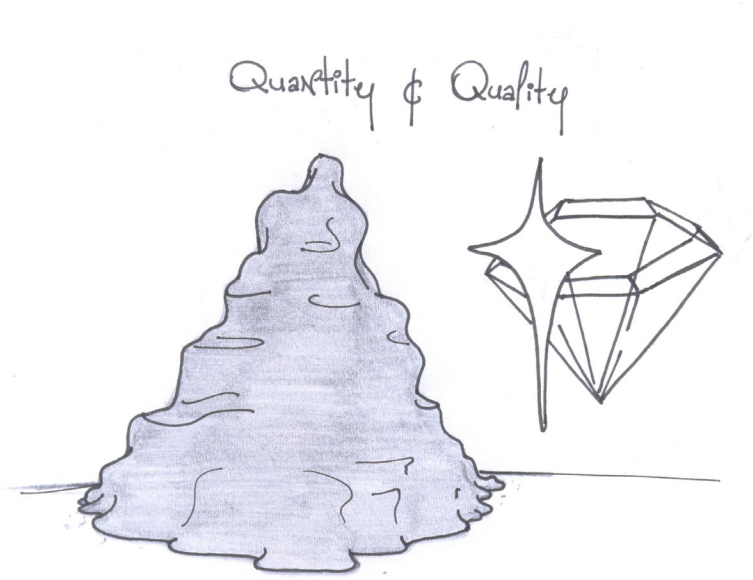
Chapter 2
Research Methodology



I told him that for a modern scientist, practicing experimental research, the least that could be said, is that we do not know. But I felt that such a negative answer was only part of the truth. I told him that in this universe in which we live, unbounded in space, infinite in stored energy and, who knows, unlimited in time, the adequate and positive answer, according to my belief, is that this universe may, also, possess infinite potentialities.

Albert Claude

Nobel Lecture, *The Coming Age of the Cell*, 12 Dec 1974

A number of decisions need to be made, prior to conducting research. The first step would be to decide on the topic or area of study. While doing this, keep in mind two things:

1. That the area must interest you – you will spend a number of hours for months or years reading about the topic; and
2. That you have access to the subjects which you wish to study.

For example, if you would like to research the programmes that are available in a particular prison to help prisoners re-integrate into society and you have no access to that prison, then this research would not be possible. The topic interests you, but you have no access to the subjects.

Often, inexperienced researchers have a problem in narrowing down their area of study. This might be the consequence of two main factors: fear of not finding enough information and failure to acknowledge the complexity of the problem. Let us say you want to research young people's behaviour during the weekends. This research question is very broad. You will need to narrow it down by deciding the following: which type of behaviour would you look at (e.g. criminal, sexual, drinking and driving, taking drugs etc.); which locality would you be analysing (it could also be necessary to narrow down the locality); and during which weekends (e.g. summer/winter/feast season etc.). All these variables will influence your results.

Next on the list is the research question. The research question can be formulated using two approaches: the deductive method or top-bottom approach, and the inductive method or the bottom-up approach. The deductive method uses theoretic interpretation and logically interpretive propositions to start the research. Conversely, when the researcher uses the inductive method, the researcher uses the observation of reality without any theory. What the researcher does is construct a number of indexes on which the theory will be built. These methods are used in everyday life as well. The deductive method starts with *why* certain behaviours occur moving to *whether* they will occur, while the inductive method moves from the *whether* to the *why* (Maxfield and Babbie, 2006:21). For example, in deductive reasoning you will reason that, since the Mediterranean climate exposes Mediterranean countries to dry summers, it will not rain in July in Malta. Alternatively in inductive reasoning, one would reason that as it has never rained in July in Malta, next July Malta will get no rain.

The Research Design:

The classical research design starts by **studying the existing theories and works** on the topic. You should consult the most recent documents. You should have a mixture of books and journals. Remember that journals can be richer in material and more actual as a journal article takes less time to go to print.

