priori knowledge is often used to establish 'weak' causal ordering as in so-called path analysis and 'causal' modelling or SEM (structural equation modelling).[7]

5.6.2 Time series

The researcher often acquires observations of a given phenomenon over time. A typical time design can be depicted as follows:

$$O_1\ O_2\ O_3\ x\ O_4\ O_5\ O_6 \ldots$$

The problem confronting the researcher is to determine whether the independent variable (x) has had any effect. To what extent this is possible will partly depend on the problem, the number of observations, and the observed pattern.

Example

President Kennedy's assassination occurred on 22 November 1963, and the Dow Jones Index of Industrial Stock Prices fell 21 points on that day. Is the assassination a potential cause of the decline in the Dow Jones Index? If variations of 21 points (or more) are common, it does not seem very likely. If, however, the index had been steadily increasing for some time, and it was registered that the index value fell immediately after the announcement was made (as well as being controlled so that no other factors could explain the decline), it seems more likely to conclude that the assassination was a possible cause of the decline in the Dow Jones Index.

5.6.3 The one-shot case study

This design consists of observing a single group or event at a single point in time, usually after some phenomenon that may have produced change (Eisenhardt, 1989; Yin, 1994). Such a design may be depicted as part (a) in Figure 5.2.

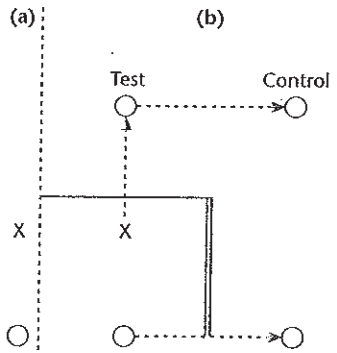


Figure 5.2 **The one-shot case study**

In its pure form, the one-shot case study, part (a), is an extremely weak design as it does not allow for any *comparisons*,[8] neither before the treatment (X) nor with other unexposed groups. The design can be improved by trying to 'reconstruct' the past, that is before X occurred, and by trying to make comparisons with some unexposed units during the period, indicated by broken arrows in part (b) of Figure 5.2. An example of the extreme case of this design is exposure of an advertisement for a given product and measurement of, for example, brand recognition without prior measurement of this variable (brand recognition).

Usually case studies include multiple observations to be analysed. In other words the 'case' may be more the *unit of observation* than the *unit of analysis*. For example, a researcher studies one firm intensively, with the purpose of getting insights on how decisions are made. S/he maps several decisions in detail, which are analysed. If well planned, the case study secures *variations* along the variable included, allowing for comparisons of critical factors (see Campbell, 1975; Ghauri, 2004).

Example

A researcher is interested in whether trust has any impact on commitment in relationships. S/he studies the relationship between a firm and its main supplier over a lengthy period. Assume the researcher has adequate measures of the two variables 'trust' and 'commitment'. Over time trust and commitment may vary, also allowing for examining whether there is any covariation between the two variables. Also assume that s/he observes that a rise in trust always precedes a rise in commitment. This may – very cautiously – be interpreted as trust influencing commitment.

Requirements in research design

When moving from the research problem at the conceptual level to empirical research, questions such as: How to proceed? and How to do it? arise. As noted at the outset of this chapter, the research design represents the overall strategy on gathering the information needed to answer the research problem under scrutiny.

After thinking through what the research problem is, and if possible how it should be represented (see section 5.2), and the potential hypotheses derived (if any), the first question to answer is: What *requirements* should the actual research design satisfy? A few examples will illustrate this point.

Examples

A study was conducted to explore whether firms (managers) within the same industry perceive and interpret their surrounding environments differently and, if so, whether this might influence organizational actions and performance

(Grønhaug and Haukedal, 1989). A case study was chosen for the research purpose. The following criteria were, however, established for the selection of the cases, that is firms should:

- belong to the same industry, and be embedded in similar environments;
- be of approximately the same size;
- be in an industry where it was possible to identify major environmental change(s);
- at the outset have approximately the same economic resources; and
- have demonstrated different response(s) to the environmental change(s).

The above requirements also demonstrate that even in 'qualitative' (case) research a priori theorizing can be useful in structuring the research problem (see Chapter 4).

Assume a study involving a set of hypotheses, for example:

H_1: The higher the consumer's knowledge about her/his rights the more likely it is that s/he will complain.

Inspection of the above hypothesis shows that two constructs (variables) are included: (1) knowledge about rights and (2) propensity to complain. The first requirement to test this hypothesis is information on these two variables. Moreover, *variation* in knowledge and propensity is needed. Reading the hypothesis also shows that nothing is said about causation; only covariation between the two constructs (variables) is indicated. Thus a cross-sectional (correlational) design is appropriate.

Consider the following hypothesis:

H_2: An increase in advertising expenditure will lead to an increase in the probability of getting more orders.

Again, two variables are present: (1) advertising expenditure and (2) probability of getting orders. Information on these two variables is needed. The hypothesis also expresses a causal relationship, that is 'will increase'. In order to demonstrate causality, a design taking the time order between change (increase) in advertising expenditure and change in probability of getting orders is needed.

5.7.1 Research and choices

Research involves *choices*, problematic choices. When the design requirements have been specified, decisions must be made on how the requirements should be met, and how the information needed should be collected. Important decisions in this respect are (McGrath, 1982):

- How should the concepts (variables) be measured (operationalized)?
- What type of data is needed? Secondary or primary?
- If secondary: What secondary data sources are available?
- If primary: How should the data be gathered? Through observation or interviewing?
- If interviewing: Personal interviews, by phone or through questionnaires?
- If interviewing: How should the questions be formulated; structured or unstructured?
- Who should be interviewed? How should they be selected (sampling plan)? How many should be included (sample size)?

This list of questions is in no way complete, but clearly indicates that research involves choices. Quality research implies conscious, reasonable choices, and the needed skills in performing the activities involved. Several of these questions will be dealt with in the following chapters.

Notes

1. For an excellent overview, see Cook and Campbell (1979), Chapter 2.
2. A (Pearson) correlation (r) is a measure of covariation between two variables, x and y, which can vary between −1 and +1. A correlation coefficient $r_{xy} = 1$ shows that the two variables covary perfectly.
3. This is done because giving a 'treatment' per se may have some effect on the subjects, whether or not it is effective in the way intended.
4. See Chapter 6 for a more detailed discussion, and Cook and Campbell (1979) for thorough treatment. Validity requirements and criteria in qualitative research are discussed as well.
5. Test effects have been found to be a serious threat to validity, for example in the recognized 'Hawthorn studies', aimed at explaining the impact of various work conditions.
6. The key purpose of partial correlational analysis is to control for the effect of one or more other variables. See section 11.2.2 for more detailed explanation.
7. Several statistical program packages are available for such analyses, such as LISREL, AMOS and EQS.
8. This is an important point as all research involves some sort of *comparison*, e.g. before and after; exposed versus non-exposed; observed versus expected.

Further reading

Eisenhardt, K.M. (1989) 'Building theories from case study research', *Academy of Management Review*, 14(4), pp. 532–50.

Pugh, D.S. (ed.) (1998) *The Aston Programme I; The Aston Study and Its Developments*, Dartmouth: Ashgate (introduction).

Pugh, D.S., Hickson, D.J., Hinings, C.R. and Turner, C.R. (1968) 'Dimensions of organizational structure', *Administrative Science Quarterly*, 13(1), pp. 65–105.

Questions

1. Describe the key elements of the classical experimental design.
2. What do you consider to be the basic uses of exploratory research?
3. Explain what is meant by: (1) dependent and (2) independent variables.
4. What is meant by: (1) validity and (2) validity threat?
5. How would you decide whether a factor can be considered to be a 'cause' of something?

Exercises

1. An advertising agency has developed two advertisements to be used in a magazine. It wants to select the most effective before the ad is printed. Design a study allowing the agency to select the most effective one.
2. An Internet bank is concerned with improving its services. In particular the bank wants to know if its customers are dissatisfied with current services and the nature of this dissatisfaction. How would you design a study allowing the bank the desired insight?
3. A researcher has observed that some firms in the furniture industry outsource activities such as transportation services while others do not. S/he wants to study: (1) why firms outsource/do not outsource and (2) whether outsourcing influences firms' performance. Suggest a study to enquire into these research questions.

CHAPTER 6

Measurements

The GIGO principle: Garbage in, garbage out.

Business is 'context bound', related to specific markets, customer groups and competitive situations. Often the prime purpose of business studies is to gather information about this context to improve business decisions. For example, a firm may want to know the size of a given market, useful ways to segment the market, who the most likely purchasers are and what their priorities are. Or the firm wants to know how decisions are made by industrial companies, and who is involved. The purpose of business studies may also be more general, such as to examine the effectiveness of various advertising media. Problems to be studied in business research are almost endless. Often studies are empirical, implying the gathering and use of data (to be dealt with in the chapters to follow).

Empirical research always implies *measurements*. The reason for gathering data is to obtain information of importance for the research problem under scrutiny. The quality of the information is highly dependent on the measurement procedures used in the gathering of data. In this chapter the concept of measurement is explained, levels (or scales) of measurement discussed, and the importance of validity and reliability emphasized. The chapter also offers advice for improving the quality of measurements in business research.

Defining measurement

We all make use of 'measurement' in everyday life, even though our measurements often are implicit or not considered as measurement at all. For example, a beauty contest can be conceived as some sort of measurement, as can be picking the best advertisement, or assessing the strength of competitors. These examples involve a key element in all types of measurement, the *mapping* of some properties. For example, selected advertisements may be evaluated according to use of colour, content, and so on. By use of some (usually implicit) rule a 'score' is obtained. Based on the 'scores', a rank order of the advertisements is established, and the best one is chosen. A common observation, however, is that people often disagree in such judgements.

In a study conducted by one of the authors four industry experts were asked to evaluate the quality of 24 local newspapers along the dimensions of journalism and print quality. The industry experts varied very much in their evaluations.

Measurement can be defined as *rules for assigning numbers (or other numerals) to empirical properties*. A *numeral* is a symbol of the form I, II, III, . . . , or 1, 2, 3, . . . and has no qualitative meaning unless one gives such a meaning to it. Numerals that are given meaning become numbers enabling the use of mathematical and statistical techniques for descriptive, explanatory and predictive purposes. Thus, numbers are amenable to quantitative analyses, which may reveal new information about the items studied.

Example

In an international study a research team studied whether people of different race varied in their attitudes towards work. Race was coded as: White = 1, Black = 2, Hispanic = 3, Other = 4. A multi-item scale was also developed. In the data analysis race was turned into 'dummy' variables (see Chapter 1) allowing the researchers to assess the effect of race on work attitudes.

In the above definition, the term *assignment* means mapping. Numbers (or numerals) are mapped on to objects or events. Figure 6.1 illustrates the idea of mapping and is to be read as follows. The domain is what is to be mapped or measured. In the present case it consists of five persons, $P_1, \ldots P_5$. Based on the characteristic gender they are mapped into 1 (= women) and 0 (= men).

The third concept used to define measurement is that of *rules*. A rule specifies the procedure according to which numbers (or numerals) are to be assigned to objects. Rules are the most significant component of the measurement procedure because they determine the quality of measurement. Poor rules make measurement meaningless. The function of rules is to tie the measurement procedure to

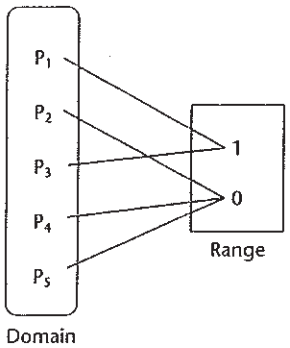


Figure 6.1 **Mapping (assignment)**

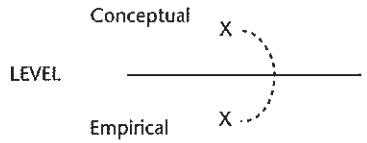


Figure 6.2 Measurement – the link between the conceptual and empirical levels

some aspect of 'reality'. Meaningful measurement is achieved only when it has an empirical correspondence with what is intended to be measured.

Assume that we are going to measure some aspect of 'reality', for example 'competitiveness', 'organizational climate' or 'consumer satisfaction'. The task ahead can be illustrated as shown in Figure 6.2.

First, we need a good *conceptual definition* of the aspect to be measured, *X* (as discussed in Chapter 3). Next, we need a *rule specifying* how to assign numbers to specific empirical properties. Thus, by measurements we map some aspects of the empirical world. From this it is also seen that measurement is closely tied to the idea of operational definitions discussed above (section 3.5 gave a few examples of operational definitions). To obtain measurements, some rules (operational definitions) are followed.

Why do people often disagree in their judgements? There might be several reasons. First, it is often not clarified what aspects should be emphasized, that is, clear conceptual definitions are lacking (see section 3.5). Next, often the rules according to which the scores are assigned are implicit, and the rules followed may even vary across observers. In going back to the example above a major reason for the industry experts' disagreements is that the concepts 'journalism' and 'print quality' were not defined clearly. Such evaluations, to be useful, require clearly defined concepts: that is, the precise meaning of what to subsume under the concept must be clarified.

6.1.1 Objects, properties and indicators

From the above discussion it also follows that we are not measuring objects or phenomena as such; rather we measure specific properties of the objects or phenomena. For example, when studying human beings, a medical doctor might be interested in measuring properties such as height, weight or blood pressure. A cognitive psychologist might be interested in, for example, properties such as cognitive style and creativity, while a marketer might focus on preferences and propensity to purchase among consumers in a specific market. To map such properties we use *indicators*, that is the scores obtained by using our operational definitions, for example responses to a questionnaire (see Figure 6.3).

The phenomenon/object may for example be an individual, the specific property of interest-blood pressure, and the measures obtained in a medical test-indicators.

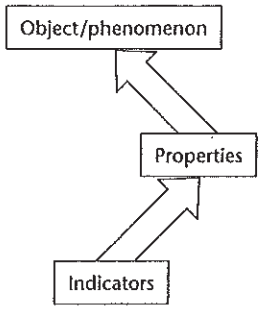


Figure 6.3 Object/phenomenon, properties and indicators

What do you think are relevant indicators to capture the concept of 'quality' for hotels?

6.2 Levels (scales) of measurement

In empirical research distinctions are often made between different levels of measurement (also termed scales of measurement). This relates to specific properties of the obtained measurements, which determines the permissible mathematical and statistical operations.

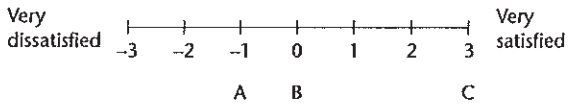
6.2.1 Nominal level (scale)

The lowest level of measurement is the *nominal* level. At this level numbers (or other symbols) are used to *classify* objects or observations. Objects that are alike are assigned the same number (or symbol). For example, by means of the symbols 1 and 0, it is possible to classify a population into females and males, for example with 1 representing females and 0 males. The same population can be classified according to religion, place of living, and so on. For example, the inhabitants in a city can be classified according to where they live, for example 1 = city centre, 2 = south, 3 = north, 4 = east, and 5 = west.

6.2.2 Ordinal level (scale)

Many variables studied in business research are not only classifiable, but also exhibit some kind of relation, allowing for rank order. For example, we know that grade A is better than grade B, and B is better than C, but we do not know the exact distance between A and B, or between B and C. However, we do know that A > B > C ('>' greater, better than), or C < B < A ('<' less than). (When objects/

persons can be ranked, they can of course also be ranked as equal, e.g. B = B.). Another example is consumers completing an evaluation of to what extent they are satisfied with a product. Assume the following:



In this case C is more satisfied than B, and B more satisfied than A. If degree of satisfaction/dissatisfaction is considered to be an ordinal scaled phenomenon, we can only say that C is more satisfied than B and A, but not how much more satisfied.

6.2.3 Interval level (scale)

When we know the exact distance between each of the observations and this distance is constant, then an *interval* level of measurement has been achieved. This means that the differences can be compared. The difference between '1' and '2' is equal to the difference between '2' and '3'.

Example

Assume that the temperature over a period rises from: (1) 8°C to (2) 10°C to (3) 12°C. The increase from period 1 to 2 is 2°C, which is the same increase as from period 2 to 3. The temperature scale is a classic example of an interval scale. But is 20°C twice as warm as 10°C? The answer is *no*. An example can demonstrate why this is so. John is 180 cm and Ann is 165 cm tall. The difference is 15 cm. Let us assume that we cut the scale so that 150 cm = 0. On this new scale John is (180 – 150) = 30, and Ann (165 – 150) = 15. Obviously John is not 30/15 = 2, that is, twice as tall as Ann. The reason is that the scale no longer has a natural zero. By changing the scales, it is very easy to be misled.[1]

6.2.4 Ratio scale

The ratio scale differs from an interval scale in that it possesses a natural or absolute zero, one for which there is universal agreement as to its location. Height and weight are obvious examples. With a ratio scale, the comparison of absolute magnitude of numbers is legitimate. Thus, a person weighing 200 pounds is said to be twice as heavy as one weighing 100 pounds.

Note that the more powerful scales *include* the properties possessed by the less powerful ones. This means that with a ratio scale we can compare intervals, rank objects according to magnitude, or use numbers to identify the objects.

The properties of the measurement scales (see Table 6.1) have implications for choice of statistical techniques to be used in the analysis of the data. For

Table 6.1 Scales of measurement

Scale	Basic empirical operations	Typical use	Measures of averages
Nominal	Determination of equality and difference	Classification: – Male–Female – Occupations – Social class	Mode*
Ordinal	Determination of greater or less	Rankings: – Preference data – Attitude measures	Median*
Interval	Determination of equality of intervals	Index numbers: – Temperature scales	Mean*
Ratio	Determination of equality of ratios	Sales Units produced Number of customers	Mean*

* For definitions of these terms see p. 163

example race is a nominal scaled variable. Assume we have a group of 5 White, 10 Black and 20 Hispanic. In this case it is appropriate to say that 14 percent are White, but not that a person is 14 percent White. The mode in this case is Hispanic, because this race occurs most often. This will be dealt with in Chapters 10 and 11.

Validity and reliability in measurements[2]

When we measure something we want *valid* measures, that is measures capturing what they are supposed to do. However, measurements often contain *errors*. The *observed* measurement score may (more or less) reflect the *true* score, but may reflect other factors as well, such as:

1. *Stable characteristics*. For example, it is known that people vary in *response set*, i.e. the way they respond, in that some people tend to use the extreme ends of response scales, while others tend to centre their answers around the midpoints. Thus two respondents, A and B, holding the same opinion (e.g. that a given product is good), may answer by circling their response alternatives on a seven-point scale:

					B	A
–3	–2	–1	0	1	2	3

2. The response may also be influenced by *transient* personal factors, e.g. mood.
3. Other factors that may influence the responses are *situational* factors, e.g. time pressure, variations in administration of the measurement, and mechanical factors, e.g. checkmark in wrong box or incorrectly coded responses.

6.3.1 Validity and reliability

In order to clarify the notions of validity and reliability in measurement, we will introduce the following equation:

$$X_0 = X_T + X_S + X_R$$

where:

X_0 = observed score
X_T = true score
X_S = systematic bias
X_R = random error

In a valid measure the observed score should be equal to or close to the true score, that is $X_0 \approx X_T$. It should be noted that often this is not the case. An important point is that validity is an 'ideal', where more valid measures are preferable to less valid measures. Also note that valid measures presume reliability and that random error is modest.

Reliability refers to the stability of the measure. Let us assume that John's true height is 180 cm. The scale used, however, has been cut, and repeated measurements show that John is 170 cm. This for one thing indicates that the measure is reliable, but not valid, that is the observed score, $X_0 = X_T + X_S$. This tells us that a valid measure also is reliable, but a reliable measure does not need to be valid.

