Basics of Questionnaire Design

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Introduction

Questionnaire

Written/printed or computer-based schedule of questions and a *pro forma* to record answers to the questions.

Survey

Process of designing and conducting a study involving the gathering information from a number of subjects.

A survey does not always include a questionnaire

e.g. a study may involve a survey questionnaire applied to event consumers or a documentary survey of the contents included in several organisations' annual reports.

e.g. "1000 surveys were distributed". Correct or incorrect?

- Only one survey involved
- 1000 questionnaires distributed

Adapted from Veal and Darcy, 2014

Introduction

Important to have in mind

The design of a questionnaire will affect the response rate and the reliability and validity of the data collected. These, along with response rates, **can be maximised by**:

- Careful design of individual questions.
- Clear and pleasing visual presentation.
- Lucid explanation of the purpose.
- Pilot testing.
- Carefully planned and executed delivery, and returned completed questionnaires.
- Longitudinal vs. Cross-sectional approaches (CMB).

Adapted from Saunders et al. (2020)

Common Advantages of questionnaires

- Provide information about the mass phenomenon of contemporary sports.

  i.e. sport requires major involvement from Governments, non-profit and commercial organisations, which rely on quantified information for decision-making.

- Provide a transparent set of research procedures and can often be re-analysed by others who wish to extend the research of test alternative interpretation (i.e. it can be replicated).

- Allows quantification of relatively complex information in a succinct form.

- Provide opportunities to study changes over time using comparable methods.

  e.g. Longitudinal surveys

- Good means of ensuring that a complete picture of a person's patterns of participation/behaviour is obtained.

  e.g. frequency of sport/event participation, expenditure, level of enjoyment, attendance,…

- Allows to gather simple information of the incidence of attitudes, meanings and perceptions **among a substantial sample of the population.**

Adapted from Adapted from Veal and Darcy, 2014

Common Disadvantages of questionnaires

Self-reported data

- Based on information from respondents (i.e. accuracy and honesty in responses?)
- Exaggeration/under-reporting (e.g. how many games of your favourite team have you attended this season? How many lectures have you missed in S1?)
- Accuracy of recall (i.e. mistakes can be made when recalling events – how many times do you go to the gym per month?)
- Sensitivity (e.g. questions regarding salaries, gender, drug use, among other topics, may give rise to concerns)