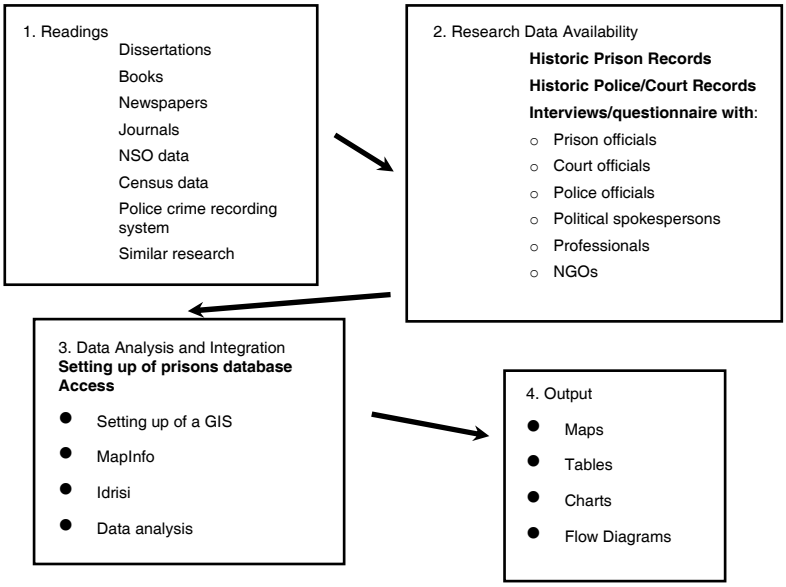
Once you have read as much as possible about your topic, you will now be ready to **define your study**, delineating your aims, goals, time-constraints, costs, human resources, outputs, etc. Depending on how big your research is, you might need to have interim aims and goals in order to check your process. Once your study is defined you should start on your **review of the literature**. This is important because it grounds your work in theory and helps you **formulate your hypothesis**. A hypothesis could read "Men are more likely to be prosecuted for violent crimes than women". This hypothesis will be tested in your research. It could be accepted or rejected. Rejecting a hypothesis does not mean that your research is invalid. If all hypotheses were accepted there would be no reason for research.

Once the literature review has informed your hypothesis it is now the time to turn to your **research design**. You need to assess which type of research tool would be best to help you in accepting or refuting your hypothesis. If we take the above hypothesis, our best method of research would be to look at court data as this would reveal the type of crime and the gender of the offender. You should ask yourself: "If I opt for a different research design, would I get all the necessary information?" Let us say that you opt to use interviews with police officers, members of the judiciary and lawyers. What you would discover is their perception on men/women and violent crimes but you would not be able to conclude if the statement is true or not.

This leads you to the next two steps which are **data collection and data analysis**. Data collected must be analysed. In case of a large quantity of data, this is usually done through statistical analysis. In smaller quantities this could be done manually. All or part of the relevant data gathered needs also to be

interpreted. The final stages of any research include the **drafting of the report** and **the presentation of results.** Figure 2.1 gives us a graphical representation of the research process.

Figure 2.1: The Research Process



Social Scientific Research Methods

Social scientific research or empirical research can be defined as a method applied to understand social reality using logic and observation (Hagan, 1997). In this definition there are three important words – method, logic and observation. These are interrelated. Your choice of methodology needs to be a logic choice, while any observation you do needs to have logic behind the techniques you are utilising.

Research is based on objectivity. In any study, the researcher must be aware of any inherent biases that exist. It is not a good idea to choose a research area in which you are emotionally involved. For example a researcher whose life-partner is undergoing drug rehabilitation, should not try to analyse drug rehabilitation programmes, because she/he would be too close to the situation to be able to assess the state of affairs objectively, in an unbiased way.

Empirical research attempts to either prove or disprove a conclusion about human beings. Social science research establishes trends and fashions in society. Any conclusion is not set in stone as it is more a probability than a fact. For example, after conducting research we might have concluded that a child who grows up in a criminogenic neighbourhood is likely to become a criminal. We are not certain of this conclusion, and the child might grow up to be a law-abiding citizen. As human behaviour is based on free and individual choices, social science conclusions can never be 100% accurate, contrary to the natural sciences where conclusions are based on hard facts.

In empirical studies, conclusions are based on interpretation. This is a subjective analysis of the data acquired. This subjective interpretation is the major difference between the social and natural science and represents a stumbling block for social scientific research. Interpretation makes us see why people take certain actions, whether the information is accurate, which policy can be formulated and we can then predict the most useful method to be used in achieving the aims of the proposed policies.

The data is presented in the form of graphs, numbers, lists and maps. Sometimes it is necessary to omit certain data. This is a subjective decision which could result in biasness as the researcher must provide the readers with all the available data so that they can reach their own conclusions. The idea is to allow readers the freedom of making their own interpretations. However this is only possible in an ideal situation. Subjectivity must come into play therefore and some form of evaluation is necessary. The researcher must define which data is correct and necessary. To enable an in-depth study of the data

chosen and to get a wider view of things, the researcher must focus on certain data and ignore other. Thus it is important to collect and choose the right data.

