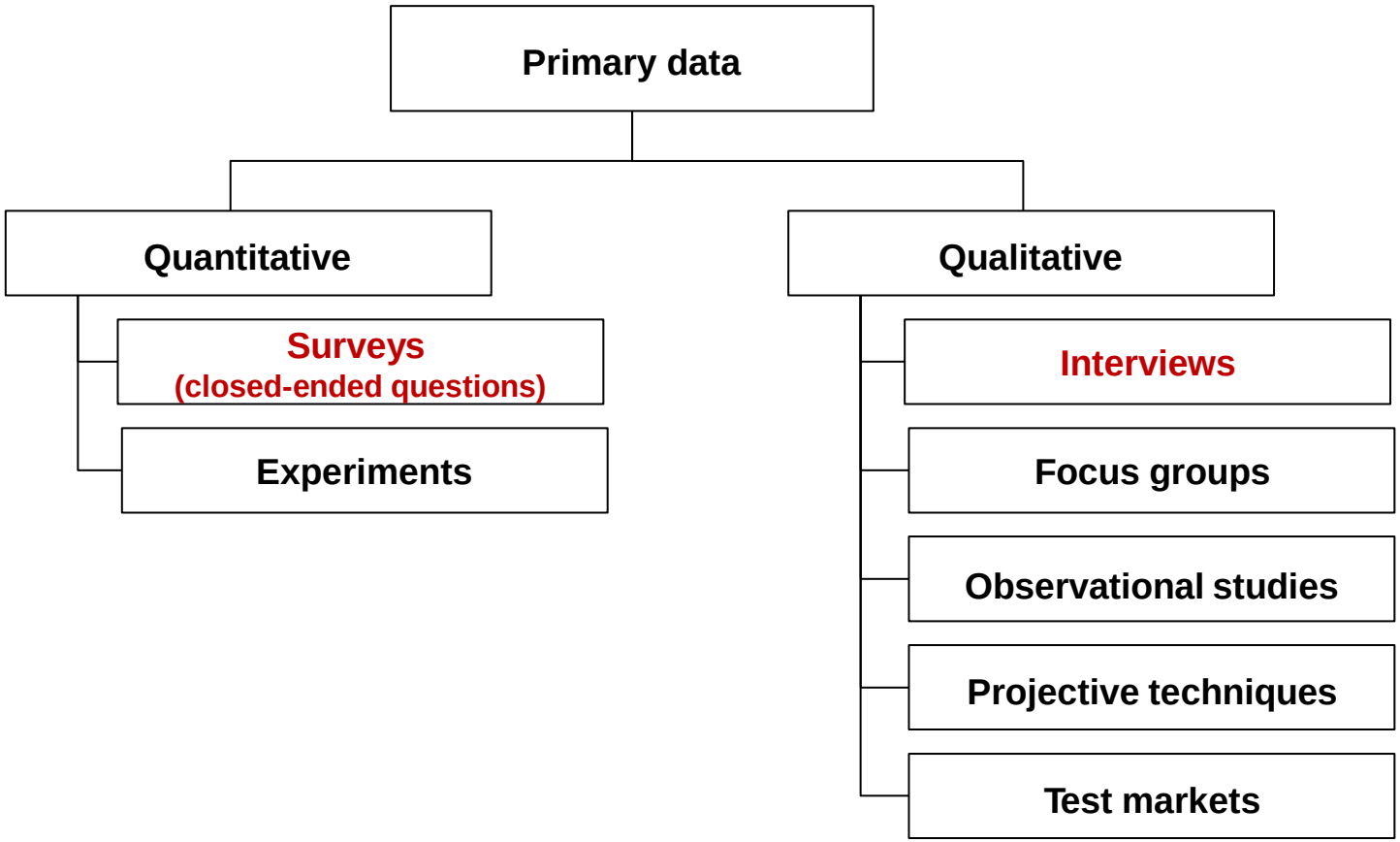
- **Use Google to find**

- For archival news (e.g., to see how a new product launch was received by the press) use **Google News Archive** Search (http://news.google.com/archivesearch).
- Try to use **operators** to restrict your research. For example: putting a "–" right before a search word excludes this word from your findings. "+" allows you to search for websites that include that particular word. Putting a sequence of words in quotation marks indicates that Google should search for exactly these elements.
- You can use a dedicated search tool to find secondary data, such as the UK DataService ReShare platform (https://reshare.ukdataservice.ac.uk/). These are dedicated search tools and lists that work well if you are looking for **specific datasets**.