Let us assume that John is measured by using a rubber band. The obtained scores vary between 140 cm and 210 cm, with the mean 180 cm, which is his true height. In this case the random component, X_R, is high, and the measure is neither valid nor reliable.

In business studies we are often interested in studying relationships between variables. An example (see Figure 6.4) may illustrate how random measurement errors may influence the findings.

In the present case the true, unobserved correlation coefficient between the two variables X (e.g. organizational climate) and Y (e.g. profitability) is $r = 0.8$. The correlation coefficients between the concept and obtained measure for the

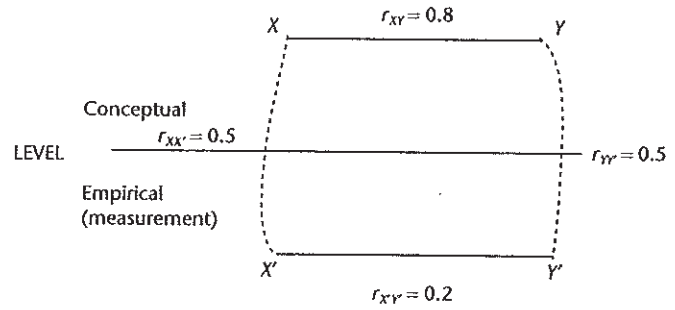


Figure 6.4 Random errors

two variables are, however, in both cases, $r = 0.5$. The *observed* relationship (correlation) is thus:

$$r_{X'Y'} = r_{XY} \cdot r_{XX'} \cdot r_{YY'} = 0.8 \times 0.5 \times 0.5 = 0.2$$

which is considerably lower than the true relationship. (This simple example assumes that the observed $r_{X'Y'} = 0.2$ is only influenced by factors reported in Figure 6.4.)

6.3.2 Multiple indicators

In business studies *multiple* indicators are often used to capture a given construct. For example, attitudes are often measured by multiple items combined into a scale. Why so? An example will clarify this. Assume that somebody is going to determine your mathematical skills. You get only one problem to solve. The outcome can be classified as 'correct' or 'false'. Probably you will not be happy with the test. At best it can only reflect a modest fraction of your mathematical skills. Thus the main reason for using multiple indicators is to create measurement that covers the domain of the construct which it purports to measure. Measures based on multiple indicators are also more robust, that is the random error in measurement is reduced.

Multiple indicators to measure investments in customer adaptation

Activity investments in adapting:

1. opening times
2. season start and end
3. personnel
4. types of activity
5. marketing
6. training of employees
7. purchasing.

Physical investments in adapting:

8. products
9. service
10. accountancy
11. computer systems
12. equipment and tools
13. infrastructure
14. other types of adaptation

Source: Silkoset (2004)

In the research literature, the so-called Crohnbach's α is often reported. This measure can be conceived as a measure of the intercorrelations between the various indicators used to capture the underlying construct. The assumption is that the various indicators should correlate positively, but they should not be perfectly correlated. (If all the indicators were perfectly correlated they would all capture exactly the same thing.) The underlying assumption is that one indicator alone is inadequate to capture the construct. This way of reasoning refers to what is termed *'reflective'* measurements: that is, the various indicators are reflections of the underlying concept. This is in contrast to so-called *'formative'* measurement, that is elements supposed to map the underlying construct. An example is 'school performance' measured as summing up the grades obtained in the various subjects covered. In this case, there is no specific reason why the scores for the various subjects should correlate.

6.3.3 Construct validity

So far we have dealt with one aspect of validity, or more precisely, one aspect of *construct validity*. Construct validity is crucial and can be defined as 'the extent to which an operationalization measures the concept which it purports to measure' (Zaltman et al., 1977: 44). Construct validity is necessary for meaningful and interpretable research findings and can be assessed in various ways.

Example

In a study the researcher was interested to know whether 'trust' impacts 'commitment'. To do so requires that the research has/develops adequate measures for the two constructs, and not that the measures for the two concepts are the same, or they capture something different, for example 'influence'.

1. *Face validity* tells us to what extent the measure used seems to be a reasonable measure for what it purports to measure. A simple test for face validity is to ask for the opinion of others acquainted with the actual topic.
2. *Convergent validity* tells us to what extent multiple measures of and/or multiple methods for measuring the same construct yield similar (comparable) results. Correlational techniques are often used to assess convergent validity. Temperature can be measured by different scales, e.g. Celsius and Fahrenheit. We know the interval 0–100°C corresponds to 32–212°F. By a simple linear transformation the score on one scale may be transformed to a score on the other scales. Assume that we measured the temperature over a period of time with these two scales; the correlation between the two sets of scores should be $r = 1.0$.
3. *Divergent validity* tells us to what extent a construct is distinguishable from another construct. If a researcher measures, say, 'innovativeness', he or she should be confident of not measuring another construct, say 'organizational resources'. If, for example, we measure a person's height and weight we should be sure when we measure these two properties respectively. In this case there

Table 6.2 **Two methods, two constructs**

		M_1		M_2	
		X	*Y*	*X*	*Y*
M_1	*X*	1	0.35	0.82	0.27
	Y		1	0.30	0.79
M_2	*X*			1	0.29
	Y				1

will be little doubt because there is common agreement on what is meant by weight and height, as well-developed measures exist. In other cases this may be more difficult and ambiguous, because of ambiguous concepts, such as 'influence' and 'power'.

To assess convergent and divergent validity the so-called multi-trait multi-method approach is often used (in addition to other methods such as factor analysis). A very simple example is shown in Table 6.2 (which in no way demonstrates all aspects of the approach).

Table 6.2 is to be read as follows: research has measured two constructs, *X* and *Y*, by two methods, M_1 and M_2. The table reports the correlation coefficients between the different measures. The correlation coefficients for *X* and *Y* obtained by the two methods are $r = 0.82$ and $r = 0.79$, respectively. It is also seen that these correlation coefficients are substantially higher than any correlation coefficient between the *X* and *Y* measures. As correlation coefficients for the same construct measured by different methods are high, and substantially higher than any between-construct correlation coefficients, it is reasonable to assume convergent validity. Because the correlation coefficients between the constructs are modest and substantially lower than the correlation coefficients for the same construct measured by different methods, we may conclude that convergent validity is present. Construct validity can also be assessed in other ways, for example by the use of factor analysis, which will be explained in Chapter 11.

Going back to Table 6.2, it is also evident that by using only one indicator or method for each construct, neither convergent nor discriminant validity can be assessed.

In a business study the following question was asked to assess a firm's competitiveness:

How competitive is your firm?

Not competitive at all	–3	–2	–1	0	1	2	3	Very competitive

Do you think this is a valid way of measuring competitiveness? Why/why not?

6.3.4 Other forms of validity

Internal validity

As emphasized in Chapter 5, researchers are often preoccupied with cause–effect relationships. Internal validity refers to the extent to which we can infer that a causal relationship exists between two (or more) variables.

A correlation between two variables does not as such indicate that there is a causal relationship, as the correlation coefficient does not tell us anything about direction, nor whether it is influenced by other factors (see section 5.3). However, even in correlational research we might be interested in knowing whether a correlation coefficient between two variables is 'true' without being concerned whether a causal relationship is present. Then, we need to control for and rule out the impact of other possible factors.

Example

In a study a positive correlation is found between consumption of coffee and cancer, $r = 0.25$. However, this covariation may be due to some other factor(s), such as smoking. By taking the effect of smoking into account, the correlation may be reduced to $r = 0.02$. To take the effect of other factors into account we may calculate the partial correlation, that is the correlation between two variables when the effect of other factors is taken out (see Chapter 12).

Statistical conclusion validity

In order to prove a causal relationship (or a covariation) it must also be statistically significant. Thus, statistical conclusion validity is a prerequisite for making inferences about causal relationships (and covariance). To prove statistical conclusion validity, the study must be sufficiently *sensitive*. Statistical conclusion validity also relates to the question of '*effect size*' and sample size needed.

'Effect size': an example

The impact of 'effect size' on statistical conclusion validity can be illustrated as follows. Assume that a researcher is willing to reject the null hypothesis (i.e. there is no effect – see section 10.5, p. 168) and thus accept the alternative hypotheses if the findings are significant at the 5 per cent level or better.[3] In the present case the researcher has hypothesized a positive relationship between income (*X*) and propensity to buy (*Y*). Based on previous findings it is believed that the correlation coefficient between the two variables is close to $r_{XY} = 0.5$. For the sake of simplicity, the researcher sets the critical value for rejecting the null hypothesis at the 5 per cent level ($\alpha = 0.5$) to $t = 2$. (Inspection of the *t*-distribution will show that the critical value is influenced by the number of observations. As the number of observations increases, the *t*-distribution approaches the normal distribution (see Chapter 11)). The standard deviation of a correlation coefficient is $1/\sqrt{(N-1)}$, where N = number of observations. Solving the problems yields the result that approximately 17 observations are needed.

If, however, the assumed correlation between the two variables was $r = 0.10$, the number of observations needed would be approximately 400! In the present case, the correlation coefficient between the two variables captures the notion of 'effect size'. From the above example it is clear that the weaker the assumed relationship, the more observations are needed to demonstrate statistical conclusion validity.

A variety of factors may violate statistical conclusion validity, such as violating the assumptions underlying the statistical test(s) used, and 'fishing', that is searching for statistically significant findings (correlations). By chance 'significant' findings may occur. For example, by *chance* 5 out of 100 correlation coefficients are expected to be significant at the 5 per cent level! Measurement errors may also be a threat to statistical conclusion validity (see Figure 6.4).

External validity

External validity relates to what extent the findings can be generalized *to* particular persons, settings and times, as well as *across* types of persons, settings and times. For example, when conducting an election poll, external validity is usually used as a basis for generalizing the population of voters. Whether a research find possesses external validity can be assessed in several ways, such as by taking random (probability) samples as we do in political polls. This is, however, not always possible. Assume that a medical team has developed a new treatment that worked in the study. If the same treatment works when replicated in other settings we may – with care – claim that it has external validity.

It should also be noted that if the study lacks construct validity the findings are *meaningless*, destroying also the internal and external validity of the findings!

Validity comes in many forms. The types of validity discussed above are commonly accepted in 'traditional' research. Somewhat different validity forms and criteria are applied in 'qualitative' research, which will be dealt with later (see section 6.5 and Chapter 12).

Improving your measurements[4]

In structured (that is descriptive and causal) research, but also in exploratory research when one wants to examine potential relationships between variables (see section 5.2), one should proceed as follows.

1. Start by elaborating the *conceptual definitions* and specifying the domain of constructs to be used. When dealing with practical problems the point of departure should be the actual problem, and how the problem can (should) be represented (modelled) (cf. section 3.5). When the problem is represented, the constructs used to map the problem should be conceptually defined as a basis for subsequent operationalization.

2. Next, adequate *operational definitions* (measures) should be developed. The researcher should inspect prior operationalizations/measurements used to capture the same constructs. In this phase the researcher should also assess the face validity of the measurements, e.g. by experts critically examining the proposed measures.

   ### *Example*

   Assume a firm is interested to know the market share for its product 'X'. To do so they conduct a consumer survey of 200 customers, asking the following questions:

   'Have you bought . . . ?'

   __ Yes __ No →

   ↓

   'What brand?'

   Assume that 170 had bought, and that 40 had bought 'X'.

   $$\text{Market share} = \frac{40}{170} \times 100 \approx 23.5 \text{ per cent.}$$

   Inspection of this operationalization of market share shows that neither amount bought nor frequency of buying are taken into account.
3. Then the measures should be *corrected* and *refined*. Often multiple measurements are appropriate. Assume that a set of questionnaire items are developed to capture a construct. The construct is assumed unidimensional. This implies that the various indicators should correlate positively. Computing the intercorrelation between the various indicators shows that this is not the case for some of them.
4. The measures should be *pre-tested* and their reliability and construct (convergent and discriminant) validity should be evaluated. When the measures are developed they should be applied to a sample from the target population, to see whether the subjects understand them, e.g. whether they understand the questions, but also whether the measures possess construct validity as discussed above.
5. Lastly, the final measurement instrument is used in the study.

From the above discussion it also follows that questionnaire design is closely related to measurement. The starting point is *what* information is needed. The information requirements in structured research should be related to specific constructs, such as 'market size', 'competitive position', and so on. These constructs must, as noted above, be adequately defined. Then the questions are designed to generate the needed information. An operational definition may consist of one or more questions.

Example

Market share for a producer of product 'X' may be operationalized by the following sequence of questions among a random sample of potential buyers (which must be defined):

1. 'Do you use (product category) . . . ?'
   ___ Yes ___ No
   If *Yes,*
2. 'Do you remember the brand name of the product you use (last bought)?'
   ___ Yes ___ No
   If *Yes,*
3. 'What brand?' . . . (brand mentioned)

One measure of market share (MS) is:

$$MS = \frac{\text{No. mentioning 'X'} \times 100}{\text{No. using the product category}}$$

Careful examination of this measure (operational definition) will show that the measured 'market share' rather reflects 'user share'. It should also be noted that this measure does not take into account variations in use quantity.

In the same way, if data are generated through observations, the procedures for obtaining the observations must be specified in detail. The specified procedures for making observations correspond to operational definitions as emphasized above.

Measurements in 'qualitative' research

The research literature deals only to a modest degree with measurement problems when it comes to exploratory/'qualitative' research. But is the question of measurement irrelevant in such research? The answer is probably *no.*

1. In Chapter 5, a key characteristic of exploratory research is that the problem under scrutiny is only partly understood. If the problem is only modestly understood, a prime purpose is to obtain understanding. Various approaches can be used (see Chapter 12 for more detailed discussion). Assume that the researcher approaches the problem by using semi-structured questions, based on an interview guide (developed by surveying previous studies and so on). As noted above, a key purpose of measurement is to map 'reality'. When the researcher asks her or his questions s/he gets responses (see Figure 6.5). A detailed example is given in Chapter 12 reporting the study by Burns and Stalker (1961) to capture characteristics of innovative and non-innovative organizations, which they termed 'organic' and 'mechanic' respectively.

   The responses, R_1, R_2, . . . are empirical manifestations that the researcher tries to understand. In this process the researcher will try to relate them to her or his knowledge base, and hopefully produce a reasonable explanation. This may partly be seen as 'data-driven' problem solving. However, without use of

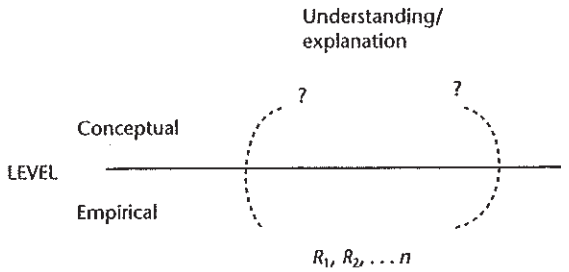


Figure 6.5 Responses and sense-making

concepts and theory, an explanation (theory) will never emerge. Thus a mapping between empirical observations and concepts/theory is taking place. Besides noting that such research requires considerable conceptual skills, which is often overlooked, it should also be noted that the researcher should be able to demonstrate the validity of the findings. In order to handle such validity claims the researcher must supply evidence.[5] He or she should report the questions, responses, inferences made, and what supports these inferences. Thus, the *mapping, inferences* and *validity claims* have much in common with measurements as discussed above.

An example will illustrate this point. Assume a medical doctor is examining a patient with symptoms $s_1, \ldots, s_n$. During the examination s/he arrives at a specific diagnosis and decides on treatment. Has the doctor made some sort of measurement? S/he has observed the symptoms and related them to her or his knowledge base, and thus conducted mapping between the observable symptoms and theory (diagnosis). An expert observer who seldom or never makes diagnostic mistakes makes *valid* mapping between empirical observations (symptoms) and theory (relevant diagnosis), which corresponds to excellent construct validity.

2. In business studies the researcher often makes use of secondary data. Such data are gathered by means of specific procedures, where specific measurements have been used as well. This indicates that when using secondary data one should *always* inspect and evaluate the data gathering and measurement procedures used.
3. Analysis of written texts, such as annual reports, business magazines, and taped and transcribed interviews, is often used in business research. Even here measurement problems are present. If the study is exploratory, the arguments put forward at the outset of this section apply. If the research is structured (descriptive or causal), conceptual definitions must be developed, and specific procedures (operational definitions) specified, as well as how the procedures should be applied, that is coding of the actual text.

The above discussion indicates that measurements are important and must be properly dealt with in research, where measurement problems have usually been given less attention.

Notes

1. For an excellent and entertaining demonstration, see Huff (1954).
2. For detailed discussion, see Cook and Campbell (1979).
3. Hypothesis testing and the notion of significance will be dealt with in Chapters 10 and 11.
4. For a more detailed overview, see Churchill (1979).
5. For an excellent discussion, see Kirk and Miller (1986).

Further reading

Althiede, D.L. and Johnson, J.M. (1994) 'Criteria for assessing interpretive validity in qualitative research', in Denzin, N.K. and Lincoln, Y.S. (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage, pp. 485–99.

Churchill, G.A. (1991) *Marketing Research: Methodological Foundations*, 5th edn, Chicago, IL: Dryden Press (Chapter 9).

Venkatesh, B. (1978) 'Unthinking data interpretation can destroy value of research', *Marketing News*, January, pp. 6–9.

Question

1. Why are valid measures important in empirical research?
2. What is the difference between a conceptual and an operational definition?
3. Why might a researcher wish to utilize more than one question to measure satisfaction with a job?
4. You are supposed to measure the strategy followed by a competing firm in an industry of your choice. What do you think would be the relevant indicators to capture the firm's strategies?

Exercises

1. Determine whether each of the following measures is a nominal, ordinal, internal or ratio scale:
   (a) prices on the stock market
   (b) marital status, classified as married, never married
   (c) whether or not a respondent has ever been employed.
2. Define each of the following concepts, and develop operational definitions (measures) for the defined concepts:
   (a) a 'workaholic'
   (b) costs
   (c) power
   (d) market share.

CHAPTER 7

Data sources

According to Oriental folklore, a man called Nasiruddin was searching for something on the ground. A friend stopped and asked, 'What have you lost, Nasiruddin?' 'My key', replied Nasiruddin. The friend went down on his knees, trying to help, and they both looked for the key. After searching in vain for some time, the friend asked, 'Where exactly did you drop it?' 'In my house', answered Nasiruddin. 'Then why are you looking here, Nasiruddin?' 'There is more light here than in my house', replied Nasiruddin.

The purpose of this chapter is to look at: (1) what we mean by data collection, (2) what the sources of data collection are and (3) where to find the right data. Data sources are the carriers of data (information). A first distinction can be made between secondary and primary data sources. Secondary data are information collected by others for purposes that can be different from ours. Primary data are original data collected by us for the research problem at hand. These two types of data sources are discussed in some detail.

Secondary data

Secondary data are useful not only to find information to solve our research problem, but also to better understand and explain our research problem. In most research we need to begin with a literature review: earlier studies on and around our topic of research. They include books, journal articles, online data sources such as webpages of firms, governments, semi-government organizations and catalogues. The first step is to locate these sources and then to evaluate the usefulness of the contents of each. Some research questions can be answered only through secondary data sources, where no further data collection is needed.

You must realize that a secondary data source provides the information that may have been collected for a different *purpose*. For example catalogues and websites of many companies are prepared to impress and convince the customer. This means that information is either exaggerated or biased. By contrast, information collected by other organizations, such as 'Bureaux of Statistics' offers more neutral information and includes not only the positive information but also the negative. In the same manner the *scope* of the information can be different.