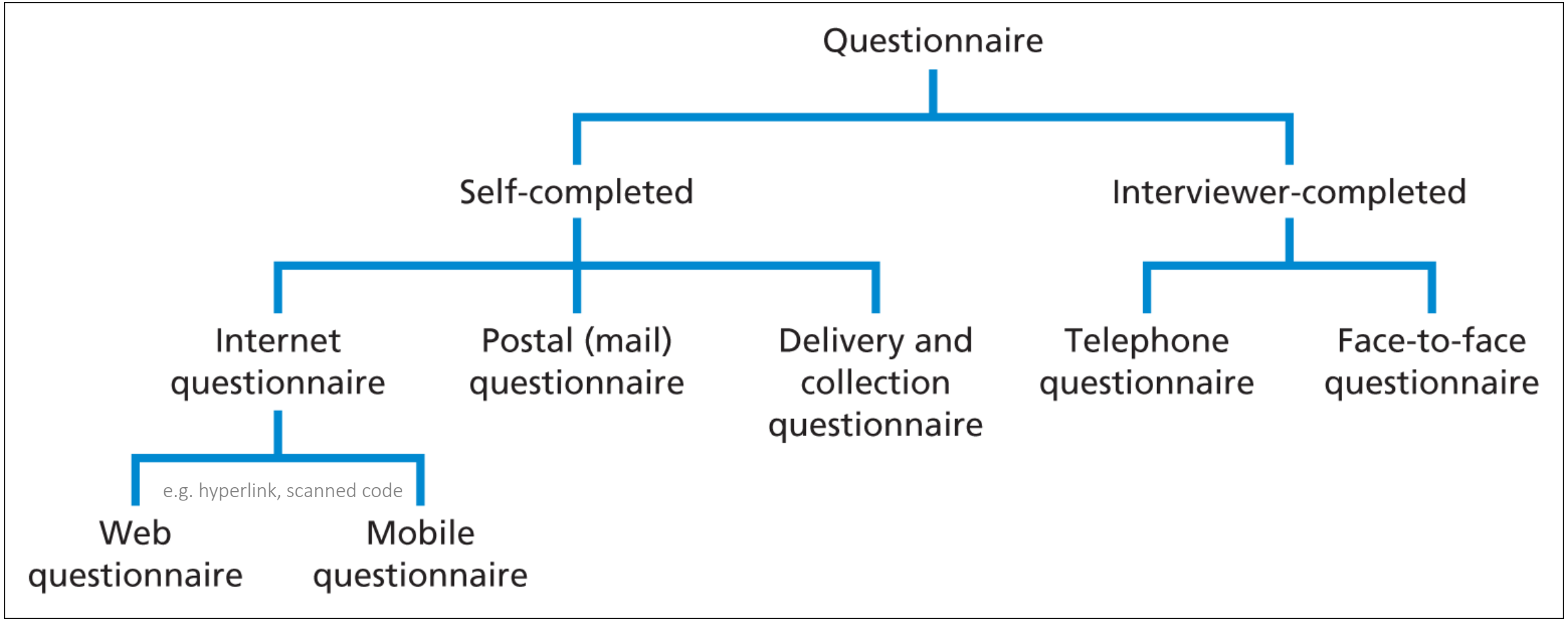
Samples

- Most questionnaires involve only a sample of the population (representativeness of the sample may be a critical aspect)

Important: sometimes, perceptions are even more important that actual behaviours

Adapted from Adapted from Veal and Darcy, 2014

Types of questionnaires



Saunders et al., 2014, p. 440

Types of questionnaires

The choice of the questionnaire is influenced by:

- Characteristics of respondents.
- Importance of reaching a particular person as respondent.
- Importance of respondents' answers not being contaminated or distorted.
- Sample size needed for the analysis.
- Type of questions needed.
- Number of questions needed.

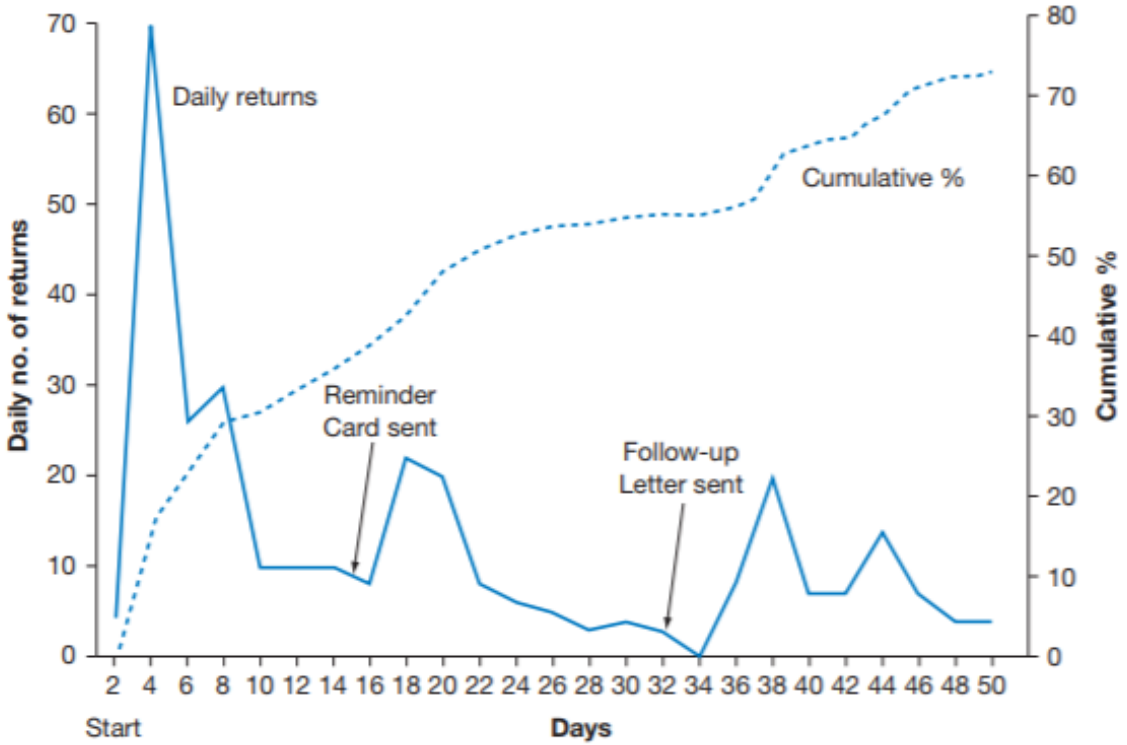
e.g.