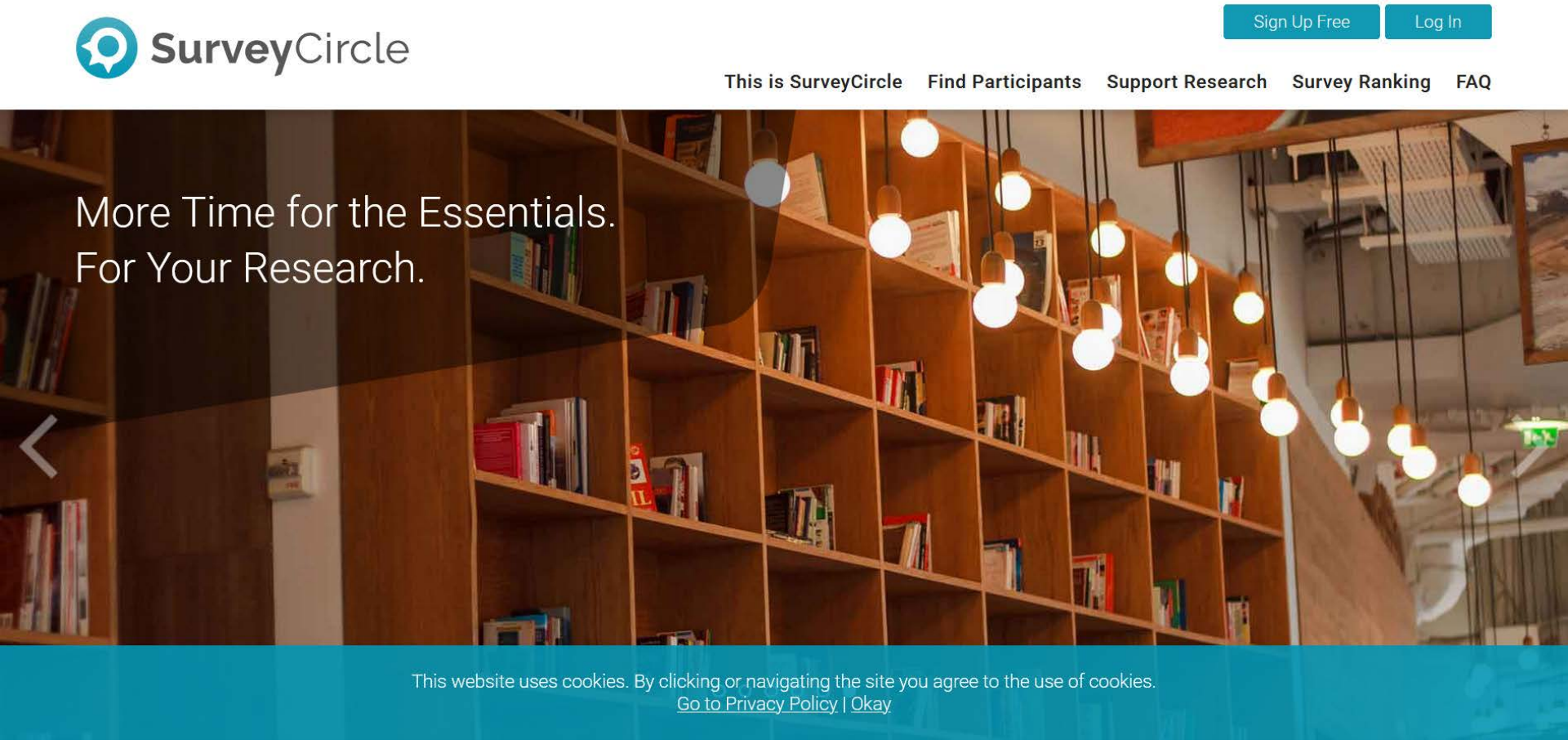
4. Getting Data

- Secondary Data
- **Primary Data**
- Collecting Quantitative Data: Designing Questionnaires
- Basic Qualitative Research