For example, you need to be observant on the time period. Does the information represent the current year, or an average of some years, or a particularly good/bad year? Does the information refer to regional or national comparison? You need also to question the *reliability* of the information. Are the sources mentioned, and if yes, can you check the authenticity of the information? Once you use the secondary data in your report, the reliability of the information becomes your responsibility (Cooper and Schindler, 2001).

This leads us to the point that you need to interpret and check the reliability of the information in the best possible way. You have to make a judgement that even if the information has been collected for a different purpose, can it be used for your study? Also, how could the purpose (for example marketing material) have influenced its contents? For example, if a company's website claims that they are the market leaders for a particular market, can you verify that?

If we collect data from US Chamber of Commerce publications about the number of cars per thousand people in India and on characteristics of car owners to determine the size of the car market for different car sizes, we are collecting secondary data. They are data that have been collected by the US Chamber of Commerce but we can use them to find answers to our questions.

There are more relevant data available than most researchers would believe. In this respect, researchers need to look at several sources for data availability on the topic/area of study in question. Once these sources have been located they need to look for data on their specific research problem and make a judgement on whether the information available can be used or not. Many research students underestimate the amount of data available from secondary sources. We should, therefore, start looking for secondary sources relevant to our research problem *before* going out to collect our own data. Secondary data can help researchers in the following manner:

- answering research questions or solving some or all of the research problems;
- helping in problem formulation and/or devising more concrete and focused research questions;
- deciding about the appropriateness of a certain research method or even suggesting better research methods for a particular problem;
- providing benchmarking measures and other findings that can be compared later on with the results of the study at hand.

A number of government offices regularly collect information on different aspects of society. The census of population available in each country can provide us with an enormous amount of information on potential customers and segments in a society. Central bureaux of statistics and branch organizations collect information on different companies, their size and market shares, as well as imports and exports. The following secondary sources can be important for our research:

- Internet sites and web pages of different companies and organizations (e.g. www.info.com/companies).

- Central and local government studies and reports, state budgets, rules on international trade regarding imports and exports, and policies on foreign direct investment (e.g. www.statistics.gov.uk/, US Chamber of Commerce, National Trade Development Bureau (NTDB) and Export Councils).
- Studies and reports of institutions and departments such as universities, telecommunication departments, marketing and other research institutes, chambers of commerce and foreign missions such as embassies, trade centres and consulates.
- Census reports on demographics, income levels and consumption patterns.
- Academic as well as professional journals and newsletters relevant to the problem area.
- In many countries, different branch organizations publish journals on statistics regarding their own industry, market shares, revenues and imports and exports. For example, local chambers of commerce, small business associations and associations of retailers.
- Historical studies regarding the development of a particular discipline or problem area. For example there are a number of 'handbooks' available on different topics, such as a Handbook on International Business or a Handbook on Qualitative Research Methods.
- Textbooks and other published material directly or indirectly related to the problem area.
- Commercial research companies selling data, such as: AC Nielsen (www.acnielsen.com) and Synovate (www.synovate.com).
- International trade websites, United Nations, International Trade Statistics and the World Bank (www.worldbank.org).
- And, last but not least, theses and reports written by other students in our own university and in other schools and universities. Many schools keep an up-to-date record of all the theses written in different disciplines. This is perhaps the most important secondary source at the earlier stages of our research process. They provide us with insight not only into our problem area, but also into the data sources mentioned above.

The websites listed as the number one sources above have become most important data sources, and are freely available. It is becoming increasingly easier to find relevant websites as there are scores of sites that can assist you to find information. 'Yahoo' and 'Google' are two of these web directories. You could also go to *Encyclopedia Britannica* (www.britannica.com) or SNAP (www.snap.com). All these search services have a 'Help' option that can assist you to understand how the particularly directory works. The *Financial Times* maintains a number of good data banks and can serve as an excellent data source. Consult www.ft.com to check it out. Some governments keep up-to-date sources of data relating to industries, companies and countries, including detailed economic, social and consumer information, as well as data on rules and regulations and policy documents. Some of these sources are listed in Table 7.1.

Table 7.1 Government data sources

Source	Website	Type of information
US Department of Commerce	www.doc.gov	Commercial data on countries
US Chamber of Commerce	www.uschamber.com	Information on US countries
US Patent and Trademark Office	www.uspto.gov	Information on patents applied for and registered
US Small Business Administration	www.sbaonline.sba.gov	Data on smaller firms in the US
US Census Bureau	www.census.gov	Data on US demographics
Department of Trade and Industry	www.dti.gov.uk	Information on UK companies and trade
Financial Times	www.ft.com	Several data banks, e.g. on mergers and acquisitions
Business Week	www.businessweek.com	Information on companies, e.g. top 500 firms
World Bank	www.worldbank.org	Economic, social and national/regional information on more than 200 countries
International Trade Administration, USA	www.ita.doc.gov	ITA helps US firms to compete in foreign markets
Center for International Business Education and Research (MSU-CIBER). A centre at Michigan State University, USA	www.ciber.bus.msu.edu	A website presenting different market information in the world
Trade Compass	www2.tradecompass.com	Business related information on different markets and companies
European Union	www.europa.eu.int	Statistical information on member countries
Euromonitor International	www.euromonitor.com	Information on the EU and other countries, and companies
University of Strathclyde, UK	www.strath.ac.uk	Company profiles, country information, economic export data and company directories
OECD	www.oecd.org	Statistics, economic indicators and other information on member countries
Eurostat	europa.eu.int/comm/eurostat/	Statistics at European level that enable comparisons between countries and regions
Europe Direct	europa.eu.int/europedirect	Information on the EU

Governments also keep statistics on demographics (e.g. census reports) that can help business researchers in their segmentation and location decisions. An historical analysis of companies' internal information can also help you to find patterns of different development and, thereby, forecast future trends. This is also called 'data mining' and is often used in marketing and financial issues (see e.g. Data Mining, 1997; and SAS (www.sas.com)).

7.1.1 Advantages of secondary data

The first and foremost advantage of using secondary data obviously is the enormous saving in time and money. The researcher needs only go to the library and locate and utilize the sources. This not only helps the researcher to better formulate and understand the research problem, but also broadens the base from which scientific conclusions can be drawn. In other words, the verification process is more rapid and the reliability of the information and conclusions is greatly enhanced.

Most of the data collected by international organizations and governments are of high quality and reliable as they are collected and compiled by experts using rigorous methods. Some examples of this data are provided in Table 7.2. Moreover, in case you need to do a longitudinal study, secondary sources provide excellent historical data (e.g. from any of the sources listed in Table 7.2). The secondary sources can also be helpful in segmentation and sampling of your target group (see e.g. Household Panel Survey (BHPS) listed in Table 7.2.). Large data sets can be easily categorized or grouped in sub groups (Addison and Belfield 2000, Bryman and Bell 2003).

Secondary sources also facilitate cross-cultural/international research, as it is easier to compare similar data from two or more countries. A number of international surveys, for example the World Bank and Euromonitor, provide comparable cross-country data (Coutrot, 1998) that can be used as a sole data source or in combination with some primary data collection.

Another advantage of consulting secondary data is that they can suggest suitable methods or data to handle a particular research problem. Moreover, they provide a comparison instrument with which we can easily interpret and understand our primary data. Quite often some research questions can best be answered by combining information from secondary and primary data. In most research questions it is necessary to consult some secondary data sources as this saves time and facilitates better handling of our research questions.

Considering all these advantages, many scholars recommend that all research should, in fact, start with secondary data sources. As Churchill (1999: 215) put it, 'Do not bypass secondary data. Begin with secondary data, and only when the secondary data are exhausted or show diminishing returns, proceed to primary data.' Sometimes secondary data provides enough information to answer the research questions. In such cases there is no need to collect primary data. Figure 7.1 present some guidelines to get started with a search for secondary data.

Table 7.2 Large UK and European data sets suitable for secondary analysis

Title	Data set details	Topics covered
Annual Employment Survey; formerly Census of Employment	Since 1971, Census of Employment conducted every two years. Provides a picture of the level and distribution of employment in Great Britain covering 1.25 million businesses. Since 1995, the Census of Employment has been replaced by the Annual Employment Survey (AES). www.statistics.gov.uk	Data are collected on the number of jobs by geographical location, detailed industrial activity (SIC code), and whether full or part time
British Household Panel Survey (BHPS)	Begun in 1991 and conducted annually by interview and questionnaire with a national representative sample of some 5,500 households and 10,300 individuals. iserwww.essex.ac.uk/ulsc/bhps	Household organization; labour market behaviour; income and wealth; housing; health; and socio-economic values
Company-level Industrial Relations Survey	Conducted in 1985 and 1992. Sample comprises large UK organizations – with 1000+ employees in two or more cities. Sponsored by the Economic and Social Research Council (ESRC) and the Department of Trade and Industry (DTI)	The main differences between this survey and AES is the level of analysis; instead of focusing on the workplace as the principal unit of analysis, this survey concentrates on obtaining company-level data
European Community Studies and Eurobarometer	Since the early 1970s, public opinion surveys conducted on behalf of the European Commission at least twice a year in all member states of the European Union	Cross-national comparison of a wide range of social and political issues, including European integration; life satisfaction; social goals; currency issues; working conditions; and travel
General Household Survey (GHS)	Annual interviews since 1971 with members aged 16+ in over 8,000 randomly sampled households	Has tended to cover standard issues such as education and health, about which questions are asked each year, plus additional items that vary annually
International Social Survey Programme (ISSP)	Annual programme, since 1983, of cross-national collaboration covering survey topics important for social science research. Brings together pre-existing projects, thereby adding a cross-cultural perspective to the individual national studies. Coordinated by the University of Cologne, accessible via UK Data Archive	Attitudes towards legal systems and the economy. Covers special topics including work orientations; the environment; and national identity
Office for National Statistics (ONS) Omnibus Survey	Survey carried out eight times a year since 1990 using face-to-face structured interviews on a sample of just under 2,000 interviewees. Uses short, simple sets of questions to gain an impression of public attitudes concerning topics that change frequently. Accessible via UK Data Archive	Covers core demographic questions about respondents plus questions that change from month to month on topics that change frequently – e.g. food safety; eating behaviour; personal finance; sports participation; Internet access; human rights; Aids awareness

Source: Based on Bryman and Bell (2003: 215–16)

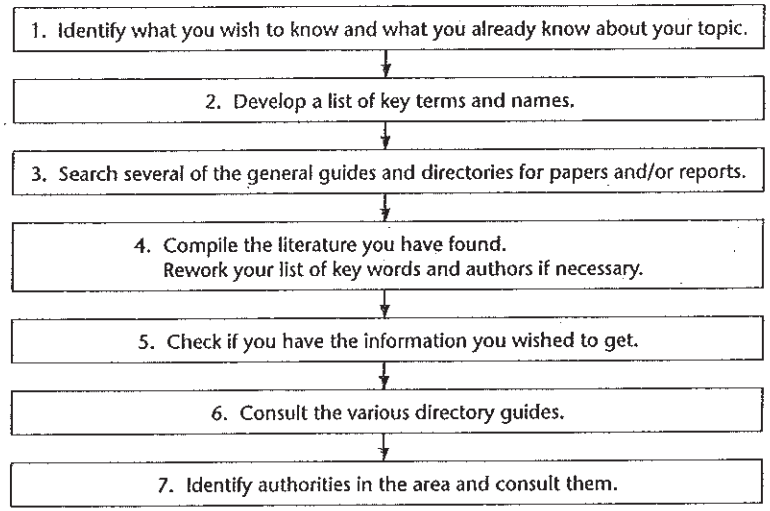


Figure 7.1 How to get started when searching published secondary sources

Doing research in a company/organization will be facilitated by the fact that other departments/sections of the organization might have the information needed to answer the question at hand. Some types of study, for example comparative and longitudinal, require some historical data, available only through secondary sources.

Secondary data are not only inexpensive but are relatively easy to access. As mentioned above, increasing use of electronic sources has enhanced availability of these sources. Secondary data help us understand the situation/research field and identify areas of potential concerns that merit in-depth investigation based on primary research (Craig and Douglas, 2000).

Begin with secondary data and only when they are exhausted proceed with primary data.

7.1.2 Disadvantages of secondary data

There are some serious drawbacks in working with secondary data. We should be careful in using data just because they are easily available and save us time and money. One of the main problems is that these data are collected for another study with different objectives and they may not completely fit 'our' problem. It is therefore of the utmost importance to identify what we are studying, what we already know about the topic, and what we want to have as further information on it. Here we should make a list of the terms and concepts on which we need to

collect information. The idea is to take our research problem as the starting point for secondary data we need, and not the other way around. If the secondary data do not 'fit' with your specific problem, they should not be used. It is better to answer your question partially or not at all than to provide an answer based on wrong information.

It is sometimes difficult to classify these data in ways that are consistent with the study at hand. The variables might have been defined differently or the measurement unit could have been totally different and would, therefore, make the comparison absolutely invalid. For example, when studying the export behaviour of smaller firms, we could use a number of studies undertaken in different countries and could compare the results with our findings. After a closer look, however, we might realize that 'smaller firms' were defined differently. To determine the size (small, medium or large), different measurement units were used. Some studies defined size in terms of sales, some in terms of number of employees, some in terms of profit and some in terms of square metres of occupied space, as in the case of retailing firms.

Moreover, even if two studies use the same measurement unit, the terms of definition were often different. In a study in Norway, for example, firms with 200–499 employees were defined as medium sized, while in the USA firms with fewer than 500 employees were defined as smaller firms. In such a comparison, if the US study concluded that smaller firms depend highly on unsolicited orders for their initial export, we could not compare this finding with our findings in Norway by saying that, 'Consistent with the US study, smaller firms in Norway also depend heavily on unsolicited orders for their initial export, while medium-sized firms are much more aggressive and do not depend upon unsolicited orders for their initial exports.'

These types of difference are quite common, and researchers using secondary data or comparing and supporting their findings with the help of these data should be aware of the problems and make the comparison with some caution. One way to ameliorate the situation is to discuss the differences and the relevance of secondary data to our own study, looking at the validity of comparison and how it should be understood (see e.g. Box 7.1).

Although we have mentioned cost saving as one of the advantages of using secondary data, this cannot always apply. For example, using secondary data compiled by a commercial organization might be quite expensive. In this case you will have to compare the cost of collecting primary data as compared with the price of purchasing the secondary data.

Another problem is that it is the responsibility of the researcher that data are accurate; inaccuracies cannot be blamed on the secondary source. It is the researcher's responsibility to check whether findings presented by another researcher are based on primary or secondary data. This can be checked by internal consistency of the report being consulted. It is therefore important always to check the original source of data. It is only the original source that can provide us with the required information on the quality of data as it describes the process

Box 7.1 **Difficulties in making cross-cultural comparison using official statistics**

Jackie Davis (2001) carried out an international comparison of labour disputes and stoppages through strike action in 23 OECD countries between 1990 and 1999 using statistical data collected at a national level. However, the article is careful to point out the limitations of such an analysis for the following reasons:

- *Voluntary notification.* In most of the countries governments rely on employers notifying them of any disputes, which they are then able to confirm through media reports.
- *Fail to measure full effects.* None of the countries records the full effects of stoppages at work, for example measured in terms of lost working time in companies not involved in the dispute but that are unable to work because of a shortage of materials caused by the strike.
- *Different thresholds for inclusion.* In the UK, disputes involving fewer than ten employees or lasting less than one day are excluded from the recorded figures. In other countries the thresholds for inclusion are particularly high. For example, in the USA, records include only disputes involving more than 1,000 workers. This can make comparison of strike rates between countries particularly difficult.
- *Exclusion of certain industrial sectors.* Some of the countries exclude the effects of disputes in certain sectors: for example, Portugal omits the public sector and general strikes.
- *Changes in the way figures are recorded.* For example, France has changed the way it records lost working days, thus making it difficult to make comparison over time.
- *Indirectly involved workers.* There are differences between the countries in recording those workers who are unable to work because others at their workplace are on strike. Half of the countries, including France, the Netherlands and New Zealand, attempt to include these workers in the statistics, but the other half, including Italy and Japan, do not.
- *Dispute rates affected by a small number of very large strikes.* Some countries can appear to have very high labour dispute rates in one particular year because of one strike involving a large number of workers. In France, for example, there was a strike in 1995 involving all of the public sector.

These differences lead some countries, such as the USA or Japan, to record a lower number of working days lost through labour disputes than say the UK or Germany simply because of the different methods used for compiling statistics in the individual countries. This means that cross-cultural comparisons using nationally collected statistics need to be made with a degree of caution.

Source: Davis (2001); Bryman and Bell (2003: 227)

of data collection and analysis. Also, while referring to secondary data, you have to consult and refer to the original source and not what you have collected from an intermediate or third-hand report.

One problem with accuracy is that we have to understand the purpose of data collection for the source we are using. For example, it is quite common for companies to utilize wishful thinking in their annual reports rather than facts, when they describe their market position. They may mention that they are market leaders or have a certain percentage of market share. However, if we are studying the competitive position of a company, we should make certain checks to see whether it *is* the market leader or has the market share it claims. Macroeconomics and industry data collected by different countries and organizations vary considerably in their accuracy and equivalence. This is particularly problematic in developing countries where different sources report different values/data. For example, number of TV sets or automobiles per hundreds of the population. In some countries income of nationals working in foreign countries may be included in GDP.

7.1.3 Types of secondary data

As mentioned earlier (and illustrated in Figure 7.2), several types of secondary data are available, from government reports to companies' annual reports, that are always more upbeat than the reality. In business research, while doing work for a company, a lot of information is available from *internal sources*, including information on customers, suppliers, employees, marketing plans and efforts

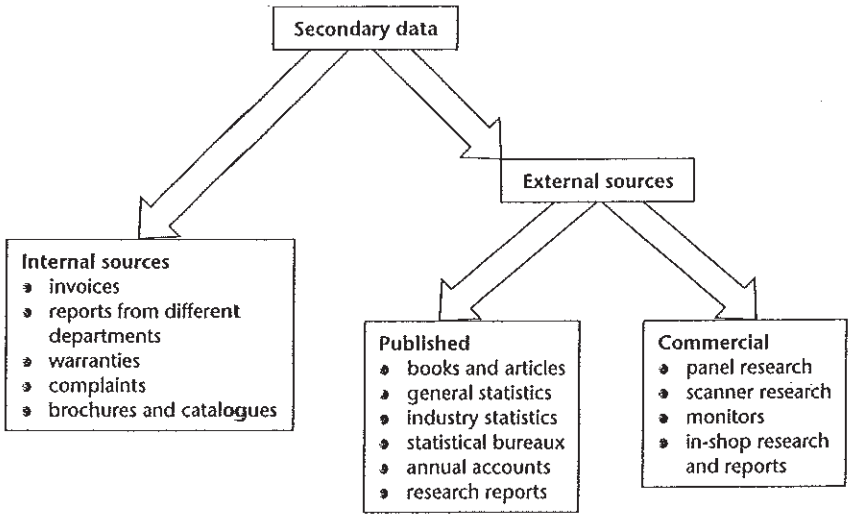


Figure 7.2 Types of secondary data

and, sometimes, even on the competitors. The researcher cannot accept this information at its face value, although it is free and readily available. *External sources* include published books and journal articles, academic as well as professional and popular. And then there are data that have been collected by commercial organizations or companies for the purpose of selling them. In the business research field a lot of such data are available, on market structure, consumers, demographics, advertising results, and on different products and markets (see Table 7.1 and 7.2 for some sources).

For published external sources, the best policy is to do a 'systematic search' in the library. For this you need to develop a list of main concepts and key words for your research problem. Search through the library by using these key words in different combinations. For example, if your research problem is to study export difficulties faced by small and medium-sized companies, you can use the following combinations: SMEs; small and medium-sized companies and export; export behaviour; export behaviour of SMEs; export problems; export subsidies, etc.