- Postal (mail) questionnaires do not necessarily ensure the respondent is the person who is being targeted.
- Internet questionnaires with a hyperlink may offer greater control, BUT do not ensure the 'quality of responses'.
- Interviewer-completed questionnaires ensure the participant is whom you want, BUT have less anonymity.
- Respondent-completed questionnaires are quicker and relatively anonymous, BUT may lead to incomplete and/or frivolous responses.

Saunders et al., 2014, p. 440

The example of internet questionnaires

Response patterns



Visibility on social media and websites

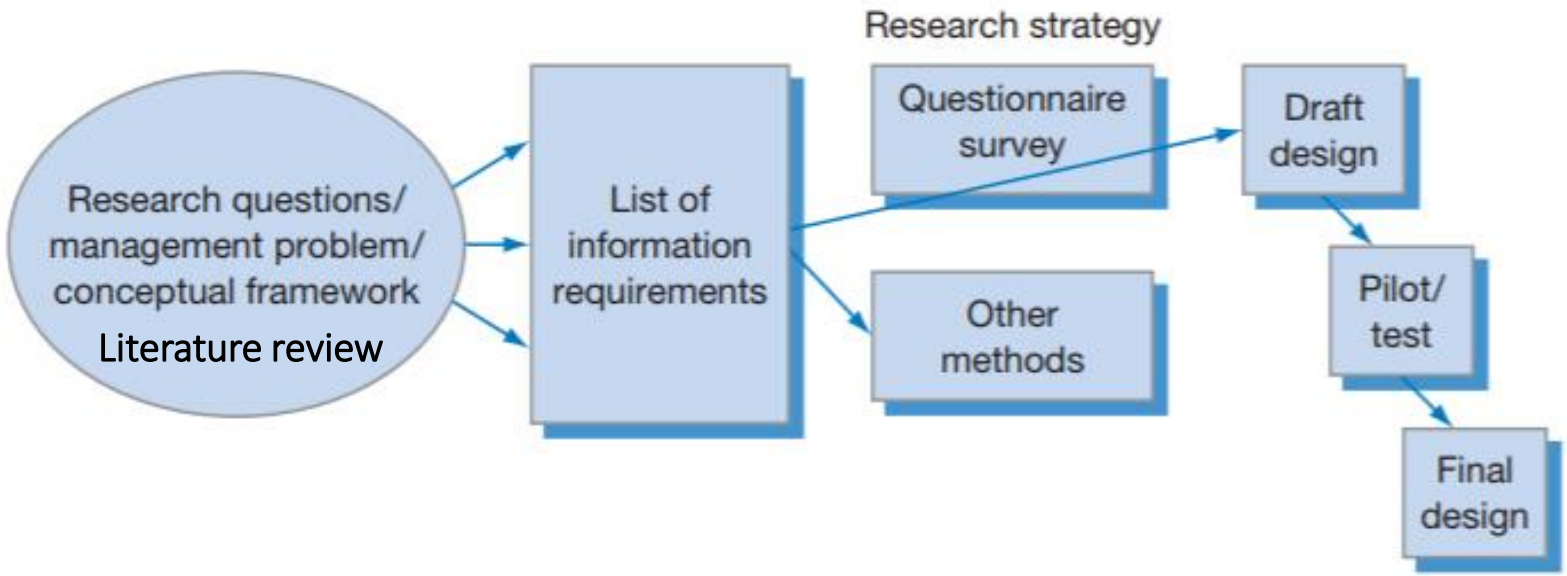
…Not visible after a few hours or event minutes (need to scroll down too much)