4. Getting Data
4.2. Primary Data



4. Getting Data
4.2. Primary Data



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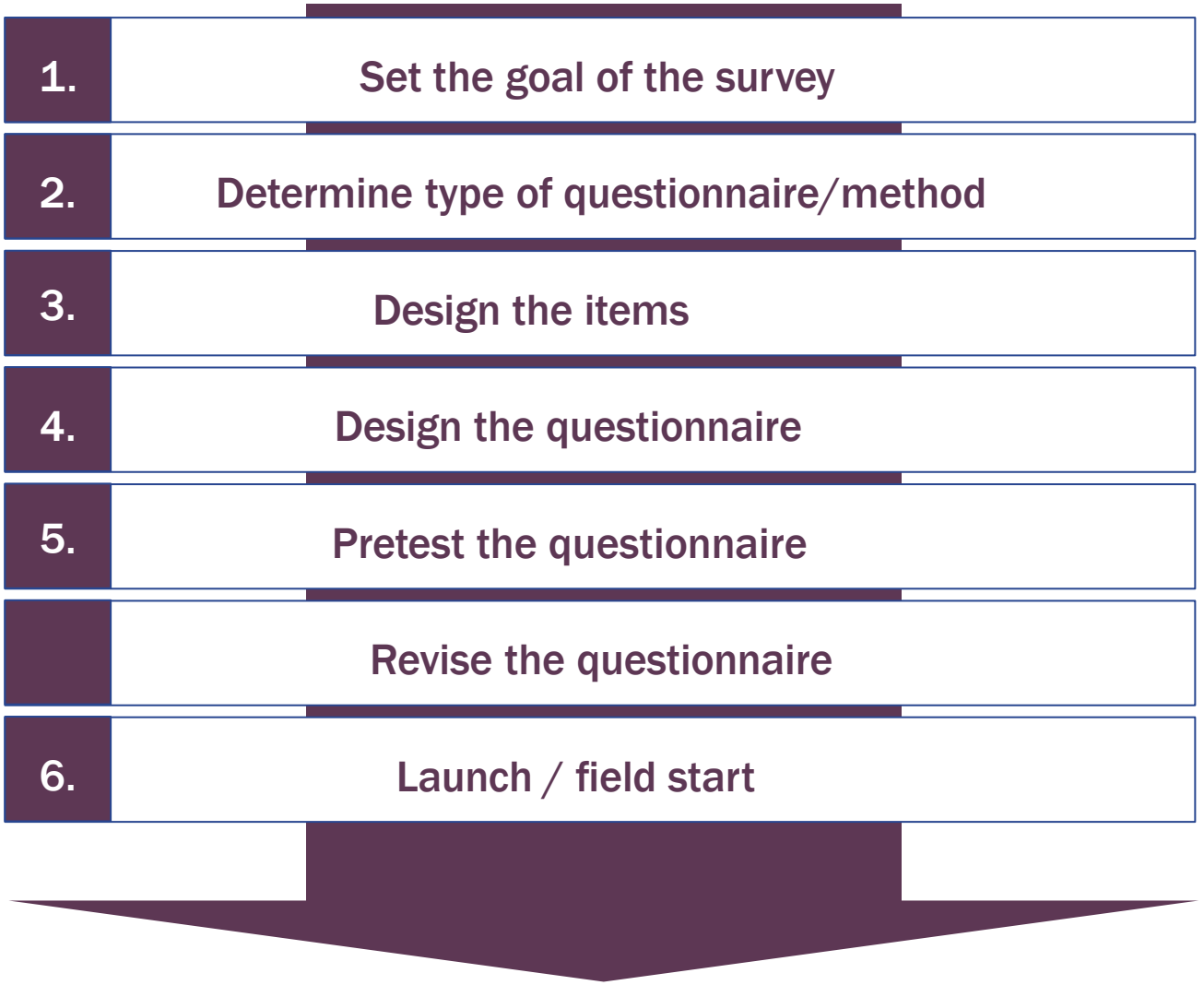
4. Getting Data