For this purpose you should also make use of search engines on the Internet and the various websites and data banks available. There are also export promotion bureaux and export credit banks A number of universities also maintain useful data banks (see e.g. Figure 7.3). Also, consult your adviser and reference lists from the publications you have found.

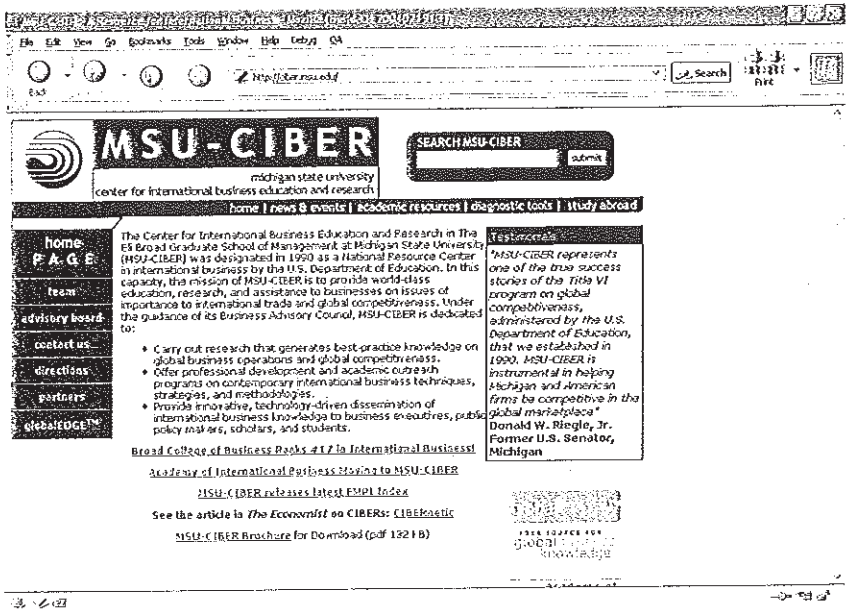


Figure 7.3 MSU-CIBER

Source: MSU homepage ciber.msu.edu

Primary data

When secondary data are not available or are unable to help answer our research questions, we must ourselves collect the data that are relevant to our particular study and research problem. These data are called primary data. What we should look for, ask about and collect depends upon our research problem and research design. We have several choices as regards the means of collecting primary data. Normally this includes observations, experiments, surveys (questionnaires) and interviews, as illustrated by Figure 7.4. There are both advantages and disadvantages with primary data, as illustrated in Table 7.3.

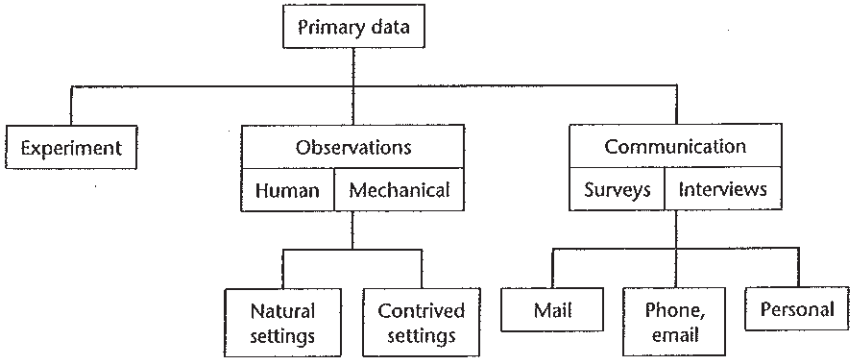


Figure 7.4 Sources of primary data

7.2.1 Advantages of primary data

The main *advantage* of primary data is that they are collected for the particular project at hand. This means that they are more consistent with our research questions and research objectives. For business studies, for example, we may need specific demographic information about consumers such as education, income, lifestyle, personality and interests. This information might not be available in a

Table 7.3 Advantages and disadvantages of primary data collection

	Communication	Observation
Scope	+	–
Cost	+	–
Objectivity	–	+
Precision/accuracy	–	+
Speed	+	–

census report (or any other secondary source). Moreover, if we want to know about people's attitudes, intentions and buying behaviour for a particular product, only primary data can help us answer these questions. Through primary data we could also know the reasons behind consumer behaviour, management decisions or problems faced in internationalization efforts.

We can hardly learn about opinions and behaviour without asking questions directly of the people involved. Data/information on past events or experience can only be gathered by asking people who have been involved or have observed and can remember the particular event. In the case where we are collecting data through survey or telephone interviews, we could cover a large geographic area with relatively little cost.

7.2.2 Disadvantages of primary data

The main *disadvantage* is that primary data can take a long time and can cost a lot to collect. Moreover, it is difficult to get access: to find consumers, companies or other target groups who are willing to cooperate and answer our questions. This is particularly difficult if we are dealing with sensitive issues or research questions that can turn out to be mission impossible. Another disadvantage/problem is that the researcher needs to be careful in using proper tools, procedures and methods of analysis, as otherwise s/he will jeopardize the reliability and applicability of the study. An important disadvantage is thus that the researcher has less degree of control in data collection. As a result, unexpected factors may influence and interfere with efficient data collection.

One major weakness in the quality and scope of information gathered through primary sources is that the researcher is fully dependent on the willingness and ability of respondents. There may be many reasons why people are reluctant or refuse to cooperate. These include lack of time, or lack of incentive; they may consider it a waste of their valuable time; there may be fear of any negative consequences if they are honest in their answers and fear of embarrassment in case of sensitive issues.

7.2.3 Types of primary data

Status and state of affairs data

These data are typical of a demographic or socio-economic nature, for example on age, education levels, profession, marital status, gender, income or social class. These types of data are used for cross-classification of information. For example, is purchase/usage of a particular product related to a certain age group? This type of data/information is used, for example, for segmentation and positioning in marketing.

Psychological and lifestyle data

This category refers to personality and behaviour data, that is information which can influence individual behaviour. These are measured with standard methods, explaining personal activities and interests, for example different types of buyers/consumers, proactive vs. reactive shoppers and traditional vs. innovative shoppers.

Attitude and opinion data

These reveal an individual's attitude and opinion about a certain idea, product, object or issue. This category also refers to cognitive behaviour such as assumptions or opinion on a certain matter/object and effects such as evaluation or judgement on a particular issue/object. Moreover, they reveal attitudes about the future, for example usage of a particular project.

Awareness and knowledge data

These describe what is known about a particular product, object or business activity. For example, this type of data is important in order to learn about the effects of a particular advertising campaign – whether the respondents recall the advertisement(s), with or without some help. Such data are needed if we want to find out what respondents know about a particular product and its characteristics, where it can be bought, its price level, who produces it and where, how it should be used, the functions it can perform, etc.

Data on intentions

This type of data can reveal, for example, whether or not the respondent's intention is to buy a particular product in the near future. Typically, this will explain the buying behaviour of customers. Moreover, this type of information will help in relating intentions to actual behaviour, for example how many buyers intended to buy and how many have actually bought the product.

Data on motivations

This information can help us understand what motives/stimuli can influence buyers' or managers' behaviour, for example factors such as needs, wishes, driving forces, or other motives that can influence behaviour towards a particular product, matter or issue. This also helps us to understand why people behave the way they do so that we can better understand their past and predict future behaviour. Motives are more stable than the behaviour itself and thus reveal valuable information.

Data on behaviour

Finally, this type of data helps us to understand what respondents have done or will be doing. For business studies, this type of information is very important.

7.2.4 Collecting cross-cultural data

Before collecting primary data, however, you need to consider a number of issues. First you need to define the relevant unit of analysis, that is who should be the right person/group/organization to be consulted/studied. This is particularly important in an international research setting, as the complexity of environmental and contextual factors may have a major impact on the topic/area of research. According to some views, cross-cultural research can be viewed as a quasi-experiment in which data is collected from different contexts that may or may not be equivalent (Campbell and Stanley, 1966; Craig and Douglas, 2000).

The unit of analysis and a particular research question may lead to different research design and data sources. Here the comparability of data collected from different countries/cultures also needs to be evaluated. The data source, and the information collected, should represent the same meaning and interpretation. The data collected from different countries should also be equally reliable and accurate. Diversity in culture, language and methods of communication between the respondents and also between the researchers (if more than one researcher is involved) can lead to misunderstandings and misinterpretations (see Craig and Douglas, 2000; Andreasen, 1990 for further reading and Lonner and Adamopoulos, 1997). In cross-cultural and international research projects/studies we need to handle this issue and develop equivalent or comparable measures/interpretations of the data to be collected. In literature, we find two different approaches to handling this issue. The '*emic*' approach believes that cultures are different and issues related to one culture should be understood through the particular cultural context. Consequently our questions and interpretations should be adjusted to the specific culture to get the correct understanding (Pike, 1966). The '*etic*' approach advocates constructing measures that are 'culture free' and can be used in cross-cultural studies without posing equivalence or comparability problems (Triandis, 1972). In this case constructs and measures development in one country can be used without any or minimum adjustment to cultural differences. These two approaches present two extremes, and many authors recommend that while doing cross-cultural research you need to raise this issue and try to use an etic approach as far as possible, by preparing constructs and measures that are comparable. This can also be achieved by using already established constructs and measures (Wind and Douglas, 1982; Schwartz, 1992; Craig and Douglas, 2000). In many cases a combination of emic and etic approaches is advisable (Berry, 1989). Here it is suggested that you first conduct research in your own culture and then apply the construct or measurement instrument to study behaviour in the other culture (imposed etic). Behaviour is then studied in the other culture within its own context, using an emic approach in both cultures. These two observations are then brought together towards an etic approach and are interpreted in a comparable manner. A derived etic approach is thus possible based on common aspects and features. This is further explained in Figure 7.5.

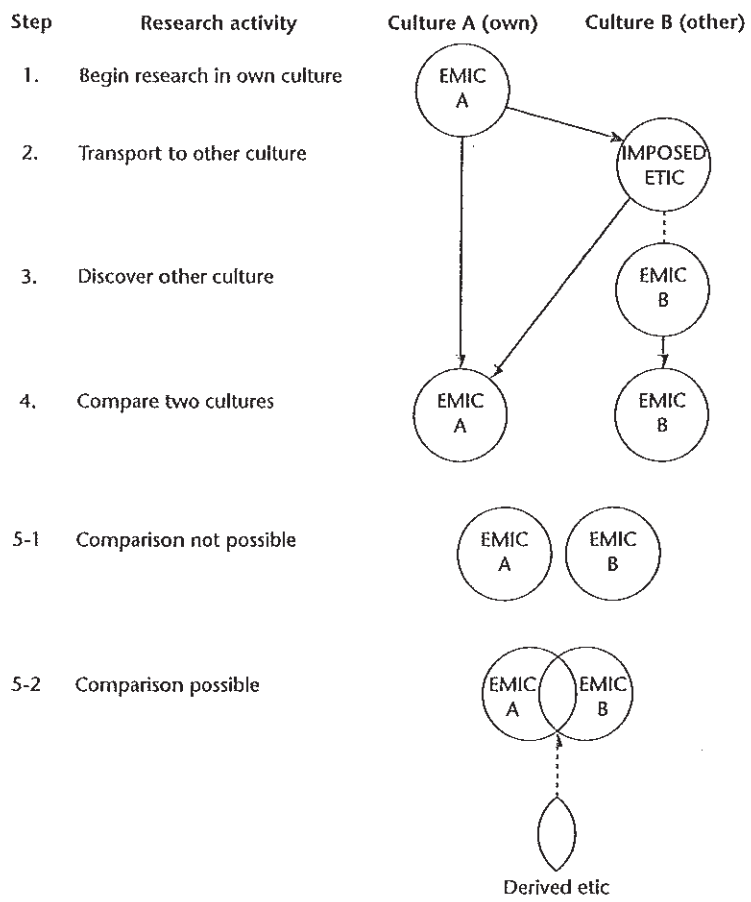


Figure 7.5 **Steps in operationalizing emic and etic approaches**
Source: Based on Berry (1989) and Craig and Douglas (2000: 156)

Further reading

Adler, P.A. and Adler, P. (1994) 'Observational techniques', in Denzin, N.K. and Lincoln Y.S. (eds) *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage, pp. 377–32.

Churchill, G.A. (1991) *Marketing Research: Methodological Foundations*, 5th edn, Chicago, IL: Dryden Press (Chapters 6 and 7).

Grisar-Kassé, K. (2004) 'The role of negative personal experiences in cross-cultural case study research: failure or opportunity', in Marshan-Piekkari, R. and Welch, C. (eds) *A Handbook of Qualitative Research Methods for International Business*, Cheltenham: Edward Elgar, pp. 144–61.

Questions

1. Explain the difference between secondary and primary data.
2. What are the advantages and disadvantages of secondary data?
3. Explain the two concepts emic and etic. How can we handle these issues in cross-cultural research?

Exercises

1. Select a product category. Make an estimate for the total demand of that product in your home country. Also calculate the market share for the largest producer.
2. A company in the . . . industry (select industry) wants to learn about the market opportunities in . . . (select country). Visit websites listed in Table 7.1 to provide this information.

Data collection

Since Hippocrates first presented 14 classic case studies of disease some 2300 years ago, science has proceeded along two divergent knowledge paths. One involves formulating a tentative theory of a phenomenon 'writ large', deducing implied empirical consequences, and controlling situational events in order to observe the validity of empirical deductions. The second path, less frequently used but equally valid, is to reason from individual and naturally occurring but largely uncontrollable observations towards generalizable inductive principles.

(Bonoma, 1985: 199)

In business studies the majority of researchers need to collect some primary data to answer their research question. Once the researcher has decided to collect information/data through primary sources, s/he has to decide what kind of data collection method to use. As discussed earlier, s/he could do an observation, experiment, interview or survey. However, the choice of data collection will depend upon an overall judgement on which type of data is needed for a particular research problem. One important aspect is to identify/know the unit of analysis. This is crucial also in international/cross-cultural research, where data collected from different countries are compared and contrasted (Campbell and Stanley, 1966; Craig and Douglas, 2000). Even in one-country research where data is compared and contrasted we need to be sure that firms that are consulted are comparable. This is also important for segmentation, new product development, demand forecast or country analysis for entry strategy studies.

While defining the unit of study, several dimensions are important. One is the *scope*: that is, whether one study will cover a region (e.g. the EU) or a country, or a particular area in a city or a country (e.g. north-west England or central London). Also, we need to define the *characteristics* of the unit. Where we are studying firms, we should have our criteria clear, such as: age, size, revenue and the industrial sector. Say we want to study 'Export behaviour of SMEs', should we study all firms in that category or only manufacturing firms? Should we study all firms or only those that have been in business for at least five years? Moreover, the type of answers we are looking for will decide which type of analysis we need to do. At the outset, a researcher has to decide whether s/he wants to use a qualitative or quantitative data collection and analysis method.

Qualitative versus quantitative methods

Alternatives to the standard approach, like unstructured interviewing, tend to be viewed as faulted variants. . . . I am arguing, instead, that the standard survey interview is itself essentially faulted and that it therefore cannot serve as the ideal ideological model against which to assess other approaches.

(Mishler, 1986: 29)

In the literature on research methods there is some discussion on which methods or techniques are more suitable or 'scientific'. It is sometimes stated that structured and quantitative methods are more 'scientific' and thereby better. But in our opinion, methods or techniques are not 'better' or 'scientific' only because they are quantitative. As mentioned earlier, which methods and techniques are most suitable for which research (project) depends on the research problem and its purpose (Jankowicz, 1991). For example, if our prior insights are modest discovery-oriented approaches allowing for learning are appropriate.

Research methods refer to systematic, focused and orderly collection of data for the purpose of obtaining information from them, to solve/answer a particular research problem or question. The methods are different from techniques of data collection. By methods we mean data collection through historical review and analysis, surveys, field experiments and case studies, while by techniques we mean a step-by-step procedure that we follow to gather data and analyse them for finding the answers to our research questions. These are concerned more with how to do things than what to do or why to do it. In business studies, we normally use techniques such as structured, semi-structured or unstructured interviews, surveys and observations (Bennett, 1986; Jankowicz, 1991).

The main difference between qualitative and quantitative research is not of 'quality' but of procedure. In qualitative research, findings are not arrived at by statistical methods or other procedures of quantification. Normally, the basic distinction between quantitative and qualitative research is considered to be that quantitative researchers employ measurement and qualitative researchers do not (Layder, 1993; Bryman and Bell, 2003). The difference between quantitative and qualitative methods and approach is not just a question of quantification, but also a reflection of different perspectives on knowledge and research objectives. We can do research on behaviour, events, organizational functioning, social environments, interaction and relationships. In some of these studies data may be quantified, but the analysis itself is qualitative, such as with census reports. It is quite common for researchers to collect their data through observations and interviews, the methods normally related to qualitative research. But the research may code the data collected in such a manner that would allow statistical analysis. In other words, it is quite possible to quantify qualitative data. Qualitative and quantitative methods are therefore not mutually exclusive. The difference is in the overall form and in the emphasis and objectives of the

Table 8.1 The difference in emphasis in qualitative versus quantitative methods

Qualitative methods	Quantitative methods
• Emphasis on understanding	• Emphasis on testing and verification
• Focus on understanding from respondent's/informant's point of view	• Focus on facts and/or reasons for social events
• Interpretation and rational approach	• Logical and critical approach
• Observations and measurements in natural settings	• Controlled measurement
• Subjective 'insider view' and closeness to data	• Objective 'outsider view' distant from data
• Explorative orientation	• Hypothetical-deductive; focus on hypothesis testing
• Process oriented	• Result oriented
• Holistic perspective	• Particularistic and analytical
• Generalization by comparison of properties and contexts of individual organism	• Generalization by population membership

Source: Based on Reichardt and Cook (1979)

study. The differences in the emphasis between qualitative and quantitative methods are illustrated in Table 8.1.

Qualitative research is a mixture of the rational, explorative and intuitive, where the skills and experience of the researcher play an important role in the analysis of data. It is often focused on social process and not on social structures, which is frequently the focus in quantitative research. The skills needed to do qualitative research are thinking abstractly, stepping back and critically analysing situations, recognizing and avoiding biases, obtaining valid and reliable information, having theoretical and social sensitivity and the ability to keep analytical distance while at the same time utilizing past experience, and having a shrewd sense of observation and interaction (van Maanen, 1983; Strauss and Corbin, 1990). Although most researchers emphasize one or the other, qualitative and quantitative methods can be combined and used in the same study.

When to use qualitative methods

As mentioned earlier, the main reasons for doing qualitative research and using qualitative methods are the objective of the research project and the background and previous experience of the researcher. Some disciplines, such as anthropology, or philosophical orientations, such as phenomenology, particularly advocate qualitative methods for data collection and data analysis. For our purpose, however, the main reason should be the research problem and the focus and purpose of the study.

Research problems focusing on uncovering a person's experience or behaviour, or where we want to uncover and understand a phenomenon about

which little is known, are typical examples of qualitative research (Ghauri, 2004; Marshan-Piekkari and Welch, 2004). Moreover, when an event or social process is difficult to study with quantitative methods, qualitative methods are most suitable and can provide intricate details and understanding. Qualitative research is thus common in social and behavioural sciences and among practitioners who want to understand human behaviour and functions. It is quite suitable for studying organizations, groups and individuals (Strauss and Corbin, 1990).

There are three major components of qualitative research (Becker, 1970; Strausss and Corbin, 1990; Miles and Huberman, 1994):

1. *Data*: often collected through interviews and observations.
2. *Interpretative or analytical procedure*: the techniques to conceptualize and analyse the data to arrive at findings or theories.
3. *Report*: written or verbal. In the case of students, the report is written in the form of a thesis or project.