Adapted from Saunders et al., 2014, p. 440

Questionnaire design

An important principle in designing is to take it slowly and carefully and to remember why the research is being done.

Questionnaire design process



Saunders et al., 2014

General design issues

Wording of questions

- Avoid jargons

  e.g. please list your brand associations linked to event XY **VS.** Please list what comes to your mind when you think about event XY

- Simplify wherever possible (be simple, direct and comprehensible)
- Avoid ambiguity (be specific and concrete)
- Avoid leading questions (i.e. questions that imply or contain its own answer)

  e.g. did the team lose the game because of player A?

- Ask only one question at a time (avoid double-barrelled questions)

  e.g. Was the session interesting and useful? ***WRONG***

  e.g. Was the session interesting? Was the session useful? ***CORRECT***

- Allow for all possible responses.

Adapted from Saunders et al., 2014; Veal and Darcy, 2014

General design issues

Designing individual questions

The design of each question should be determined by the data one needs to collect. Typically, researchers do one of these three things.

a) **Adopt** questions from previous studies (questionnaires)

i.e. important when the idea is to replicate or compare findings with other studies

a) **Adapt** question from previous studies (questionnaires)

i.e. apply the idea to a different context

a) **Develop** their own questions (usually implies a process of validation)

i.e. if there is nothing in the literature that fits the purpose of your study

Adapted from Saunders et al., 2014; Veal and Darcy, 2014

General design issues

Open ended questions

- Often used for in-depth and semi-structured interviews.
- In questionnaires, these questions are useful when researchers are developing exploratory research or when detailed answers are required.

Advantages

- Answers are not influenced by the interviewer.

Disadvantages

- Analysis of verbatim answers is laborious and may not lead to conclusive results.
- Response rates tend to be very low (for self-reported questionnaires).

e.g. Please list up three things you like about your team (or event X).

1. ……
2. ……
3. ……

e.g. What are the main constraints for you to attend Bath Rugby games?

……

Important: The wording of the question and the amount of space partially determine the length of the response.

Adapted from Saunders et al., 2020; Veal and Darcy, 2014

General design issues

Closed or pre-coded questions

- The respondent is offered a range of answers to chose from. There is a list shown to the respondents.

Advantages

- It quantifies information (e.g. age ranges, income) and avoids embarrassment respondents may have sharing precise information.
- Easy to analyse the data

Disadvantages

- May not be as accurate as (some) open-ended questions

List questions

The respondents are offered a list of responses from which they can choose either one or more responses

- Important when you want the respondent to consider all possible responses

e.g. Please indicate your education level with an X in front of the following options:

Elementary School __ / Secondary School __ / UG__ / MSc or MA __ / PhD __

e.g. What social media platforms do you use in a daily basis?