- Secondary Data
- Primary Data
- **Collecting Quantitative Data: Designing Questionnaires**
- Basic Qualitative Research

4. Getting Data
4.3. Designing Questionnaires



4. Getting Data
4.3. Designing Questionnaires

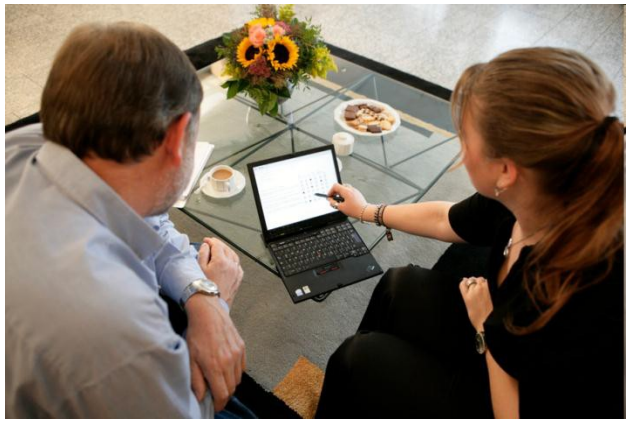
- 1. Set the goal of the query
  - Determine type of data required to run the analyses
    - Consider sample size, measurement scales, and variable definition beforehand
    - For example: nominal data cannot be used for some types of statistical analysis
  - Consider what your recommendation might be from the study

4. Getting Data
4.3. Designing Questionnaires

- 2. Determine type of questionnaire and method of administration
  - Four ways to administer
    - Face-to-face interview
    - Telephone interview
    - Web survey
    - Mail survey
    - (mixed method)

4. Getting Data
4.3. Designing Questionnaires

- Four ways to administer (ctd.)
  - Face-to-face interview (also called personal interviews)
    - High response and little drop-out rates → respondent is highly involved
    - A lot of information to be collected
    - Best suited for open-ended questions
    - Long questionnaires are possible
    - Very good for in-depth exploration of an opinion
    - BUT: very costly.



4. Getting Data
4.3. Designing Questionnaires

- 2. Determine type of questionnaire and method of administration
  - Four ways to administer (ctd.)
    - Telephone interviews
      - Quick data collection
      - Only moderate control of interviewer bias
      - Open-ended questions are possible
      - Good compromise between low cost of mail survey and richness of face-to-face survey
      - BUT: Millennials use mobile phones, causes problems with representation of the population

4. Getting Data
4.3. Designing Questionnaires

- 2. Determine type of questionnaire and method of administration
  - Four ways to administer (ctd.)
    - Web surveys
      - Allow for quick data collection
      - Very flexible tool due to several skip options
      - Least costly of all the survey options
      - Less affected by socially desirable answers
      - BUT: Self-recruiting / representativity is a major obstacle
      - WAY OUT: Use representative panel members to interview them online