Research Problems

Any researcher must take the following rules into account when conducting a research:

1. The Rule of Reliability – This is secured when repeated measurement of the same thing gives the same results.

2. The Rule of Validity – This refers to the actual method. The question to be asked is: "Does this method actually measure the concept under study?" This rule asks you to consider whether the discrepancy between your operational definition (i.e. the problem you have set out to research) and the theoretical definition (you will find this in the literature review) which you started with, are comparable. If they are different, you need to adjust either your theoretical framework or your research tools. One must never forget that the data is not always valid (Reeve, 1997).

3. The Rule of Credibility – This refers to the fact that questions must: be directly related to research and that they make sense (are credible). Overall, if this is secured, the research tool looks good. This rule is extremely important in archival data. Some researchers contend that one of the most famous forgeries portrayed to be true are Hitler's Diaries. In 1983, the *Stern* magazine published parts of the so-called Hitler's diaries, which were later revealed to be fakes.

4. The Rule of Causality – This rule points to the fact that one thing may affect another that is not present. For example if we are studying age and crime we have to keep in mind that, as one grows older, one may tend to commit less crimes and that this has nothing to do with any policy implementation that might be going on.

5. The Rule of Representation – In research a sample is usually chosen. Census researches are very rare because they are time consuming and costly. This leaves us with having to choose a sample for our study. It is important that our sample represents the whole population. For example if we take a random sample of about 1,000 people from the Maltese Islands, then the results obtained would be true for a large number of the Maltese population. Certain studies are not representative. This is especially true if we choose to conduct studies under controlled conditions (experimental studies). These represent only the people undergoing the experiment. No generalisations can/should be made in these studies.

Sampling

When we are conducting a study we very rarely have the time and resources to ask each individual of a population for his/her input. Therefore we resort to sampling. Explained in very simple terms, before we dive into a pool, we don't check the temperature of every water molecule. Instead, we just immerse our big toe in the water. In most times, we quickly retrieve our toe and claim that the water ... all the water ... is cold. In other words, we sampled the water and took it for granted that the volume of water we immersed our toe in represents all the water in the pool. That is our sample – our representative sample. The most scientific sampling is one in which each person has the same chance of being chosen. This is called **Simple Random Sampling**. In random sampling your data can come from different sources, e.g. the electoral register, the telephone directory, computer databases and so on. The more comprehensive the database, the better the results. Samples are representative of the population from which they are drawn.

When we chose a sample there will always be a sampling error. This happens because in the research not everyone was included. The greater the sample the smaller the sampling error, however do not make the mistake of thinking that by doubling the sample the sampling error will be halved. You will need to quadruple the sample for this to occur. A sampling error of 5% is acceptable. That is, your results are accurate ± 5%. Other causes of error, such as wrong or untruthful answers, or missing data, do not help to eliminate entirely the sampling error.

It is not always desirable to have a total random sample. This happens when you need to target a group of the population. For example if you want to see what type of leisure activities youth are engaged in, you should used the so-called **Purposive or Systematic Sampling**. In this case you would limit your target group to youth only. From that group you would randomly choose your sample. If you had used

the random sampling method, most of your sample would not have been able to give you an accurate answer.

In other cases you would need to use the **Cluster Random or Stratified Sample.** This is used when you have to choose a number of people from the same place to minimise costs. This is less accurate but effective. This is useful when you have large countries like the USA.

Sampling is usually used to get a representative answer of the population. However, sometimes one has to adopt a **Disproportionate Stratified Sample.** By now you are saying it does not make sense to go for a sample that is obviously non-representative when you want your results to represent the whole population. Consider a situation where you have small pockets in the population that risk not being picked up in a random sampling exercise because of their small numbers. Let us take the example of police officers in England and Wales in 2008. There were 103,565 white police officers compared with 1,087 minority group police officers. The latter group is further divided into the diverse minorities. If the researcher wants to give a voice to the minority group it will be necessary to force a disproportionate number from the minority group officers into your sample.

Snowball Sampling is used when access to the sample proves difficult. If you decide to study the life of organised crime bosses you might have some difficulty approaching your research subjects. You certainly cannot access a list of the bosses with their home address from where you can choose your sample randomly. The method that is usually chosen in these cases is one of snowball sampling where you ask your first contact to put you in contact with other bosses and then ask each new subject to do the same until you reach the desired number of subjects or you run out of contacts. This method is not random but in certain cases, it is the only possibility to study difficult-to-access subjects. We suggest that you stir clear of studying such bosses, but this method is used to study certain populations such as prostitutes, ex-inmates, drug addicts on the street and so on.