Facebook __ / Instagram __ / Twitter __ / Other __

Adapted from Saunders et al., 2020; Veal and Darcy, 2014

General design issues

Category questions

Questions designed so that respondents can fit only one category

- Important when you need to collect data about behaviours or attributes

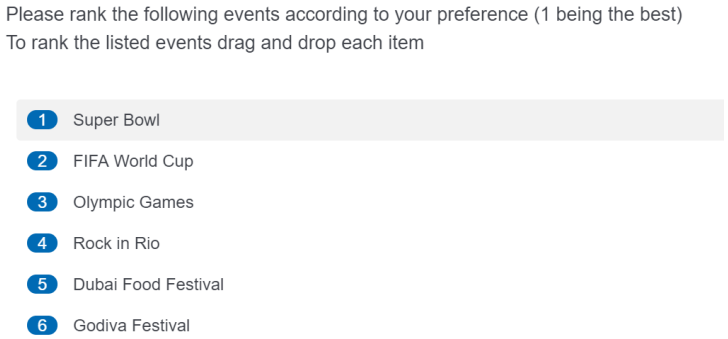
e.g. How often do you attend live events:

More than once a week __ / Once a week __ / Once every two weeks__ / Once a month __ / Less then once a month __ / Never _

Ranking questions

Respondents are asked to place things in a ranking.

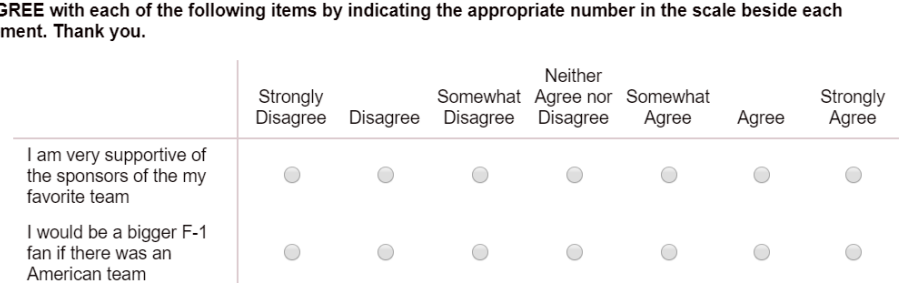
- Important when you want the now the relative importance of something



Rating questions

Questions used to collect opinion data

- Rating questions most frequently use Likert-type rating
  (e.g. 1= Strongly disagree, 7=Strongly Agree)



Adapted from Saunders et al., 2020; Veal and Darcy, 2014

General design issues

Quantity questions

Respondents are asked to ask with a factual amount

- Often used to collect behaviour(e.g. number of games attended)
  or factual data (e.g. year of birth)

	Numerical response
How many years have you been a fan of your favorite team?	
How many years have you been a fan of Formula 1?	
How many years have you come to the Formula 1 U.S. Grand Prix, if any?	

RB Example Questionnaire

Nova SBE

qualtrics XM

Qualtrics
https://www.qualtrics.com/uk/

Adapted from Veal and Darcy, 2014

General design issues

Question order

The flow of the questionnaire needs to be logical and comfortable for the respondent.

- Start with easy and relevant questions.

  e.g. if the participant was told that the survey is about a sport or musical event, start with questions about that.
- Personal questions (e.g. age, income) should be near the end.
- Make sure there is a logical flow in the questions.
- For most questionnaires, avoid having all the questions related to the same topic together (i.e. randomise to prevent CMB).

Layout

- **General:** A questionnaire should be laid out and printed in a way that the respondent can follow all the instructions easily and answer all the questions. Clarity is vital for an individual's decision to participate in the study.
- **Length:** less pages tend to increase the response rates.

  Tips: Online survey – avoid participants to scroll down too much; include a progression bar in the top; avoid more than ~8min

  Paper-and-pencil: two pages only; max ~8min.
- **Colours**: make sure to use colours aligned with the prospect participants (or neutral).

  e.g. Don't use RED in a survey for Man. City fans

Adapted from Saunders et al., 2020; Veal and Darcy, 2014

General design issues

Coding

Data from questionnaires should be coded to facilitate data analysis

(i.e. converted into codes and organised in a systematic 'machine-readable' manner).