One argument for using quantitative data is that quite often we collect individual data and aggregate it to analyse organizations. To separate predetermined elements we use predetermined instruments and analyse the results quantitatively. In this manner we can only get a limited reality because predetermined instruments may not suit the particular situation, and also because these methods cut reality into discrete pieces that are then combined into statistical clusters (for more details see, e.g., Glaser and Strauss, 1967; Weiss, 1968; Light, 1979; van Maanen, 1983; Eisenhardt, 1989). In spite of claims that relatively few studies use qualitative methods, it is not difficult to find support for the use of qualitative data:

> Qualitative data are attractive for many reasons: They are rich, full, earthly, holistic, real; their face validity seems unimpeachable, they preserve chronological flow where that is important, and suffer minimally from retrospective distortion; and they, in principle, offer a far more precise way to assess causality in organizational affairs than arcane efforts like cross-lagged correlations.
>
> (Miles, 1979: 117)

It is generally accepted that, for inductive and exploratory research, qualitative methods are most useful, as they can lead us to hypothesis building and explanations. According to this view, qualitative and quantitative methods are suitable at different stages or levels of research. At the first level, the problem is of an unstructured nature and qualitative methods are suitable. At the second level, quantitative methods are most useful, as we want to test different hypotheses that were arrived at through level 1. Quantitative methods allow us to accept or reject these hypotheses in a logical and consistent manner. At the third level, both qualitative and quantitative methods can be used. Often a combination of the two methods is used at this level.

For data collection involving multi-culture or multi-context study, it is important to understand the differences between culture and behaviour. Quite often researchers collect and interpret data according to their self-reference criteria

(SRC) (Cateora and Ghauri, 2000) while collecting data in a very different culture than their own. Qualitative data collection methods can be useful in such cases, as they often use unstructured questions that can be changed, translated and reformulated more easily. The qualitative research allows researchers to explore and probe deeply into attitudes towards product classes, brands, trends and behaviour. They also help to reduce the psychic distance between the researcher and the respondent, especially in cross-cultural research (Craig and Douglas, 2000). In this type of research qualitative research provides better understanding of a given context and underlying motivations, values and attitudes. Data collected from a small number of carefully selected samples on relevant issues can be sufficient in this case (Patton, 1990).

Qualitative methods, as defined earlier in this section, are flexible and unstructured. As compared with quantitative methods, they employ a limited number of observations and try to explain different aspects of our problem area. Although the number of observations is low, several aspects of the problem area can be analysed. Low numbers are also justified because we often want to do in-depth studies or provide 'thick description', which is not possible in cases of numerous observations. Qualitative methods are, therefore, most suitable when the objectives of the study demand in-depth insight into a phenomenon.

Example

A firm is experiencing declining sales, but does not know why. In this case a qualitative approach to learning why is appropriate.

Different qualitative methods are suitable for different types of studies. We have already stated that quite often we can combine qualitative and quantitative methods. Many scholars claim that the two approaches are complementary and cannot be used in isolation from each other (For this type of discussion see Jones, 1988; Martin, 1988; Jankowicz, 1991.) According to this view, no *method* is entirely qualitative or quantitative. However, the *techniques* can be either quantitative or qualitative. Figure 8.1 illustrates this point further.

As we can see in Figure 8.1, the methods from left to right become more quantitative and use more quantitative techniques. Historical review, group discussions and case studies are mostly qualitative research methods. These qualitative methods use relatively more qualitative techniques, such as conversation and in-depth, unstructured or semi-structured interviews.

8.2.1 Historical review

In cases of historical reviews, our job is to describe what happened in the past so that we can understand the present or plan for the future. Here we go through existing records and reports and talk to different people to get as true a picture as possible. The archives are reviewed in an interrogative manner with a particular research question/problem in mind. The main problem in using such a method

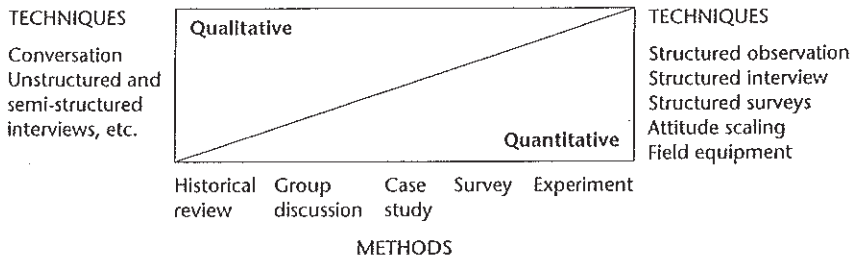


Figure 8.1 Quantitative and qualitative methods and techniques

Source: Based on Jankowicz (1991: 159)

is that we have to trust human memory, which records selective parts of reality. It is quite possible that two different people, while going through a certain situation or experience, will record or remember different things; sometimes they make mistakes or misunderstandings. It is therefore important that, while using such a method, we should cross-check one written source with another, or a written source with an interview, or two interviews with each other. In other words, we have to be critical and compare different explanations for the situation or event. For further insight into historical reviews as a research method, we recommend Orbell (1987). Figure 8.2 presents an example of historical review in a particular industry.

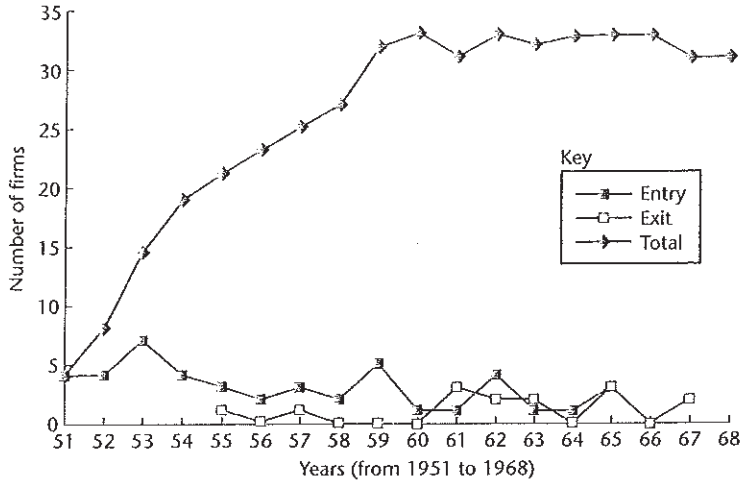


Figure 8.2 Number of firms in the US transistor industry

Source: Utterback, J.M. (1994: 41). Reprinted by permission of Harvard Business School Publishing. Copyright © 2004 by the Harvard Business School Publishing Corporation; all rights reserved. Based on data in E. Braun and S. MacDonald, *Revolution in Miniature: The History and Impact of Semiconductor Electronics* (Cambridge, England: Cambridge University Press, 1978) and J.E. Tilton, *International Diffusion of Technology* (Washington DC: The Brookings Institute, 1971)

8.2.2 Focus groups

The second qualitative method mentioned above is group discussion (also called focus groups). In this type of research method the researcher can get together with several respondents at the same time and initiate a discussion on a certain topic. The opinions of respondents are considered as information and analysed later. This method differs from other methods such as in-depth interviews in the sense that here the interaction is not only between the interviewer and the respondent, but also among the respondents. It is also considered a relatively cheap and convenient way of gathering information from several respondents in a short time.

Here we should be aware of the influence the group itself will have on the discussion and information that is exchanged. The discussion is influenced by the size of the group, its composition, the personalities of people involved, the roles they are asked to play, the physical and geographical arrangement of the meeting, and the 'chemistry' between the interviewer and the group or individuals. It is thus apparent that information gathered by this method will be different from information gathered through historical review and case studies. However, this method is widely used in some research cultures: for example, in the UK it is so widely used that it is regarded as synonymous with qualitative research (Kent, 1989).

8.2.3 Case studies

What is a case study?

The case study approach is often associated with descriptive or exploratory research, without being restricted to these areas (Ghauri, 1983; Bonoma, 1985; Yin, 1994). In business studies, case study research is particularly useful when the phenomenon under investigation is difficult to study outside its natural setting and also when the concepts and variables under study are difficult to quantify. Often this is because there are too many variables to be considered, which makes experiment or survey methods inappropriate (Bonoma, 1985; Yin, 1994).

As mentioned earlier, research in business studies emphasizes the role of deduction where the validity of all findings depends solely on the quality of logic employed in the study and precise measurement. However, the trade-off between precision and reduced generalizability is not a useful one in many situations. Many phenomena cannot be understood if removed from their social context. In these cases inductive, qualitative approaches are alternative methods to scientific investigation.

Case research, in our case, refers to qualitative and field-based construction and analysis of case studies. It is based on a process model as suggested by Bonoma (1985). Case study is a description of a management situation. A case study often involves data collection through multiple sources such as verbal reports, personal interviews and observation as primary data sources. In addition,

case methods involve data collection through sources such as financial reports, archives, and budget and operating statements, including market and competition reports. The case method is not suitable for all types of research. It is the research problem and the objective that decide whether the case method is suitable or not. With the above proviso, the case method is useful for theory development and testing. The main feature is the intensity of the study of the object, individual, group, organization, culture, incident or situation. We need to have sufficient information to characterize, to explain the unique features of the case, as well as to point out the characteristics that are common in several cases. Finally, this approach relies on integrative powers of research: the ability to study an object with many dimensions and then to draw an integrative interpretation (Selltiz et al., 1976).

When to use a case study

This is a preferred approach when 'how' or 'why' questions are to be answered, when the researcher has little control over events and when the focus is on a current phenomenon in a real-life context (Yin, 1994). Case studies are often of an explanatory, exploratory or descriptive nature. According to Eisenhardt, case studies are:

> particularly well-suited to new research areas or research areas for which existing theory seems inadequate. This type of work is highly complementary to incremental theory building from normal science research. The former is useful in early stages of research on a topic or when a fresh perspective is needed, while the latter is useful in later stages of knowledge.
>
> (Eisenhardt, 1989: 548–9)

When to use which research approach depends upon:

- the type of research questions
- the control of the researcher on behavioural events
- the focus on a current as opposed to historical phenomenon
- what information is needed
- how this can be obtained.

When research questions concern only 'what', for example 'What are the ways in which an effective firm is operated?', an exploratory study is justified. Here the objective is to develop hypotheses or propositions, which can later be studied. For an exploratory study, any of the five research strategies can be used. If the questions relate to How many? or How much?, survey or archival strategies are favoured. But when 'how' and 'why' questions are asked, a case study method as a research strategy is favoured.

Quite often it is stated that the case study method is used when we want to study a single organization and we want to identify factors involved in some aspects or behaviour of an organization or smaller unit, such as a marketing or finance department. However, it is equally possible to study a number of

organizations with regard to a set of variables we have already identified or assumed. Such case studies are called *comparative case studies*. In this type of study we ask or study the same questions in a number of organizations and compare them with each other to draw conclusions.

The purpose of data collection in the comparative case study method is to compare (replicate) the phenomenon (e.g. strategy formation) studied in different cases in a systematic way, to explore different dimensions of our research issues or to examine different levels of research variables. In a survey, on the other hand, we are more concerned with the sampling of different organizations as we want to generalize our findings to all other organizations of the same type (Jankowicz, 1991). Yin (1994) compares the case study method with experiments and suggests three situations where case study is the preferred method:

- If we want to follow a theory that specifies a particular set of outcomes in some particular situation, and if we find a firm which finds itself in that particular situation, we can use the case study method for a critical test of theory and its applicability to the organization.
- If we want to study some specific characteristics of a rare or extreme situation in which an organization finds itself, we can use the case study method to compare and contrast.
- If we want to study a situation or an organization which has rarely been studied and is unique in its nature, we can use the case study method. In this case, we hope to learn something new and important.

As most case studies are done through a review of existing historical material and records plus interviews, the case study method is quite similar to historical review, but it is different in the sense that here we have a possibility of direct observation and interaction. As mentioned earlier, we would like to make it explicit that the case study method is not synonymous with qualitative research or methods. A case study may very well involve quantitative methods or even be entirely quantitative.

In many cases, especially in business studies, students first decide which method to use – for example, case study or survey – and then formulate their problem. We have been advocating that it is the research problem and the research objectives that dictate the type of method we should use. Here lies a dilemma: should we decide the method first, or should our problem lead us to the method? Of course, the latter should be the case, as most problems and research objectives clearly suggest one form of data collection over another.

Preparing for a case study

When preparing to undertake the case study method for research, a theory/data/theory revision cycle, as suggested by Bonoma (1985: 204–6), is quite useful (see Figure 8.3). This revision process goes through four stages: 'drift', 'design', 'prediction' and 'disconfirmation'.

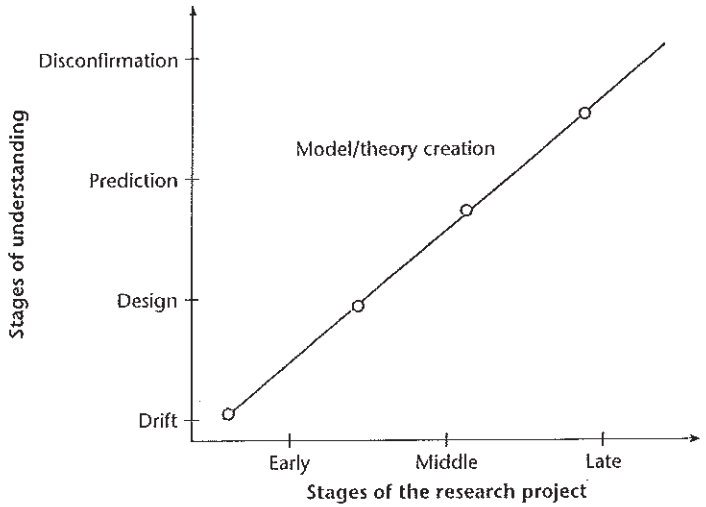


Figure 8.3 A process model for case research

Source: Based on Bonoma (1985: 205). Copyright © 1985, with permission from Elsevier

At the beginning of a research project the researcher is in a '*drift*' stage and is trying to learn the area of research, concepts and terminology in the field. This drifting leads him/her to a priori notions about the phenomenon and how it operates. This stage widens the perspective of the researcher and often leads to modification in the basic research questions (van Maanen, 1983). In fact, most research methods involve this 'drift' phase in the early stages of the research project.

A researcher moves to 'design': choice of strategy to collect data needed to answer/elucidate the research question plus the stage when s/he starts developing tentative explanations of the observations so far. At this stage the researcher assesses and refines major areas of the research project as suggested by the drift stage. This facilitates the conceptualization of the research problem. At some time s/he has to go back to the drift stage, to get a better understanding.

'Prediction' occurs in the middle-to-late stage of the project. By this stage the researcher has a good understanding of the factors on which case information may be grouped and can proceed with further case construction and analysis. The researcher proceeds confidently, compiling more cases with the purpose of drawing conclusions. As a result they can even develop some tentative explanations. Similarly they may realize that some generalizations are not very general and are valid only in particular circumstances, settings, industries or firms.

The final stage, 'disconfirmation', refers to further testing/analysis of the results suggested by the prediction stage. This can be done by applying the results to other or broader sets of cases. The idea is to apply the concepts to totally different cases or situations to test the generalizability of the results. As we can

gather, these four stages do not really form some rigid/fixed hierarchy but rather an iterative evolution towards understanding (Bonoma, 1985: 205).

Coming to more practical details, once our research problem suggests case study as the preferred approach, we should deal with questions such as: What are the skills needed? What types of a priori assumptions do we have? How do we select the cases? How many cases shall we include in our study? How shall we conduct the case study?

As far as the *skills* required are concerned, this is not one of the easiest types of research to do, as it demands special skills from the researcher. Some training for specific cases is necessary, especially if the researcher has no previous experience of conducting case studies, or a research assistant is used where there are multiple cases. Unlike surveys, where data collection is more routinized, in case studies the researcher has to be skilled in the dynamics of a case and should be able to take advantage of opportunities offered during the data collection.

While collecting data through semi-structured interviews a researcher must be able to control the situation, ask the right questions, adapt to new or unexpected situations and develop trust. All these skills can be learnt if the researcher is aware of them beforehand. Yin (1994: 67) recommends case study training as a seminar experience, especially in multiple cases where several researchers are involved. Moreover, he recommends a protocol to arrive at the final version. One purpose of these seminars and protocols should be to discuss potential problems and how to handle them. Such training may also reveal weaknesses in the research problem, in the study design and even in the capabilities of the researchers. All these can be improved if detected. It is also recommended that before the data collection is started a pilot study should be conducted. This serves as a rehearsal for the data collection procedure, indicating the time it takes and any problems it can cause or that may arise.

How to select the cases

As in other methods of data collection, it is important to decide the target population that is to be used for the investigation. It includes those firms, individuals, groups or elements that will be represented in the study. The next stage is to assess the accessible population, the population to which we can get access (Cooper, 1984). Out of this accessible population we have to select one or a few cases, objects or firms for study. The time available for the study, financial resources for travelling and other practical issues are of great importance. For example, depending upon how much time we have to study, the type of organization or company we select for our study would be different. If we have very little time available, we should perhaps study a smaller firm, as in these firms the communication lines are smaller and faster, they are more flexible and it is easier to get overall or in-depth information.

On the other hand, if we are studying a specific and complex issue, we should perhaps study a bigger firm, as these firms experience complex problems and have expertise in-house that can provide us with in-depth information on the

particular issue (van der Meer-Kooistra, 1993). The cases should also correspond with our theoretical framework and the variables we are studying. For example, if we are studying behaviour of industrial buyers, we have to select firms that are dealing with industrial marketing and purchasing. Once we have selected a firm, we should select a manager who is involved in the process of marketing and purchasing. An interview with the firm's public relations manager or an accountant would not provide us with the information we are looking for.

In bigger organizations it is very important to select the right department, section or individual. It is a question not of interviewing the most important individuals, but of interviewing the *right person* from an organization: right from the point of view of our research questions and study variables. Finding the right person is sometimes a long process. However, where we are able to establish contact with a key, or highly placed, manager, our goal should be to take his or her help in identifying the right person.

Students often ask how many cases they should include in their study. The answer to this question is very difficult as there is no upper or lower limit to the number. Often one case is enough. As Mintzberg says, 'What, for example, is wrong with a sample size of one? Why should researchers have to apologize for them? Should Piaget apologize for studying his own children, a physicist for splitting only one atom?' (1979: 583). It is the research problem and the research objectives that influence the number and choice of cases to be studied. Moreover, what is meant by 'a case'? For example, if we are trying to understand the process of decision making in a firm, we may study multiple decisions on different issues, important/unimportant, novel/routine decisions, etc., in the *same* organization. This will provide variability among important factors (see, e.g. Campbell, 1975, who argues for the richness of detail within a single case by looking for multiple implications of ideas under study).

There is no upper or lower limit with regard to the number of cases to be included in a study.

Different types of case study design

Yin (1994) provides four types of case study design and presents a 2 × 2 matrix (see Figure 8.4), suggesting that single and multiple case studies reflect different design considerations.

The four types of research design are as follows:

1. single case design, holistic
2. single case design, embedded
3. multiple case design, holistic
4. multiple case design, embedded.

As we can see, the primary distinction is between single and multiple case designs. We should therefore decide, at an early stage, whether we are going to

	Single case design	Multiple case designs
Holistic (single unit of analysis)	Type 1	Type 3
Embedded (multiple units of analysis)	Type 2	Type 4

Figure 8.4 Basic design for case studies

Source: Yin (1994: 46). Copyright © 1994 by Sage Publications. Reprinted by permission of Sage Publications, Inc.

use single or multiple case design. *Single case* is appropriate when a particular case is critical and we want to use it for testing an established theory. It is a critical case because it meets all the conditions necessary to confirm, challenge or extend the theory. Another situation is when a single case is an extreme or a unique case. Finally, a single case design is appropriate when a case is revelatory. This means that we can observe and study a phenomenon that was previously not accessible and which can provide useful insight. We can also use single case design in other situations, such as in a pilot study or as an exploratory study that serves as a first step to a later, more comprehensive study (Yin, 1994: 47–9).