4. Getting Data
4.3. Designing Questionnaires

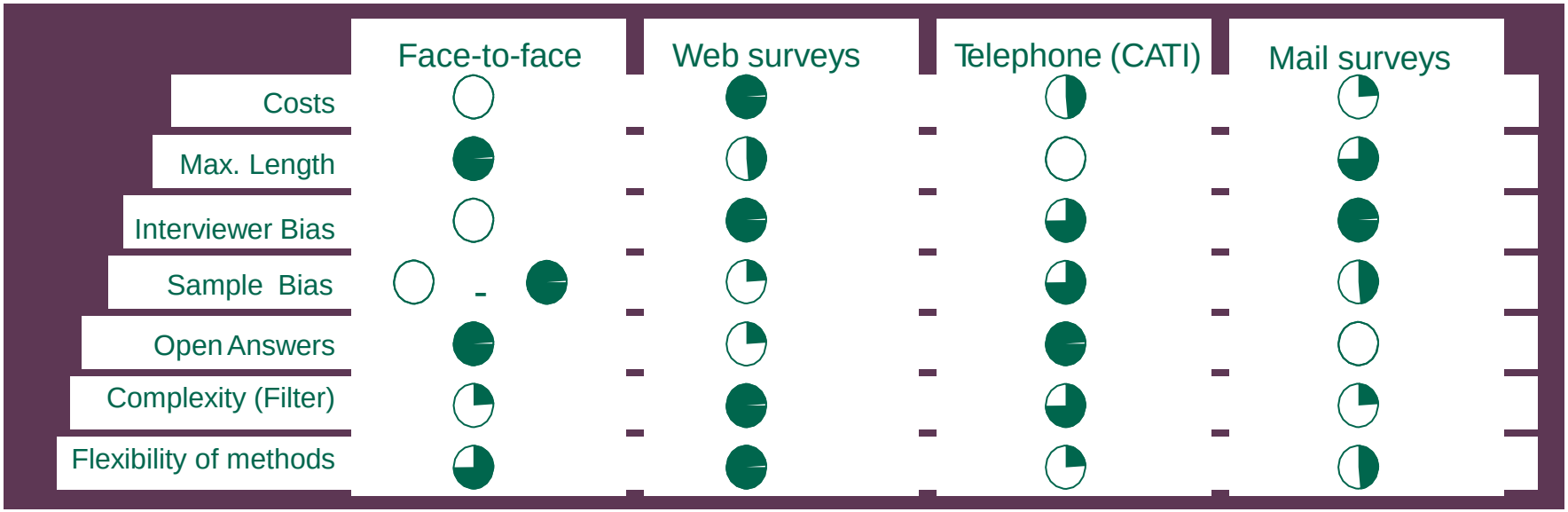
- Four ways to administer (ctd.)
  - Mail surveys
    - Paper-based interviews sent by mail
    - Very suitable for sensitive questions
    - No interviewer bias
    - Problems:
      - Open-ended questions
      - Lack of control over the environment
      - Research takes a lot of time
      - Very low response rate

4. Getting Data
4.3. Designing Questionnaires

- Four ways to administer (ctd.)
  - (mixed method)
    - nearly every mix is possible
    - Example: First contact by phone to prepare the respondent for a web survey or paper-pencil questionnaire in the near future
    - Problems:
      - Correct Email address and phone number are needed
      - Time- and cost-intensive

4. Getting Data
4.3. Designing Questionnaires

- 2. Determine type of questionnaire and method of administration
  - **All information at a glance**



From a researcher‘s point of view:

very bad — Very good

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4. Getting Data
4.3. Designing Questionnaires

- Rules for designing the questions I
  - Can all respondents answer all the questions asked?
    - Ensure that all items are doable for all potential respondents
      - In terms of comprehension
      - In terms of knowing about the subject matter
  - Can the respondents construct/recall answers?
    - If the answer is no, you should use other methods to obtain information
      (e.g., secondary data or observations)
    - Ask the respondents about more general aspects that occurred before zooming in on details

4. Getting Data
4.3. Designing Questionnaires

- Rules for designing the questions II
  - Do the respondents want to fill out each question?
    - If the questions concern “sensitive” subjects, check if necessary
    - Make sure that the respondents trust the interviewer
    - Mention that answers are useful to researcher/respondent/society
    - Length of a questionnaire is always a reason for drop-outs

4. Getting Data
4.3. Designing Questionnaires

- Rules for designing the questions III
  - Should you use open-ended or closed-ended questions?
    - Keep the subsequent coding in mind. If easy coding is possible beforehand, design a set of exhaustive answer categories
    - Remember that open-ended items have a much lower response rate than closed-ended items
    - Open-ended questions are difficult to code (time consuming, subjective, complicated, source of errors)