Pre-coded questions

- Only one code is possible for each answer
- When the answer is numerical, there is no need to code the answer
- Likert-type scales readily lend themselves to coding

Open-ended questions

- It is a more elaborated procedure

  e.g. number of times a specific idea is highlighted by respondents – comments on ticket prices; performers' quality.

Campus Sporting Life Survey 2008 | Office Use # 1

1. Which of the following best describes your current situation? | qno

Full-time student with no regular paid work	☐ 1	
Full-time student with some regular paid work	☑ 2	2 status
Part-time student with full-time job	☐ 3	
Part-time student – other	☐ 4	

2. Which of the following university sport facilities have you used in the last 4 weeks?

Swimming pool	☑ 1	1 pool
Gym	☑ 1	1 gym
Squash court	☐ 1	0 squash
Attended sports match as spectator	☐ 1	0 spectate

3. In thinking about using the sport and social services provided on campus, what are the most important considerations for you? Please rank the items below in terms of their importance to you. Rank them from 1 for the most important to 5 for the least important.

	Rank	
Free or cheap access	1	1 cheap
Convenient opening hours	4	4 hours
Quality of facilities	2	2 unusual
Opportunities to socialise/meet people	3	3 meet
Available time	5	5 time

4. Approximately how much do you spend in an average week on sport and social activities on and off campus?

£ 100 | 100 spend

5. Please indicate the importance of the following to you in relation to your participation in sport.

	Very important	Important	Not at all Important	
Relaxation opportunities	☑ 3	☐ 2	☐ 1	3 relax
Social interaction	☑ 3	☐ 2	☐ 1	3 social
Fitness	☐ 3	☐ 2	☑ 1	1 fitness

6. What suggestions would you make for improving campus sport?

Provide more lunchtime sessions | 1 sug1 | __ sug2 | __ sug3

7. You are: Male ☐ 1 Female ☑ 2 | 2 gend

8. Your age last birthday was: 22 years | 22 age

Threats to validity

Threat	Nature
Non-response	Non-respondents may be significantly different from respondents, thus leading to a biased sample
Questionnaire design: lack of clarity	Leading questions, ambiguity, etc., resulting in inaccurate data
Accuracy of recall	Respondents vary in their ability to recall activity or its timing/nature, especially over long periods of time
Desire to impress	People have a natural desire to impress others, to give a good report of themselves, resulting in exaggeration of good points and downplaying of bad points
Privacy concerns/sensitivity	People may be reluctant to provide information at all on private/sensitive matters, or may provide incomplete or inaccurate information
Language / Accent	Respondents may have difficulty with the language of the questionnaire and the interviewer (or respondent) may have difficulty in understanding the others' accent
Interviewee patience/fatigue	Interviews perceived to be excessively long or uninteresting may lead to incomplete responses
Physical context	If the questionnaire completion takes place in a distracting environment, inaccuracies or incompleteness may occur
Interviewer-administered	
Interviewer-respondent rapport	Good or poor interviewer-respondent rapport may affect the accuracy and completeness of responses
Interviewer consistency	If interviewer does not follow instructions, or different interviewers interpret instructions differently, inaccuracies may result
Respondent-completed	
Literacy	Respondents have difficulty in understanding questions or in writing answers
Non-completion	For a variety of reasons, some questions are not answered.

Veal and Darcy (2014)

Checking validity (examples)

- Dummy questions

  e.g. questions not related to the topic under research to check if respondents are paying attention – a question not related to the study's objectives.

- Attention checks

  e.g. Click 1 if you are not a machine

- Semi-disguised duplication of questions
- Comparing time periods
- Randomise the items
- Use different scale and question types
- Collecting some data (i.e. questions) in one moment in time and the rest of the data (i.e. questions) in other moment in data (i.e. CMB)
- Use of alternative data sources

  e.g. Professional sport teams can measure attendance using surveys and monitoring the use of membership cards

Adapted from Veal and Darcy (2014)

Explaining the purpose of the syrvey

The cover letter (or welcome web screen)

Most self-completed questionnaires are accompanied by a cover letter, email, text or SMS message.