Multiple case study design is considered more appropriate for studies not involving rare, critical or revelatory cases. In this approach we should be clear that every case has to serve a particular purpose in the study. In other words, we have to justify the selection of each case. However, as pointed out earlier, case study design is often flexible and can be changed, modified or revised with proper justification.

The use of a particular case study method depends also upon the type of study we are doing, whether it is inductive or deductive, and also upon whether we are looking for specific or general explanations. In the case of an inductive approach and specific explanation, we may use the single case. On the other hand, if we are doing a study with a deductive approach we can use the case study at an early stage to develop our hypotheses or propositions. If we are doing a study with an inductive approach but are looking for general explanations, then we should use a multiple-case method. However, if we are doing a study with a deductive approach and are looking for generalizations, then the case study is a less recommended method. We suggest that students using this method should consult Yin (1994) for further guidance.

Observations

Observation as a data collection tool entails listening and watching other people's behaviour in a way that allows some type of learning and analytical interpretation. The main *advantage* is that we can collect first-hand information in a natural

setting. Moreover, we can interpret and understand the observed behaviour, attitude and situation more accurately, and capture the dynamics of social behaviour in a way that is not possible through questionnaires and interviews.

The main *disadvantage* is that most observations are made by individuals who systematically observe and record a phenomenon, and it is difficult to translate the events or happenings into scientifically useful information. This is particularly important when the purpose is to generalize from these observations. Here questions about validity and reliability become very important and need to be answered satisfactorily. When we collect data through observations we have to make a number of choices regarding, for example, participatory versus non-participatory, laboratory versus field settings, etc. This is further illustrated by Figure 8.5.

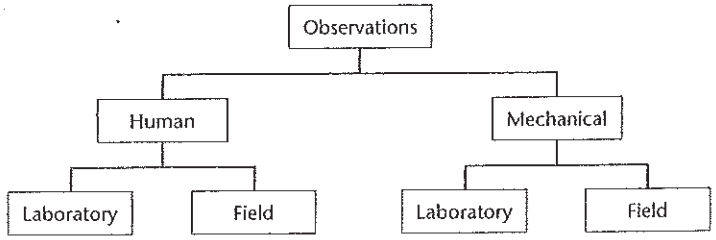


Figure 8.5 Choices for collecting primary data through observations

In participant or *field observation*, the observer is a natural part of the situation or event. The researcher is a part of a company or organization and decides to study the same organization in one way or another. Sometimes a researcher specifically joins an organization to be able to observe as a participant. In other words, in this case the observation is not hidden or disguised: people who are being observed know that they are being observed and by whom. In business studies, participant observation can enable researchers to have access to what people actually do instead of what they might claim they do (the difference between formal and informal organization). One danger of participatory observation is that the observers can be so influenced by the event, situation or culture and everyday lives of the subjects that they become unable to take a neutral view of events and situations. On the other hand, observers can be so ethnocentric that they are not able to observe or analyse the situation because they believe the subjects have an inferior culture or that the observer knows best (Douglas, 1976).

A *contrived setting* refers to a method where reactions are observed in a controlled setting in a laboratory or in other virtual reality. In this method, the researcher is able to better control the observation without any disturbances. Moreover, it could be more efficient and less time consuming.

In *non-participant observations*, the observer or researcher observes a natural setting but is not part of the situation her/himself. It has been reported in several

studies that the behaviour of people is influenced because of a non-participatory observer, but only in the beginning; people get used to it in a very short time. One way to overcome this problem is to observe under disguise. For example, in a buying/selling situation an observer can act as a potential customer or a salesperson. Observations for research should be planned systematically in direct relevance to research questions. However, these observations can be simple and straightforward, quite often in a natural setting, event or occurrence. An example is observing customers in a supermarket while they make their choices in picking up a particular product category/brand.

In the case of a *mechanical* method of observation, the same observation can be done by placing a video camera overlooking a particular section of the supermarket. Another way employed by a number of companies is to use their hotline statistics to understand consumer behaviour and future trends. These calls are recorded and later analysed in terms of the type of questions asked, and the types of problems mentioned by the customers. However, in this case a researcher has to consider the ethical aspects of this method of data collection. Do the customers/subjects know that they are being observed or not? If not then is it ethically correct, or can the recording of their behaviour in any way harm them or violate their personal integrity?

In the case of *human* observation, an observer follows his or her own values and expectations and is also limited by his or her own constraints. The subjects can catch those values and constraints by placing the researcher in some class or category. Most subjects who are alert to these issues can do so by the dress, manner or language used. For example, while studying the behaviour of a labour force, if the observer is classified as anti-working class, this can influence the behaviour of the observed (Phillips, 1966). The effect of the observer on the observed should also be considered while collecting data through this method.

Some scholars agree that data collected through observation are more objective and accurate, as this method is independent of respondents' unwillingness or inability to provide the information needed by the researcher. For example, respondents are often careful in replying to sensitive or embarrassing questions. Observation of the actual behaviour as it occurs reflects respondents' behaviour more correctly (Churchill, 1999). As mentioned earlier, observation as a data collection method should not be selected just because it is easier. This choice is highly influenced by the research problem, research design, researcher's skills, capabilities and nature, and the characteristics of the subject to be observed.

In cross-cultural research behaviour can be observed quite easily, for example shopping behaviour in supermarkets, department stores or bazaars. The researcher can observe whether bargaining takes place or not, how long each transaction takes, the conditions of sales and customers' reactions, the reaction of customers to special offers or promotions and so on. The observation can be made personally by the researcher or by placing a video camera in the supermarket. This type of research can provide useful insight into how people purchase a certain product in different cultures or how different environments, cultures and promotions

influence the buying behaviour of customers. The data collected from different countries/cultures can easily be compared (Craig and Douglas, 2000).

Observations, however, are often criticized because their interpretation can be rather subjective. In international research it is particularly problematic if the researcher who is going to interpret the data is not familiar with the cultural conditions in which the data is collected. This can, however, be handled through collection of data by several researchers familiar with different cultures, and through interpretation of data through a common and systematic analytical framework.

Communication

For primary data, the researcher has to decide whether to communicate with the respondents/subjects or just to observe them. *Communication* does not have to be direct or face to face. We could send our questions by mail or email and ask for answers to be sent back to us in the same manner. The instrument used for this type of data collection is called a survey or questionnaire. A questionnaire can be structured, unstructured or semi-structured. We could also use more personal methods and meet with the respondents/subjects face to face and ask questions.

Communication thus refers to collection of data by asking those who have experienced a particular phenomenon so that they can explain it to the researcher. This type of data collection makes it possible to generalize the results and test theories. There are four main ways to collect data through this source:

1. postal survey
2. personal interview
3. telephone interview
4. email interview.

The most commonly used primary data collection method is through communication. Many students and business researchers collect their data through surveys or interviews. In this case, the first question to ask is how structured or standardized the questions should be. In most *structured* questionnaires, whether for a survey or an interview, the questions and the answers to be given are predetermined. The researcher poses a question and the respondent has to pick up one of the pre-stated answers (e.g. in a multiple-choice manner).

In the case of *unstructured* questionnaires or interviews, the questions are only roughly predetermined. Moreover, there are no predetermined answers. The respondent can reply in his or her own words. A questionnaire where the questions are predetermined, but the respondents can use their own words and ways to answer, is a semi-structured questionnaire, used in a survey or an interview (Churchill, 1999).

In practice, since questions are to some extent always formulated by the researcher, methods are inevitably more or less structured. To rely completely on

a structured method means that there is no room for the respondents to give their own views in a real sense, which might have been useful for the findings. Similarly, total dependence on the unstructured method may not allow accurate testing of hypotheses (Phillips, 1966).

Example

Structured: 'Do you prefer alternative A, B, C or D?'
Unstructured: 'Do you have any alternative in mind? If *yes*, 'Do you have a preference for any?'

An important difference between a survey and an experiment is that the survey is not focused around an analysis of the effects of certain test stimuli on the individuals but deals with reconstruction of processes that occurred prior to the investigations (Phillips, 1966). The most obvious difference between a questionnaire and an interview is the cost. For a very large study (survey) it will be difficult and costly to interview hundreds of respondents. Moreover, an interviewer needs a lot of training, especially if it is someone other than the researcher. The questionnaire survey causes no such problems. Interviewing, on the other hand, is a much more flexible method than the questionnaire. Interviews are considered more appropriate for qualitative studies, while questionnaires are considered more suitable for quantitative types of research methodology. We will thus treat interviews separately.

Surveys

Surveys refer to a method of data collection that utilizes questionnaires or interview techniques for recording the verbal behaviour of respondents. The survey is an effective tool to get opinions, attitudes and descriptions as well as for getting cause-and-effect relationships. However, there are several circumstances that might influence respondents and their reactions, as well as their answers. Factors that influence respondents might include:

- *Sponsor*: when a study is financed or sponsored by a particular organization, this might lead to suspicion and deter respondents from answering questions correctly.
- *Appeal*: when a researcher makes an appeal on why or how important it is for him or her to get answers to his or her questions and how it can be useful for the respondent/society if the study at hand is performed.
- *Stimulus*: when some type of reward is given to respondents. Here the decision is to be made whether the reward should be financial or non-financial.
- *Questionnaire format*: the appearance, layout, length and even the colour of the paper used have an influence on whether the questionnaire will be responded to properly or not.
- *Covering letter*: its tone and stance have an enormous impact on the respondent.

- *Stamped and self-addressed envelope*: so that the responder need not incur any expense while providing you with information, and to make it easier or more convenient for him/her to send the answers back.

Surveys and questionnaires are among the most popular data collection methods in business studies, and the major types of questionnaires are descriptive and/or analytical. Once a research problem is formulated and the purpose of the study is clearly defined, this will determine the type of survey we should undertake, whether analytical or descriptive. Different surveys lead to different problems and issues and demand different types of planning and handling. According to Gill and Johnson (1991) the planning of a survey should follow a pattern as suggested by Figure 8.6.

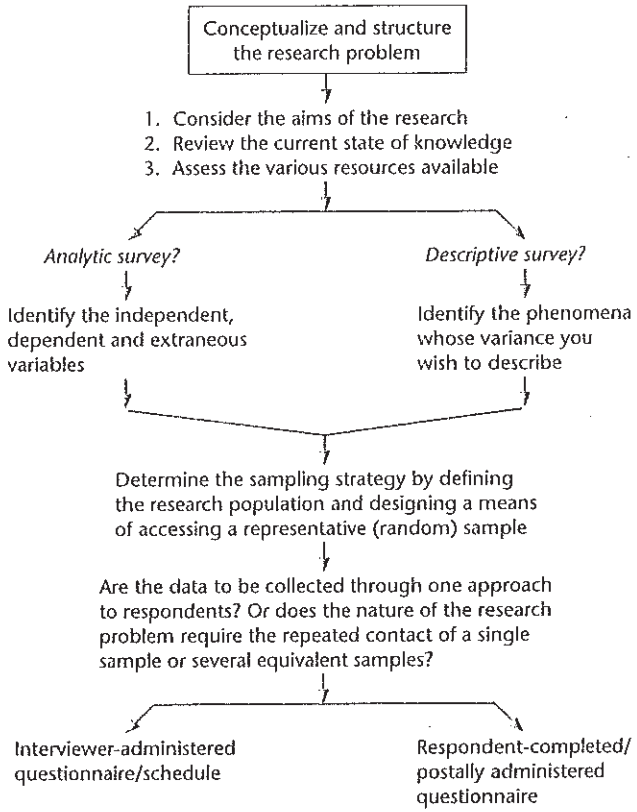


Figure 8.6 **Planning a survey**

Source: Gill and Johnson (1991: 76–7). Copyright © 1991 Sage Publications Ltd. Reproduced by permission of Sage Publications Ltd.

According to Simons (1987), with *analytic surveys* we can test a theory by taking the logic into the field: for example to understand the relationship between accounting control systems and business strategy. Thus, in this type of survey, we have to put the emphasis on specifying the independent, dependent and extraneous variables. We should also give due attention to and benefit from existing literature, theory and research while conceptualizing and structuring our research. The review of literature is therefore of the utmost importance. In analytical surveys, independent, dependent and extraneous variables are controlled through statistical techniques such as multiple regression. The questions and variables included in such a survey thus need careful conceptualization and measurement scales.

On the other hand, *descriptive surveys* are concerned with identifying the phenomena whose variance we wish to describe. The survey is concerned with particular characteristics of a specific population of subjects, either at a fixed point in time or at varying times for comparative purposes. Here the focus is more on a representative sample of the relevant population than on the analytical design, as we are concerned principally with accuracy of the findings and whether they can be generalized. Even in these surveys, a review of earlier research and literature is important to determine what kind of questions are to be included in the questionnaire. In business studies, descriptive surveys are often used to obtain consumer attitudes towards a certain product and to ascertain views and opinions of employees in an organization (Reeves and Harper, 1981). These surveys are often used to understand behaviour of employees with regard to motivation, job satisfaction and grievances.

Figure 8.6 also illustrates that both analytical and descriptive surveys are concerned with identifying the population (the object of the study). The population would provide all the responses that would help us to answer our research questions. From this population a sample should be drawn that is representative. Sampling is treated separately in this book (see Chapter 9), as it is an important part of research activity. The research problem and objectives would also dictate whether or not data are to be collected by only one approach, or whether we have to contact our sample again and again. In either case, we have to consider practicalities and access before starting work on a questionnaire and schedule (Moser and Kalton, 1971).

The most important issue is to know what information we want to have. Both descriptive and causal research demand some a priori assumptions or hypotheses. This will direct our questions, what information we need and who should be the respondent. The development of the questionnaire may also lead us to modify or revise our hypotheses. The questionnaire for an exploratory study is often loosely structured, as we are interested in the discovery of ideas and insights and not their causal relationship.

Finally, we have to decide whether we are going to send the questionnaire by mail or email and wait for the answers, or whether we should interview the respondent face to face or by telephone. Here not only the research problem and

objectives, but also issues such as sample size location, availability of funds and complexity of information required may influence the procedure and schedule. Resources are very important at this stage. For example, email and postal surveys are generally less expensive and time consuming than personal interviews. Moreover, in these surveys there is a problem with high rates of 'non-response', while in interviews there is a risk of interviewer bias (Scott, 1961; Boyd and Westfall, 1970). Also, a mail survey is not recommended for unstructured questionnaires with open-ended questions (Churchill, 1999).

8.5.1 Constructing questionnaires

In survey research where structured data collection techniques are used on a large number of respondents, instrument (questionnaire) design becomes very important. In international or cross-cultural research it is important that the instrument is adapted to the specific culture in which it is used and not to just one of the cultures in the study. The design and administration of the instrument needs adaptations, according to the education levels and other background of respondents. The formulation of questions, the questionnaire as a whole and response format often influence comprehension and response accuracy in different cultures (Malhotra, 1996; Schwartz and Sudman, 1996; Craig and Douglas, 2000).

Concepts such as 'supermarket', 'household', 'occupation', etc. may have different meanings in the USA, Sweden, India or China. All these need to be explained so that they are correctly understood and interpreted. The response format should encourage correct and clear answers.

The first step in the construction of a questionnaire is to specify what type of information is required. This depends, first, on the type of study we have at hand. In the case of descriptive and causal studies, we should have knowledge on the basis of hypotheses and propositions. We should know what is the basis of our study and what we want to achieve. Here we should also consider to whom this questionnaire is to be sent and what is to be asked. For example, in exploratory studies, we should have an unstructured questionnaire.

Secondly, we should consider whether the questionnaire is going to be disguised or undisguised. Moreover, we must consider how it is to be administered, through mail, personal interview, telephone interview or a combination. For example, if we want to establish the relationship between behaviour and income levels (who buys BMW cars) or age, we could use either mail or telephone or interview methods. We might have other considerations, such as cost, in this choice.

Thirdly, we should consider the construction of individual questions. Is it necessary to ask a certain question? What are the benefits of dummy variables and tables? Is it necessary to have several questions on one issue? Can questions be interpreted differently? Would respondents be willing to give answers to the questions? How long would it take for them to answer? Would they be in a position

to answer a particular question? Is it a sensitive issue? All questions in a questionnaire should be judged according to the above.

Fourthly, we should consider how the questions are to be answered. Should we have open-ended questions, such as: 'How old are you?', 'What is the total turnover of your company?' where no answers or alternatives to a question are provided and respondents can answer exactly as they like? Or should we have closed questions such as: 'How old are you? Please tick the appropriate box below' (see Figure 8.7). With open-ended questions we may end up with enormous variations in answers that would make coding or categorization difficult or almost impossible. On the other hand, we can get correct answers from the respondents when they do not have to limit their answers to one of the categories mentioned in Figure 8.7. We should, therefore, be aware of the type of information we need for each question, so that we can formulate the questions and expected answers accordingly.

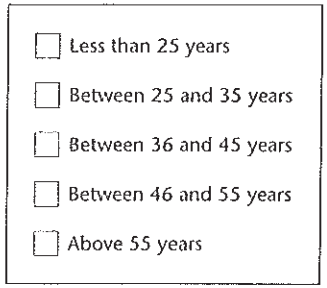


Figure 8.7 **Categories for structured questions**

Another aspect that should be considered here is whether or not we should have 'Don't know' or 'No comment' alternatives. In this case we might be providing an escape route to a respondent wanting to avoid answering a question, perhaps due to its sensitive nature. The responses received for questionnaires with or without an escape route differ by up to 20–25 per cent. In case no escape route is provided, the respondents have to take a position.

The length of the questionnaire and its effect on the response rate and responses is important. A common belief is that the shorter the questionnaire, the higher the chance that it will be returned fully completed. However, there are no standards available in the existing literature regarding what is a 'short' and what is a 'long' questionnaire. The idea is that a respondent gets tired or loses interest in answering the questions as the length increases. Some guidelines for designing questionnaires are presented in the next section.

The precise wording of questions is crucial in achieving maximum validity of survey information (data) collected through asking questions. This is illustrated by the following story:

> Two priests, a Dominican and a Jesuit, are discussing whether it is a sin to smoke and pray at the same time. After failing to reach a conclusion, each goes off to consult his respective superior. The next week they meet again. The Dominican says, 'Well, what did your superior say?' The Jesuit responds, 'He said it was all right'. 'That's funny', the Dominican replies, 'my superior said it was a sin'. Jesuit: 'What did you ask him?' Reply: 'I asked him if it was all right to smoke while praying'. 'Oh', said the Jesuit, 'I asked my superior if it was all right to pray while smoking'.
>
> (Sudman and Bradburn, 1989: 8)

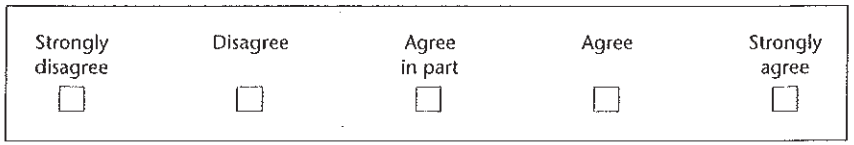


Figure 8.8 **Scale for ranking answers**

The above story reveals that a small change in wording can cause large differences in meaning and therefore in responses. At this stage we should also decide whether we should have 'Yes' and 'No' questions, where the respondent has to take a position. Moreover, in questions where the respondent has to rank answers, we need to decide what type of scale we should use. For example, should we use the scale shown in Figure 8.8 or say: 'Please rank your answer on the scale of 1 to 10, where 10 is the most important or positive'?