4. Getting Data
4.3. Designing Questionnaires

- Types of scales for closed-ended questions
  - Likert scales
    - Forced-choice (even) vs. open-choice (odd) scale
      - Respondents feel most comfortable with the open-choice scale
      - An even number of scale categories forces the respondents to decide
    - Balance the scale
      - Check the wording and number of items; there should be an equal number of positive and negative scale items
      - The words at the extreme ends of the scale should be exact opposites
    - Integrate an “undecided”/“don’t know” category
      - Only for questions that the respondent might genuinely not know
      - Place it at the end of the scale.

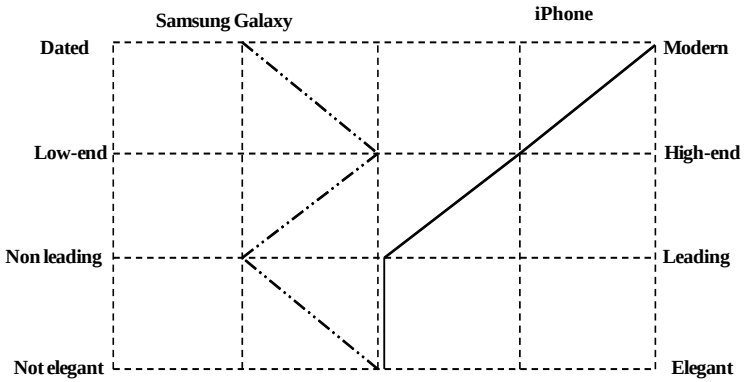
4. Getting Data
4.3. Designing Questionnaires

- Types of scales for closed-ended questions
  - Semantic differential scale
    - Word with opposites meanings at the extreme ends of the scale
    - Connect the answers to a profile line (“differential”)
  - Rank order scales

4. Getting Data
4.3. Designing Questionnaires

- Types of Scales for closed-ended questions

Semantic differential



Likert scale

Better: The question is separated into two questions

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Completely agree
I am satisfied with the performance of my iPhone	❑	❑	❑	❑	❑

Rank order scale

Rank the reasons for buying an iPhone, from most to least applicable:

__To listen to music
__To browse the web
__To make pictures
__To make/receive phone calls
__To send/receive emails

4. Getting Data
4.3. Designing Questionnaires

- **What should be avoided:**

Avoid	Example	Improvement?	
Negations/double negations	Have you not been satisfied with the hotel? Has the hotel room not been too loud ?	? ?	
Vague quantifiers	Do you book holidays frequently?	?	
Suggesting answers	Do you agree with your Lonely Planet Guide that this is the best hotel in Greece?	?	
Double-barreled questions	How satisfied were you with the meals and the holiday accommodation?	?	
Questions not answerable	Did you like your holiday accommodation? (If subject did not book a holiday)	?	

4. Getting Data
4.3. Designing Questionnaires

Question	Answer
Can all respondents answer all questions?	Check if all items are answerable by all potential respondents. If this is not the case, ask screener questions to direct respondents. If respondents cannot answer questions, they should skip those in the survey.
Can respondents construct / recall answers?	If answer is no, then you should use other ways of obtaining information (e.g., secondary data or observations). If not, you may want to ask general aspects that occurred some time ago before zooming in on details to help them recall.
Do respondents want to fill out each question?	If questions concern “sensitive” subjects, check if they can be dropped. If not, introduce the question, stress confidentiality of answers and why these answers are useful to the researcher, respondent, or society.
Do we use open-ended or closed- ended questions?	Consider coding afterwards. If easy coding is possible beforehand, design a set of exhaustive answer categories. Also consider that open-ended scale items have a much lower response rate than closed-ended items.
What scaling categories do we use? (closed-ended only)	Use Likert scales, semantic differential scale, rank order scales.
Do we use a balanced scale?	Check wording and number of items. An exact number of positive and negative scale items needs to be included. The words at different ends of the scale should be exact opposites.
Do we want to use forced-choice or open-choice scale?	Respondents feel most comfortable with an open-choice scale. However, when an even number of scale categories is used, forced-choice scales are most common; otherwise, the scaling becomes unevenly spaced.
Do we include a ”don’t know” category?	Only for questions that the respondent might genuinely not know, don’t know should be included. If included, place this at the end of the scale.