- In some institutions, there are mandatory templates to be used – **check guidelines from the University of Bath**

Introduction to the questionnaire

At the start the questionnaire, you need to explain clearly and concisely why you want the respondent to participate in the study.

- Clear and unbiased banner or title conveying the topic of the questionnaire to make it interesting
- Subtitle with the nature of the topic (optional)
- Neutral graphical illustration or logo to add interest

End of the questionnaire

Explain clearly what you want the respondent to do with the completed questionnaire

- Say ‘thank you’ to the respondent for completing the questionnaire
- Give contact number for any queries they may have (optional)
- Submission button

Adapted from Saunders et al., 2020; Veal and Darcy (2014)

The cover letter (or welcome screen) – example

Informed Consent Form

Dear Supporter/fan of Minnesota United FC,

You are invited to take part in a research study to understand the supporters' link with Minnesota United FC and its sponsors. This study is being developed through a partnership between Minnesota United FC and scholars from the University of Minnesota.

The main purpose of this study is to aid Minnesota United FC at providing a better experience for its supporters. In this sense, your participation is of paramount importance.

This survey is divided into three sections and it only takes about 10 minutes of your time. Your participation is voluntary and your identity will be kept anonymous.

We greatly appreciate your participation.

Do you agree to participate in this study and aid Minnesota United FC?

Yes ☐

No ☐

Check Nova SBE ethics guidelines

Pilot test

Pilot test are small 'trial runs' for a larger questionnaire application

- It is advisable to carry out at least one pilot test before the main data collection

  (similar conditions as in the main study)

Why is the pilot test important?

- Test questionnaire wording
- Test question sequencing
- Test questionnaire layout
- Code open-ended questions
- Test fieldwork arrangements
- Train and test fieldworkers
- Estimate response rate (i.e. how many questionnaires will I need to distribute in the main test to achieve the sample size needed)
- Estimate questionnaire time for completion
- Test analysis procedures

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SERVICE QUALITY AND VALUE PERCEPTIONS OF THE 2014 FIFA WORLD CUP IN BRAZIL

Adapted from Saunders et al., 2020; Veal and Darcy (2014)

Review Questions

1. Critically analyse the different types of questionnaires that may be used in a research project.
2. List three of these types of questionnaires and outline their characteristics in terms of (1) respondent or interviewer completion, (2) cost, (3) nature of sample, (4) possible length of questionnaire, and (5) likely response rate.
3. What type of survey methodology would you use for a sample of the following: (a) skiers visiting a seaside resort; (b) the users of a sport centre; (c) people visiting a country to attend a major mega sport event; (d) people who do not play sport; (e) members of a sport team; (f) young people aged 11-13 living in the local council area.
4. What measures might be used to increase response rates in mail surveys?
5. What principles should be followed in wording questions in questionnaires?
6. What is the difference between pre-coded and open-coded questions? And What are the advantages and disadvantages of the two formats?
7. Critically discuss the best questionnaire type for your thesis.

Recommend reading

Saunders, M., Lewis, P. and Thornhill, A., 2020. *Research methods for business students.* 8th ed. Harlow: Pearson Education. **(Chapter 11)**

Collis, J. and Hussey, R., 2014. *Business Research: A Practical Guide for Undergraduate and Postgraduate Students.* 4th ed. New York: Palgrave Macmillan. **(Chapter 10)**

Gratton, C. and Jones, I., 2015. *Research methods for sports studies*. 3rd ed. New York: Routledge. **(Chapter 8)**

Veal, A. J. and Darcy, S., 2014. *Research methods in sport studies and sport management*. A practical guide. New York: Routledge. **(Chapter 10 and 16)**

O'Gorman, K. D. and MacIntosh, R., 2015. Research methods for business and management. A guide to writing your dissertation, 2nd ed. Oxford: Goodfellow publisher. **(Chapter 9)**.