8.5.2 Guidelines for constructing questionnaires

Considering the above, we provide some guidelines for the construction of questionnaires.

1. The questions must be asked in very *simple and concise language*. One should consider the respondent's background when it comes to educational level, cultural background, knowledge and acquaintance with the subject matter. The questions should then be adjusted and adapted to the above-mentioned characteristics of the respondents. Not only the questions but also the alternative answers provided (in the case of closed questions) should use clear and unambiguous language.
2. We should be rather conservative as to the level of knowledge, education, etc. necessary for the respondent to answer the question. We should not put an *unrealistic demand* on the respondent's know-how, memory and willingness to respond.
3. We should check and ensure that everybody *understands the question in the same manner*: in other words, that everybody draws the same meaning from the questions. This is particularly important in questions or questionnaires that are translated from one language to another. One way to deal with this is to have an expert translate the questions, for example from English to

Norwegian, and then have another expert translate the text back from Norwegian to English. The researcher can then clearly see if there has been any change in the meaning. The discrepancies should be corrected with the help of experts from both sides. There are several methods to handle the language issue in international research. For more details, see Cateora and Ghauri's (2000) chapter on international marketing research.

4. Each question should deal with only *one dimension* or aspect. If we mix up several dimensions or aspects of questions in one question, it will be difficult for respondents to explain their behaviour or to answer 'yes' or 'no'. In other words, one cannot ask one question about more than one variable or dimension of the study. Each variable and dimension should be covered by a separate question. It is quite common to ask several questions on one variable or to have each question cover different dimensions of the subject matter. In other words, avoid *'double-barrelled' questions*, such as: What is the turnover of your company and how much of that comes from export? or What is your educational background and how long have you been working in this position? One way to do this is to not use 'and' in any question.
5. The questions should be formulated in such a way that there is no *escape route* in the questions. We should not offer an alternative such as 'Don't know' or 'No comment' (see Figure 8.9).
6. Moreover, the questions should be *specific* and not too general in nature so that the respondent does not give several answers. If we must have some general questions, we should check the understanding of these questions through another question. The more specific and concise the questions are, the easier it is for us to interpret these questions and answers in different categories and then draw conclusions.
7. The questions should *not be of a suggestive nature*, directing the respondent towards an answer or a specific opinion. For example, we cannot ask a high-tech or a pharmaceutical company the following question: 'Do you consider R&D important for your type of company?'

Question: *Who are the primary users of your exported products/services?*

Industry	Individual consumers	Government	Don't know
☐	☐	☐	☐

Question: *Do you consider exporting is or will be a major business activity of your company?*

Yes	Don't know	No
☐	☐	☐

Figure 8.9 **Examples of escape routes**

8. Questions should be formulated in a *polite and soft* language. They should not irritate, offend or provoke the respondent. It is very important to place the sensitive questions, if any, at the right place in the questionnaire, so that the respondent can understand why that particular question is being asked. But, in any case, there must be a logical and systematic sequence of questions to avoid misunderstandings and to ensure a high response rate. We must keep in mind that the respondent, by answering the questions, is doing us a favour.
9. The language and words used in the questions should be *straightforward* and should not have double or hidden meanings, otherwise the respondents will answer the questions with a different understanding and will thereby contribute negatively to the conclusions of the study. Another risk is that the respondent, if not sure of the question's meaning, will leave the question unanswered. For example, it will be quite difficult for a respondent to understand what you want to know by the following question: 'What type of structure does your company have for export activities?' or 'What are the major barriers to entry faced by your company in international markets?' If one is using complex wording or concepts, a note describing or clarifying the exact meaning of the text should be added to the question. Several authors (e.g. Cannell et al., 1981) have advocated that an explanation or argument as to why that particular question is being asked gives a better response rate.
10. Questions should be placed in a *'right' order*. The easy-to-answer questions and positive types of questions should be placed first. If we place the complicated or difficult questions first – for example questions for which the respondents need to consult books or managers/colleagues – they might get the impression that all the questions are of that nature and thus refrain from responding at all. The same is true for sensitive questions. There should also be a logical order from general to specific questions.
11. The layout of the questionnaire is also important. It should look *neat and tidy* as this can influence the respondents' willingness to answer. The questionnaire should be formatted and printed in a way that does not look frightening, as to its length or complexity to understand and answer.
12. Last but not least, we should go through the questionnaire critically or have a friend, colleague or adviser do this and give comments. The best way to handle this is to do a *pre-test* on three to five real companies or respondents. In such a pre-test we should check whether the above-mentioned issues such as understanding, the level of difficulty, the willingness to answer sensitive questions and the time it takes to answer the questionnaire are as we wish.

Interviews

Interviews demand real interaction between the researcher and the respondent. To be able to run the interview efficiently and without any disturbances, the researcher needs to know the respondent, his background, values and expectations.

At present, we have enough accumulated experience available to be able to carry out efficient interviews. Interviews are often considered the best data collection methods. This can be done via mail, telephone or in person (see Figure 8.10).

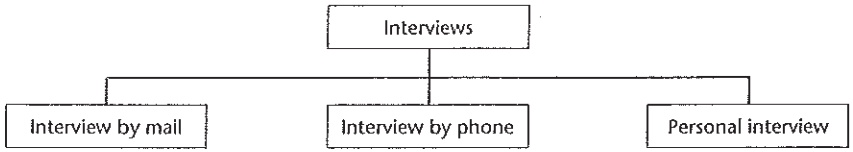


Figure 8.10 A typology of interviews

In research we use two types of interview. The first is survey research or *structured* interviews, where a standard format of interview is used with an emphasis on fixed response categories and systematic sampling and loading procedures combined with quantitative measures and statistical methods. The second type is *unstructured* interviews, where the respondent is given almost full liberty to discuss reactions, opinions and behaviour on a particular issue. The interviewer is there just to give lead questions and to record the responses in order later to understand 'how' and 'why'. The questions and answers are often unstructured and are not systematically coded beforehand.

In the literature there is some discussion on *semi-structured* interviews, which differ from both unstructured and structured interviews. They differ from the former in the sense that the topics and issues to be covered, sample sizes, people to be interviewed and questions to be asked have been determined beforehand. They also differ in the way in which we plan to minimize bias. In semi-structured interviews we handle bias by careful design of the technique itself: bias arising from the sequence in which we address subject matter, from any inadvertent omission of questions, from unrepresentative sampling and from an uncontrolled over- or under-representation of subgroups among our respondents. Semi-structured and unstructured interviews differ from structured interviews in that they demand greater skills from the interviewer, as in semi-structured and unstructured interviews we often obtain information about personal, attitudinal and value-laden material, and we are likely to be dealing with matters that call for social sensitivity in their own right (Jankowicz, 1991). An advantage of structured interviews lies in the uniformity in the behaviour of interviewers, as those other than the researcher can replicate the interview in similar situations. Unstructured interviews are considered advantageous in the context of discovery. Then the researcher/interviewer who is well acquainted with the research questions/area can ask subsequent questions and enrich the data so collected (Phillips, 1966).

There is an abundance of literature available on structured versus unstructured or semi-structured interviews when it comes to the question form and respondent understanding (e.g. Schuman and Presser, 1976; Beza, 1984; Mishler, 1986; Fowler and Mangione, 1990; Yin, 1994; Bryman and Bell, 2003). Anybody interested in this

discussion should consult any of the references cited, as our purpose here is to provide some guidelines for interviewing. For the purpose of this book, interviews refer to face-to-face verbal exchanges, in which one person, the interviewer, attempts to obtain information or opinions or beliefs from another person, the interviewee.

The *advantage* of in-depth interviews is that we can gain a more accurate and clear picture of a respondent's position or behaviour. This is possible because of open-ended questions and because respondents are free to answer according to their own thinking, as we have not constrained answers by only a few alternatives. This is also true in the case of complicated or sensitive issues, where the interviewer can ask for further elaboration of answers and attitudes. This method of data collection is highly suitable for exploratory and inductive types of study as it matches their purposes very well.

Example

An interviewer starts by asking: Could you please tell me about your experiences with your new computer?
Respondent: At first I had a lot of trouble.
Interviewer: What trouble?
Respondent: It was difficult to operate, it was different from my old computer.
Interviewer: How?

This hypothetical example reflects that the respondent feels unsure and uncomfortable learning to use a new computer.

The *disadvantage* of in-depth interviews is that they demand a skilled and cautious interviewer. The interviewer should have a complete understanding of the research problem, its purpose and what information is being sought. The course of the interview is decided by the skills of the interviewer when asking questions and probing further with supplementary questions. The know-how and skills of the interviewer are thus of the utmost importance. Interviews can also take a long time – longer than filling in structured questionnaires – and may even require several sessions with the same respondent (Churchill, 1999). In addition, interviews are difficult to interpret and analyse. Our own background may greatly influence the interpretations, thereby causing problems of objectivity. Depending upon which type of analysis we want to do, coding of in-depth interviews is a difficult task in spite of improved techniques and systems. How to cope with such challenges will be dealt with in Chapter 12.

8.6.1 Preparing for an interview

The first steps in preparing for an interview are to: (1) analyse your research problem, (2) understand what information you really need to have from an interviewee, and (3) see who would be able to provide you with that information. The clearer the problem statement is, the easier it is to know what to ask. It is understood that the purpose of data collection through interviews is to obtain valid

information from the most appropriate person. In other words, you should clearly know what you want to ask as well as who are the persons who can provide the most relevant and valid information on those issues (Buckley, 1983). Moreover, the interviewee should be willing to answer your questions truthfully. For example, you cannot expect everyone to be honest on very sensitive matters. These are some of the issues you must keep in mind while preparing for interviews.

The next step is to draft an *interview guide* or *interview questions*. These questions should be compared with the research problem several times, partly to test the consistency between the two and partly to see whether these questions are thorough and correct enough to find out what you want. It is very useful to let somebody else (perhaps your supervisor) see the problem statement and the questions to be asked in the interview to check this congruence.

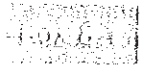
After the above scrutiny, a first draft of the interview questions should be prepared. This draft has to be pre-tested as a *pilot study*. While the above scrutiny dealt with the researcher's understanding of the research problem and the interview questions, this test checks the understanding of the interviewee regarding the research problem and interview questions. Such pilot research also provides first-hand insight into what might be called 'cultural endowment' of the informants. After this pilot study, where a few respondents (say three to five) have been asked to read the research problem and the interview questions, and have also answered the questions and have commented on their understanding of them, you can prepare the final draft of the interview guide and questions.

At this point, particular attention has to be given to the approach you are going to use: for instance, before contacting the interviewee you have to decide *how much time* the interview should take. The pilot study can help you to determine the time needed for your questions. You must take into account that business executives work with the belief that 'Time is money' and might refuse to offer an interview only because of the shortage of time. Our experience shows that an interview should not take more than one and a half hours; ideally it should take around an hour. However, the total meeting time can be two hours or more. In many cases the interview is preceded or followed by a factory visit or a lunch. In open-ended interviews you can get a lot of information during these.

In this respect it is very important to realize that the interviewer has to *create a situation* where the respondent willingly offers time. If the respondent is not sufficiently motivated to provide you with time, there will be little motivation to answer your questions and to be an interviewee. This can jeopardize the whole purpose of the interview.

Once you have considered all aspects and *prepared the interview guide*, you should approach the person(s) you want to interview. Here you can use the telephone or write a letter, perhaps both. In the letter, for example, you can explain the purpose of your study, provide a short problem statement and describe the type of information you are interested in collecting. In this letter you may also mention that you will be calling very soon (next Monday, next week, etc.) to request an appointment for an interview. In the letter or telephone call you

should also mention how much time you think the interview will take. You must remember that you cannot demand a certain time, day or week for the interview: you have to adapt to the interviewee's schedule and not the other way around.



Getting an appointment for an interview

'Hello, my name is . . . I'm working on my Master's thesis on new product development, which I think will be of interest to your company, and I would like very much to have an interview with your company.'
Manager: 'It sounds interesting, but it is very hectic here, and I'm short of time.'
Student: 'I understand the situation, but the interview will only take an hour.'
Manager: 'Well, let me see, can you meet me at my office on Monday at 9am?'
Student: 'Thank you, I will be there on time.'

One important issue that you have be clear on before you contact the interviewee is how you are going to *record the information* you will get. There has been a lot of discussion on how to record information, and it is widely accepted that tape-recording is a useful method. The disadvantages with tape-recording are that the respondent might hesitate or even not answer some questions which are sensitive, and there is a risk that, while tape-recording, the interviewer might cease to listen carefully, believing that all the information is going on to the tape and will be listened to later in a more relaxed environment. It is therefore recommended that some note taking, together with tape-recording, is most useful (see Lofland, 1971 for further discussion).

When you make the approach for an appointment, you will have to *inform the respondent* whether or not you will be using tape or video recorders. In fact, instead of informing, you should ask whether or not you can use the tape-recorder. This issue automatically leads to the question of *confidentiality*. You will have to ask if the interview is to be treated confidentially and you will have to give your promise (undertaking or personal guarantee) that all information you receive will be kept confidential. If necessary, you may send a written assurance of confidentiality, signed by yourself and your supervisor or any other responsible person from the school, for example the director of research.

When making an appointment, you should also remember that you have *to create a reason or a reward* for the respondent – why should they answer your questions? What is in it for them? For example, you can mention that the results of the study will be provided to the respondent, or that these results would hopefully help in analysing a competitive/managerial position: that he/she/the company in question would benefit from the study. Or perhaps the study would help the industry or the country as a whole or it would help the policy makers in their job and thereby indirectly the firm in question. As mentioned earlier, the interviewee has to be motivated.

Now that you have the appointment, it is time to decide who is going to do the interview: one person or more, the same person doing all the interviews or different people interviewing different companies/managers. If several interviewers are used, they have to be trained. In structured interviewing, where it is common to use a number of people as interviewers, each interviewer has to be trained. Once you have taken an appointment and cleared matters such as the amount of time to be used, tape-recording or not, etc., you should send a *confirmation letter* about the appointment, thanking the interviewee for giving you the opportunity to visit them and saying you look forward to seeing them on the agreed date. This is necessary to avoid any misunderstandings on date or timing, and also to remind the interviewee.

Before closing the preparation section, we would like to discuss what you need to do before you start making appointments and interviewing. It is very important to analyse, discuss and consider *resources available* to you for performing these interviews. You have to consider all the costs: for example travelling costs, the time necessary for the interviews, and also the time you need to process the interviews. We have seen a number of examples where the researchers start a very ambitious interview process and after a couple of interviews, or after about 50 per cent of their planned interviews, they give up due to travelling expenses, the time consumed or loss of interest. We have seen several students start their research interviewing, spending two to four hours at each interview, tape-recording everything and ending up with several hours of information. But when they started listening to the tapes (which is a very time-consuming and tedious job) they did not know what to do with all the information, and in fact reported that they had used less than half of the interviews they recorded. The best way to handle this issue is to discuss these matters with your supervisor before you start interviewing.

8.6.2 Pre-interview

The appointment has been made with the respondent and now, together with your supervisor, you have to review the questionnaire. Here you must consider the data collection dimension, how you are going to use the responses for the analysis in your report, and how you want to present the information you are gathering. You also have to schedule your time properly. If you are having more than one interview per day, you should *plan your time*. This is particularly important when you are in a foreign environment or if you are in a strange city, as you must also consider how much time you need to arrive at the location from your hotel, especially in the rush hour. The interviewees, business executives, have limited time and are always very busy. If you have already informed them that you need one hour of their time, you cannot arrive half an hour late and give the excuse that the journey took longer than you thought, or that you were stuck in traffic, or could not find a taxi.

Another important issue is one of *'social conventions'*, meaning how you behave in the interviews, how you should dress, and so on. It is advisable to be

reasonably formal. If you go in shabby clothes or worn-out jeans you may not give a positive impression to the interviewee with regard to your seriousness and the fact that you can do worthwhile research, and thereby may be of some help to the company. It is also wise not to 'party' the night before. It would not be a good idea to go for an interview smelling of alcohol or half-asleep.

Finally, we believe that interviewing is a skill you should *rehearse* or *practise* with regard to understanding, time taken, your own arguments and questions, etc. Find a 'victim', such as a friend, and *practise*. If there is the slightest risk that the respondent may misunderstand something, then they probably will. Moreover, it goes without saying that you must check and recheck the equipment you are going to use in the interview, such as the tape- or video recorder.

Dress properly and check your timing, questions and recording material.

8.6.3 The interview

The first important issue here is to introduce the study and its purpose and *to orient the respondents*. The interviewer should be able to answer clearly all the questions the respondents might have, such as: Who would benefit from the study? When will the final report be ready? Will they get a report or not? Moreover, the interviewer should reinforce the confidentiality, if required, to the respondent's satisfaction. At this stage it is important to realize that the respondent is asking the questions and the interviewer has to provide satisfactory answers. These introductory five to ten minutes can be a determining factor in how the rest of the interview goes.

The language used in these early minutes and in the subsequent interaction is of great importance. The interviewer has to use *simple and understandable language*, being extra careful when using certain terminology or concepts from a particular discipline, such as finance or management. It is quite possible that business executives, although they might have been working in the field for several years, will not be familiar with textbook terminology. This point is even more important when the interview is taking place in another environment or country. In that case, it is not only the terminology you have to be careful about, but also the language as a whole. You have to be sure that the language and the level of language you are using is compatible with the respondent's knowledge and usage of the same language.

The interviewer, irrespective of questioning technique, must leave it *entirely to the informant to provide answers* to questions. In other words, the questions should not be asked in a leading or directive manner, as this puts pressure on the respondent to answer in one particular way or even to give the answer she/he thinks you want to hear. For example, do not pose questions such as: 'You must have realized that . . .' or 'How could you . . . ?' Moreover, it is important that the interviewer, every now and then, expresses an understanding of what the interviewee

is saying. A nodding of the head or a 'hmm' from time to time gives the impression that the interviewer understands what is meant. For the interviewee to keep on asking and answering questions, the interviewer has to show interest and enthusiasm in the respondents and their 'story'.

Although it is advised that the interviewees are given full freedom to express personal meanings and give their own answers, it is quite important that the interviewer controls the situation so as to get the relevant information (relevant, that is, to the research area). Therefore, *control with some care* is necessary, not only to get the relevant information but also to manage the time. The interviewee has to be given reasonable time for each question and should not be interrupted every now and then. However, business executives or other respondents often like to talk at length about their experiences and know-how, especially about positive events, and should therefore be controlled, but with care.

Managing the interview

Interviewer: 'You have allowed one hour for this interview. I've read annual reports and inspected your home page. Could you first tell me about what you consider to be the major reasons for your company's success in the past?'

Manager starts by explaining in detail about the firm's history and his role.

Interviewer: 'This is interesting, but could you tell me a little more about the development case you just mentioned?'

Controlling time is very important, as the interviewee has given you a certain time and may be interested in talking a lot on each and every issue. You must ensure that you have answers to all of your questions within the specified time. If the time agreed upon beforehand was between 9 and 10.30 am, it is quite possible that at 10.30 the interviewee has to go to a meeting and just stops talking and asks you to leave, or a number of people enter the room to have a meeting, giving you only one option, to leave.

You also have to, in a way, *develop a relationship* with the interviewee. That is why we stress taking great care in the opening minutes of the interview. You must be able to give the impression of a serious, trustworthy and friendly person. The relationship can also be developed by expressing interest in the interviewee's position and opinion and by appreciating his/her point of view. The better the relationship between the interviewer and the interviewee, the more open the responses and the more useful the information you get. This is also important in case you have not been able to get all the information, due to time or any other reason, or if you would like to have some additional information later on. If the interviewee enjoyed talking to you, s/he would definitely not mind having another meeting with you. As mentioned earlier, quite often the interview is

combined with a factory visit or a lunch. These are excellent opportunities to develop trust, friendship and a positive relationship with the interviewee.