4. Getting Data
4.3. Designing Questionnaires

- **Designing the questionnaire**

1. Introduction: Why this questionnaire; perhaps cooperation with a university; results are confidential; “thank you in advance”.
2. Screeners or classification questions come next. These questions determine what parts of the survey a respondent should fill out.
3. Next, insert the key variables of the study. These include the dependent variables, followed by the independent variables.
4. Use a funnel approach. That is, ask questions that are more general first and then move on to details. This makes answering the questions easier. Make sure that sensitive questions are put at the very end of this section.
5. Demographics are placed last if they are not part of the screening questions. Sensitive data could be asked in categories.

4. Getting Data
4.3. Designing Questionnaires

- Pretesting the questionnaire
  - Enhances its clarity
  - Ensures respondents' acceptance
  - Shows difficulties in understanding and filling
  - Enables the researcher to make corrections in order to get a better questionnaire

4. Getting Data
4.3. Designing Questionnaires

- Pretesting the questionnaire
  - Two ways:
    - Small group of experts (3-6) check it and provide additional feedback
    - If possible, send the questionnaire to a larger group (50-100) and analyze pilot data
    - Either way: The quality of the questionnaire will be improved in order for the best version to be launched
  - NEVER skip pretesting due to time pressure

4. Getting Data
4.3. Designing Questionnaires

- Increasing the response rates
  - It is becoming increasingly difficult to get people to fill out surveys. Reasons:
    - over-surveying
    - dishonest firms (disguising sales as research)
    - lack of time
    - legal matters

4. Getting Data
4.3. Designing Questionnaires

- Increasing the response rates
  - Ways to overcome low response rates:
    - Send out a pre-notice letter indicating the importance of the study, announcing that a survey will be sent out shortly
    - Send out the survey with a sponsor letter again, indicating the importance of the study
    - Follow up after three to four weeks with both a thank you note (for those who responded) and a new survey plus a reminder (for those who did not respond)
    - Email those who have not responded and send out a thank you note to those who replied in the second round

4. Getting Data
4.3. Designing Questionnaires

- Increasing the response rates
  - Incentives, e.g. cash, bonus points, donation to charity, taking part in a lottery, e.g., for an iPad
  - Offering to send the results to the respondent before publishing (b-to-b)