You should be *careful about sensitive questions*. Many times it is just a question of phrasing or using the right language to make the questions less sensitive. Sometimes, the questions are of a sensitive nature but must still be asked. Here the interviewee should not be pressured to provide a definite yes or no (admit it . . .) answer. Questions regarding why a certain strategy or plan failed, about competitors and their success or about some financial issues can be of this nature. For example, while interviewing a bank manager the following question can be quite sensitive: 'Who is responsible for all the bad debts reported by your branch/office?' The same question can be asked in another way. For example: 'What, in your opinion, are the factors that caused the bad debts reported by your branch/office?' It is advisable to avoid any direct questions on who was responsible for a certain blunder or miscalculation. Questions regarding intra-organizational conflicts should be asked with some care and with indirect language.

Asking respondents for other sources of information can give an impression that you are not satisfied with their answers or the answers have not fulfilled your expectations, and that you therefore need to know where else you can get better answers. It can also give the impression that you have not done your homework properly and you do not know the sources of relevant information for your study.

The previous section discussed the recording of interviews. As mentioned earlier, if you are recording the interview on tape or video, the most important issue is that the equipment functions at the time of the interview. If it does not, you may give a very bad impression to the respondent. We said earlier that even if you are using tape or video, it is best to take some notes as well. This not only records crucial points twice, but also demonstrates interest and keeps you awake and alert.

8.6.4 Post-interview

After coming back from the interview, you should *write down the important points* from the interview as well as notes on the practical details. This can include whether you were able to get all the answers or how much time it took, some opinions on the respondent, such as very open or reserved person, and also your perception of your interaction and relationship with the interviewee. All these details will help you later on when you listen to the recorded tape or when you sit down to write the information you collected. Most of all, it will help you in case you need to have additional information. In case the interview was not recorded, it is recommended that you go through the notes and write a complete, descriptive report of the interview immediately (or as soon as possible) after the interview. There is a great risk that you might forget many things or crucial points if you wait too long. This risk is particularly high if you are doing several interviews, as then you might even mix things up.

The second thing you have to do is to write *a 'thank-you' letter* to the respondent. You may also send some further information on your research project which you might have promised or realized in the interview that they would like to have. You should always try to maintain the relationship and try to keep the respondent informed about progress in the study.

Reporting or transcribing an interview is an important and tedious job. As mentioned earlier, interviews that are not recorded should be written as a narrative story as soon as possible. For structured interviews, you should check your forms to see if they are completely and properly filled in. The interviews that are recorded always need some supporting material to remind you of the situation and the feeling of the interview. The best way is to first write down all the information on the tape in the same order, and later develop a descriptive report of the interview relevant for the study. In this second stage you can discard all irrelevant talk and information.

Sometimes it is useful to send this descriptive report to the interviewee for comments. You might have misunderstood something or perhaps you are not sure about what the respondent really wanted to say. Depending upon your relationship with interviewees, they might like to see what they said and, quite often, they give additional information or clarify their message voluntarily. In fact, on many occasions they demand to see the report before you can use it. It is also important for trust and for ensuring confidentiality or sensitivity that the interviewee has a chance to see what information you believe you will be using in your study and the final report. As we analyse the material collected through different methods, we realize that some material is superfluous and need not be included, while some sections need to be fleshed out and require more details.

Go through your interview notes promptly.

Focus groups

Focus groups, as a data collection method, take many different forms, such as discussion groups, focused interviews, group interviewing and group research, and are often used in business studies, for example for programme evaluation, marketing, advertising and communication. By focus group we mean a small group of people interacting with each other to seek information on a small (focused) number of issues (Stewart and Shamdasani, 1990; Bryman and Bell, 2003).

In this method the group interviewed should be a small number of individuals, normally from six to around ten people, who discuss a particular topic/issue under the direction of a moderator, who keeps the discussion on track (focused). Too small (e.g. < 5) or too large (e.g. > 10) can make the focus group ineffective as the participation of individuals can become too fragmented or too little. These groups are arranged and the discussion may last from half an hour to around

two hours. The moderator can then observe the interview or group, sometimes without disturbing the discussion.

The moderator plays an important role in keeping the discussion on the focus issue and also in ensuring that it goes smoothly. The role of the moderator is to secure interaction between the focus group members, and see that they address topics believed to be important. Prior to a focus group a list of topics or key words is usually prepared. The moderator's task is to secure discussion on all the topics, but not necessarily in the same order as listed. The moderator could well turn back to a topic to get it clarified.

Example

'A few minutes ago you discussed dissatisfaction with your job. Could you go back to this and reflect a little about what causes this dissatisfaction?'

He or she can introduce the topic by asking a series of questions on the topic and then make questions more and more specific as the discussion proceeds. The amount and the nature of direction provided by the interviewer influence the quality and depth of data collected. In the worst case, the group discussion might not cover the topic/issue at all. The interviewer must therefore properly think through the structure and the nature of direction, in relationship to his or her research questions and purpose.

Although focus groups can produce/provide quantitative data, they are mostly used for collecting qualitative data. One of the conditions is that there should be some homogeneity among the individuals in one specific focus group. In the case where data are to be collected from different groups of people it is often advised that separate focus groups be arranged for different groups/subsets of the population. A homogeneous group will encourage more in-depth and open discussion.

Focus groups normally explore a specific theme or topic, while group interviews can deal with several themes or topics. However, the difference between a focus group and a group interview is not clear cut (Bryman and Bell, 2003); perhaps that is why these two concepts are often used interchangeably. In any case, these methods are frequently used in qualitative research, as the purpose is to understand the views of the participants, which can only be done in an unstructured setting (Merton et al., 1956; Cowley, 2000). They are often used to test reactions to advertising campaigns or to predict the outcome of a campaign or an election.

8.7.1 Advantages/disadvantages of focus groups

One *advantage* of the focus group is that it produces very rich and in-depth data expressed in respondents' own words and reactions, which is normally difficult to obtain using other methods such as surveys. It allows the researcher to understand why people feel or behave the way they do. It allows him or her to probe

into each one's views through discussion and reasoning, as in this case people can argue with each other's views. This reveals how people really think about different issues.

The main advantage, however, is that it is a quick, flexible and inexpensive method of data collection. It gives the researcher a chance to observe reactions of people in open and free conversation with each other. Further advantages include the fact that it allows the researcher to interact directly with respondents, and to react and build upon the discussion as it goes. Focus groups allow the collection of data from people who are not literate, or from children. The results from data collected in this manner are easy to understand.

The *disadvantages* are that this type of data collection makes it very difficult to summarize and categorize the information gathered. And, as mentioned earlier, in the case of an unskilled moderator, it will be difficult to get really useful information. Other disadvantages include the fact that it can be difficult to gather people at a location, and the small numbers who are willing might not be representative of our population. The responses of the group members are not independent of one another and might be influenced by each other or, as can be the case in such groups, by a dominant group member. The live participation and observation may lead the researcher to have greater faith/belief than is actually warranted. The moderator may bias the respondents, knowingly or unknowingly.

8.7.2 Conducting focus groups

Normally in focus groups researchers record data on paper or notepads. It is becoming quite common to use video recorders that enable researchers to see and analyse the data later on. In the case of several focus groups, the records and notes are then analysed, for example by using content analysis. They then provide a good picture to the researcher.

In business studies, focus groups can be particularly useful in the following types of study (Stewart and Shamdasani, 1990: 15):

1. obtaining general background about a topic;
2. generating research hypotheses;
3. stimulating new ideas and creative concepts;
4. diagnosing problems/success factors for a new product, service or programme;
5. generating impressions of products, programmes, services or institutions/firms;
6. learning how respondents talk about the phenomenon, which may help in designing questionnaires or other instruments;
7. interpreting previously obtained quantitative data.

Once a clear statement of the problem has been generated (see Figure 8.11), it is important to identify the sample, those who are representative of the larger population. The representativeness is most important in this case as we will

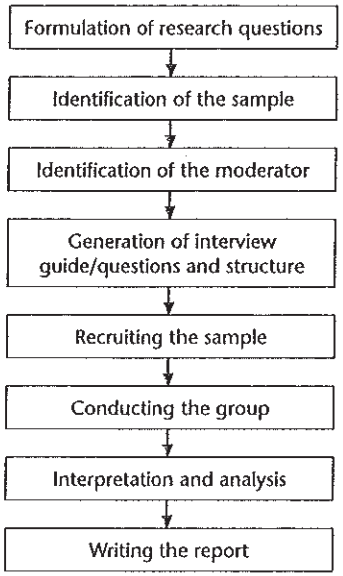


Figure 8.11 Steps in conducting a focus group

Source: Stewart and Shamdosani (1990: 20). Copyright © 1990 by Sage Publications. Reprinted by permission of Sage Publications, Inc.

observe only a few individuals. Having done this, we need to find an appropriate moderator and, with his or her assistance (or keeping that individual in mind as well as our research objectives), formulate an interview guide/questions, as well as the structure of the focus group and how exactly it will be run. At this stage the group members should be recruited and their consent should be obtained. Now we are ready to conduct the group, considering all the pitfalls and conditions. Finally, the researcher needs to interpret and analyse the data and write a report.

Further reading

Churchill, G.A. and Iacobucci, D. (2002) *Marketing Research: Methodological Foundations*, 8th edn, Mason, OH: Thomson Learning (Chapters 6 and 7).

Fontana, A. and Frey, J.H. (1994) 'Interviewing: the art of science', in Denzin, N.K. and Lincoln Y.S. (eds) *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage, pp. 361–76.

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Questions

1. When are: (1) quantitative and (2) qualitative research approaches most appropriate?
2. What do you consider to be the major reasons for doing historical reviews?
3. For what research purposes do you consider focus group interviewing appropriate?
4. What is (are) the difference(s) between single case and multiple case study designs? When do you consider: (1) single, (2) multiple case designs to be most appropriate?

Exercises

1. You want to understand consumer behaviour towards usage of mobile telephones. You have decided to do that through focus group interviewing. Prepare a focus group interview plan to gain insights into how a group of people experience and use a product (e.g. mobile phones). Draft a letter to explain your plan that you will send to the target group.
2. Draft a letter that you want to send to companies you want to interview/study using the case study method for your research. Formulate a research problem and try to explain that to companies, also convincing them to participate in your study.
3. Referring to exercise (1) above: supposing you are trying to understand consumer behaviour for mobile phones through a survey. Formulate a precise research problem and develop a questionnaire that you can use for this data collection.
4. Visit a store or a marketplace. Observe how people behave and shop.

Sampling in empirical research

Why take samples?

When the research problem is specified, and an appropriate research design and data collection instrument developed, the next step in the research process is to select those elements from which the information will be collected. One possibility is to collect information from each member of the population. Another way is to collect information from a portion of the population by taking a *sample* of elements from the larger group and, on this basis, infer something about the larger group. For quantitative studies, in particular, sampling is extremely important. A well-known example is an election poll, on the basis of a small fraction of all voters, to infer something of the voting intentions of all potential voters. There are at least two reasons for taking a sample instead of including all *units* or elements: the costs of including all units will often be prohibitive, and the time needed to do so will often be long. For example, if you want to study the problems faced by SMEs (small and medium-sized enterprises) while exporting, you cannot study each and every SME, as even in a small country such as the Netherlands there might be tens of thousands of registered SMEs. You might not have the financial resources and time to visit each of these to get answers to your question. In this case, you will have to select perhaps a few hundred. The important issue is, however, that the companies selected should be *representative* of the whole group.

It may sound paradoxical, but in some instances samples may be more accurate than censuses. For example, the US Bureau of Census uses sample surveys to check the accuracy of the various censuses.

Population here refers not only to people, but also to firms, products and so on. For example, one may be interested in relationships, so a sample of relationships from a larger population of relationships is examined. Figure 9.1 outlines a useful procedure when drawing a sample.

Deciding on the relevant population is not always easy. The key question is to know who or what one wants information about. For example, a research project is interested in relationships. What is the population – firms or the many relationships that exist between firms, between firms and customers and so on?

A sample frame is (in principle) a listing of units from which the actual sample will be drawn. An example is a telephone book as a sample frame of

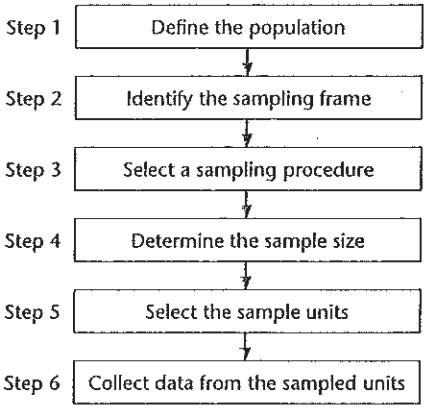

Figure 9.1 **Procedure for drawing a sample**
Source: Based on Churchill (1995: 557)

households. Often it can be difficult to find (create) a sample frame that perfectly corresponds to the target population of interest. Another example is 'Fortune 500', as a list of the 500 biggest companies in the world, compiled by *Fortune* magazine. Terminology and concepts used in this respect are explained in Box 9.1.

Sampling procedures

Sampling procedures can be divided into two broad categories, *probability* and *non-probability* samples. In probability samples each unit has a *known*, non-zero chance of being included in the sample, which allows for statistical inferences. For example, by drawing a probability sample of voters and asking them about their voting intentions, inferences about voting intention for the population of voters may be drawn.

With non-probability samples, in contrast, it is not possible to make valid inferences about the population. This implies that such samples are *not* representative. By *representative* we mean that what has been found in the sample, for example distribution of voting intentions, is valid – within certain limits – for the population (see section 9.4 and Chapter 10).

Examples of non-probability samples are as follows:

- In a *convenience* sample, often termed an accidental sample, units that we find convenient for some reason are selected. We could, for instance, interview the chief business executives we happen to know personally.
- In a *judgement* sample, judgement is used to try to get a sample that is representative of the population. We simply try to select units we think are representative of the population.

Basic terminology in sampling

- *Population* – basically, the universe of units from which the sample is to be selected. The term 'units' is employed because it is not necessarily people who are being sampled – the researcher may want to sample from a universe of nations, cities, regions, firms, etc. Thus, 'population' has a much broader meaning than the everyday use of the term, whereby it tends to be associated with a nation's entire population.
- *Sample* – the segment of the population that is selected for investigation. It is a subset of the population. The method of selection may be based on a probability or a non-probability approach (see below).
- *Sampling frame* – the listing of all units in the population from which the sample will be selected.
- *Representative sample* – a sample that reflects the population accurately so that it is a microcosm of the population.
- *Probability sample* – a sample that has been selected using random selection so that each unit in the population has a known chance of being selected. It is generally assumed that a *representative sample* is more likely to be the outcome when this method of selection from the population is employed. The aim of probability sampling is to keep *sampling error* (see below) to a minimum.
- *Non-probability sample* – a sample that has not been selected using a random selection method. Essentially, this implies that some units in the population are more likely to be selected than others.
- *Sampling error* – the difference between a sample and the population from which it is selected, even though a probability sample has been selected.
- *Non-sampling error* – differences between the population and the sample that arise either from deficiencies in the sampling approach, such as an inadequate sampling frame or *non-response* (see below), or from such problems as poor question wording, poor interviewing, or flawed processing of data.
- *Non-response* – a source of non-sampling error that is particularly likely to happen when individuals are being sampled. It occurs whenever some members of the sample refuse to cooperate, cannot be contacted, or for some reason cannot supply the required data (for example, because of mental incapacity).

Source: Bryman and Bell (2003: 93)

- In a *quota* sample, we just make sure that certain subgroups of units, such as small firms, intermediate firms and large firms, are represented in the sample in approximately the same proportions as they are represented in the population. (For further discussion, see Churchill, 1995: 579–85.)

Non-probability samples are easy to draw, but they may give misleading results if, in spite of our judgement, they happen to be unrepresentative of the

population. The major drawback of non-probability samples is that such samples give no basis for evaluating the size of the sampling variation and the error of estimation.

If possible, we should therefore use a probability sample. This is especially important if we want to estimate unknown parameters or draw valid inferences regarding the population on the basis of the sample. It is usually assumed that non-probability samples are not useful in scientific research, meaning that non-probability samples are not valid for statistical testing of hypotheses or drawing inferences regarding a larger population. Non-probability samples may, however, be useful to gain insights into a phenomenon, predominantly in qualitative research.

Probability samples

Probability samples allow for assessment of the amount of 'sampling error'. For example, if we want to know whether students at our university are satisfied with the courses and teaching methods, we might decide to interview our students to ask for their opinion and level of satisfaction. However, we have 10,000 students in the university and we cannot interview all of them. We believe that, considering the money needed and the time available, we could interview 500 students to draw a reliable conclusion. This means that we need to interview one out of every 20 students, provided each student has an equal chance of being picked up for an interview. This will allow us to avoid any sampling error.

9.3.1 Simple random sampling

There are several types of probability samples. The best known is *simple random sampling*. A key characteristic of such samples is that all units in the population have the same chance (probability) of being included. To conduct a random sample the following questions must be considered (cf. Figure 9.1):

1. What is the basic unit to be examined?
2. How should the population, or more precisely the target population, be delineated?
3. What *variables* or *parameters* are of interest? Research results are very often expressed in terms of variables or parameters. *Parameters* describe aspects of variables. The population can be described in terms of variables or parameters. A *variable* can be defined as a set of values related to a population in such a way that each unit has one and only one value from the set. A *value* can be defined as a piece of information regarding a particular aspect of a unit. Typical parameters to be estimated in a sampling survey are population total, population means, population proportions, population variances and population ratios. When more than one variable is involved, additional parameters of interest might be, for example, population correlation coefficients and population regression coefficients.
4. How should the sample be drawn? As noted above, in simple random sampling all units in the population have the same probability of being included. In the case of a total listing of all units, the sample can be drawn as in a lottery. Prepared tables of random digits exist as well.
5. How many units should be included? This is a question of *sample size*, which will be dealt with in section 9.4.

The advantage of simple random sampling is that the method is easy to understand and apply. Drawbacks are, however, that:

- A complete frame (a list of all units in the whole population) is needed.
- In some studies, e.g. surveys by personal interviews, the costs of obtaining the sample can be high if the units are geographically widely scattered.
- The standard errors of estimators can be high. This is a major reason for applying other sampling procedures, i.e. to reduce standard errors of estimation for the same sample size.

If the units have quite different values for a variable of interest, simple random sampling can be improved by making the probability of inclusion in the sample proportional to the value of the variable. This is called *sampling with probabilities proportional to size*. Thus, if the units are industrial plants and we want to estimate total consumption of toilet paper in the population of plants, we can make the probability that a given plant will be included in the sample in proportion to the number of workers in the plant. This should work well since consumption of toilet paper is highly correlated with the number of workers.

9.3.2 Systematic sampling

A systematic sample involves selecting every *n*th unit after a random start. For example, a firm wants to estimate the average order size, so it selects a number between 1 and 10 at random, say 7, and then selects every tenth unit: 7, 17, 27 and so on.

A prerequisite for applying systematic sampling is that the units in the population can be ordered in some way. Examples are as follows:

- records that are ordered in a file;
- names that are ordered alphabetically in a telephone directory;
- houses that are ordered along a road;
- customers who walk one by one through an entrance, and so on.

Thus the units in the population can be numbered from number 1 (the first unit) up to unit number N (the last unit). A 10 per cent systematic sample is obtained by drawing every tenth unit in the ordered population. Usually the starting unit is determined by drawing at random one of the first ten units in the population. If we use a percentage other than 10, the procedure is similar.