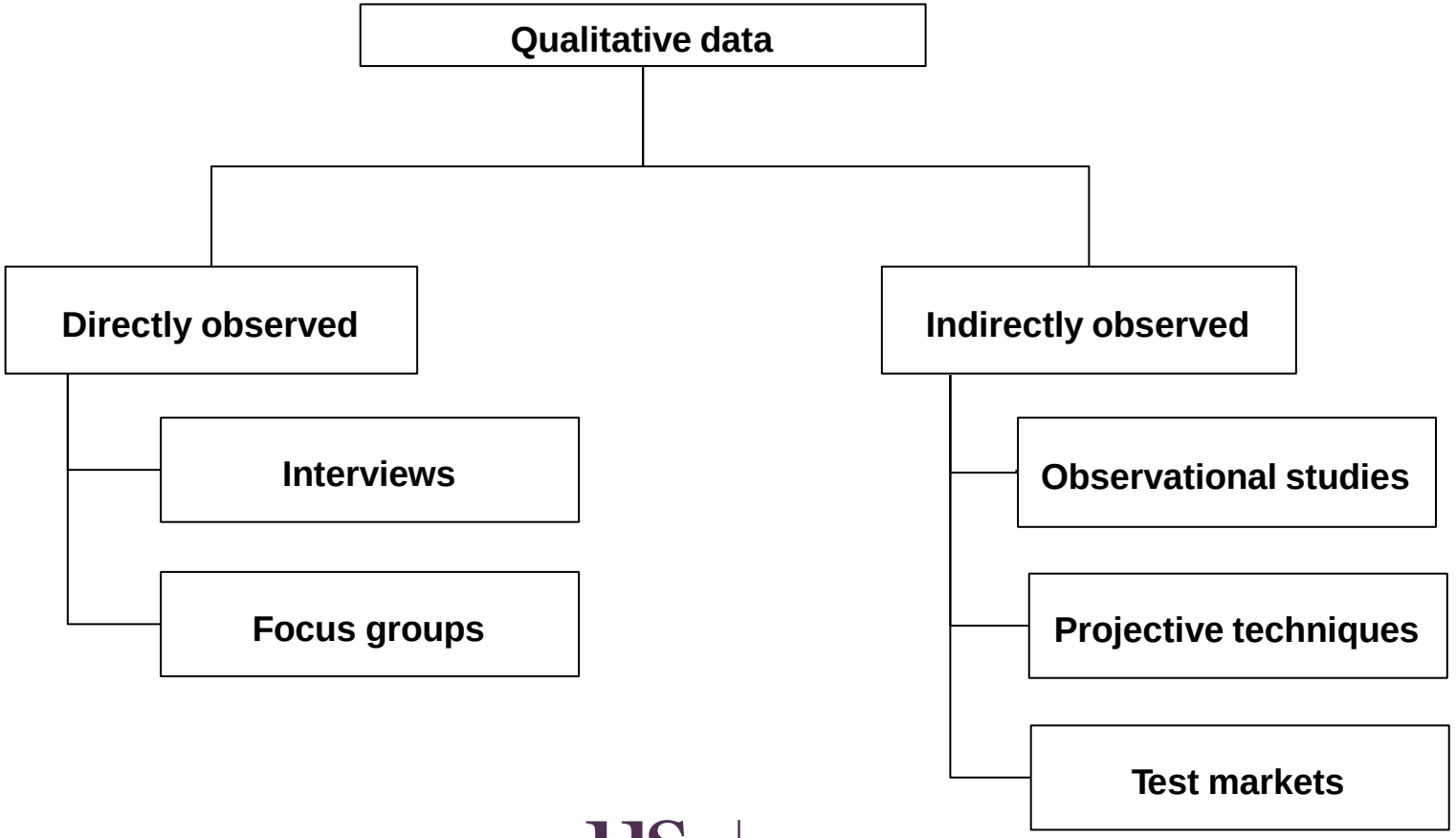
4. Getting Data
4.3. Designing Questionnaires

- Increasing the response rates
  - General recommendations
    - Announce the study with a letter beforehand and send questionnaire in a second step
    - Include a sponsor letter (e.g. from an university)
    - Send out follow-ups for non-respondents
    - Proper writing of names and addresses

4. Getting Data

- Secondary Data
- Primary Data
- Collecting Quantitative Data: Designing Questionnaires
- Basic Qualitative Research

4. Getting Data
4.4. Basic Qualitative Research



4. Getting Data
4.4. Basic Qualitative Research

- Repetition:
  - Interviews: qualitative conversations with participants about a specific issue
  - Focus groups: interviews conducted among a number of respondents at the same time and led by a moderator
  - Observational studies: used to understand what consumers are doing (e.g. mystery shopping)
  - Projective techniques: providing a participant with a stimulus and gauging the response, e.g. sentence completion
  - Test markets: type of market research in which a company introduces a new product or service in a specific geographic (test) market

4. Getting Data
4.5. Resume

- Always attempt to use secondary data first. If that fails, collect primary data.
- There are various ways to collect primary data; surveys are the most prominent approach.
- Designing surveys requires a six-step process
- Qualitative research is mostly used to gain an understanding of why certain things happen or to work on developing measures