Causality, Association and Correlations

An important factor in research is causality. Causality happens when a change in "A" brings about a change in "B". For example, there is a change in sentencing policy - people who commit a second crime are sent to prison. This will result in more people in prisons. Therefore a change in policy (A) has caused a change in rate of imprisonment (B). Here, causality is said to have occurred. However, sometimes it is difficult to establish what happened first…the so called "chicken and egg situation". Let us take the above example. It appears that prison rates increased due to the change in policy, however other variables could come into play. The questions to ask is what happened before the policy change. Was there an increase in crime? Was there a surge in unemployment? Was there an influx of people into the country or province? All these could explain why the imprisonment rate increased. All these are called variables.

Variables are vital to determine causality. Variables must be transformed into measurable and observable concepts. Variables are divided into two types: independent and dependent. Independent variables are those variables that are affecting the dependent variable. Therefore a change in the independent variable will produce a change in the dependent variable.

For example – High alcohol intake leads to high violence rates.

Independent Variable – Alcohol

Dependent Variable – Violence

In this example alcohol is the independent variable because the higher the alcohol intake the more violence occurs (dependent variable), i.e. a change in alcohol consumption effects violence.

In variables there are certain things that should be looked for before concluding that one variable is affecting the other. The **Temporal Order Rule** is the rule that applies when the cause precedes the effect. Another problematic issue is to **Rule out Alternative Causes.** For example before drafting a housing policy, one must be sure that the main factor of a rise in the demand for more houses is an increase in resident population and not foreign buyers. In normal social circumstances there are rarely cases where only one independent variable (cause) influences a dependent variable (effect). These are called **Multiple Causes**. In these cases one must see which variables have the greatest direct effect and look at the total greater effect (both direct and indirect) on the dependent variable. For example an increase in the demand of medical care can be linked to an aging population, a more sedentary

population, an obese population, an educated population and therefore an increase in the demand of preventive medicine, a virus, risky behaviour and so on.

Another example of causality is the following: an increase of two households in a hamlet brings about an increase of two cars. This is a direct **perfect positive relation**. However, we can have an association of the variable. This happens when a change in "A" brings about a change in "B" but the change may not be in the same direction, and this would be a **perfect negative relation**. For example an increase of two households in a hamlet may bring about an increase in cars; alternatively, the number of cars may remain the same or even decrease, because, since there is now a lack of space, people have decided not to buy cars. In some cases there could be no relation between the variables.

Perfect Positive Relationship **A ↑ B ↑**
Perfect Negative Relationship **A ↑ B ↓**
No Relationship at all **A ↑ B ↑↓**

Correlation is said to occur when a change in variable "A" brings about a change in variable "B", however this relation is not necessarily even. For example an increase in "A" of 2 units brings about a change in "B" of 4 units in the same direction - an increase of two households in a hamlet brings about an increase of 4 vehicles (2 personal cars and two tractors) in the hamlet. We have seen an increase, but to a greater extent.

When one is conducting research, one often needs to consult official data (unobtrusive data). Here, one may find some problems to access the data. Furthermore, the researcher has to work with what is available. Sometimes this may not be the data the researcher actually needs but remember that this data was not collected for the purpose of the researcher's needs. At other times the data which is officially available may not be comparable with the data the researcher was collecting. For example if one is researching crime victimisation one might have asked about larceny, however the statistics held by the Malta police force will not have larceny listed as it does not constitute a crime under Maltese law.

Methods of Research

Social science research could be divided into two categories: the qualitative approach and the quantitative approach. Jupp (1989:28) sums up the difference between the two. He explains how quantitative research "assign[s] numbers" while qualitative research "report[s] observations".

Qualitative research takes small samples and uses in-depth methods of study to generate the data. An example of qualitative research would be in-depth interviews where the researcher interviews a small number of people to analyse a social reality. This method is usually preferred when dealing with a difficult-to-access population (for example terrorists, prostitutes and murderers). In the quantitative approach, one bases the research on a large sample. This would yield statistical data which is usually analysed through a statistical package tool such as the Statistical Package for the Social Sciences (SPSS). The choice of the method is based on your type of study.

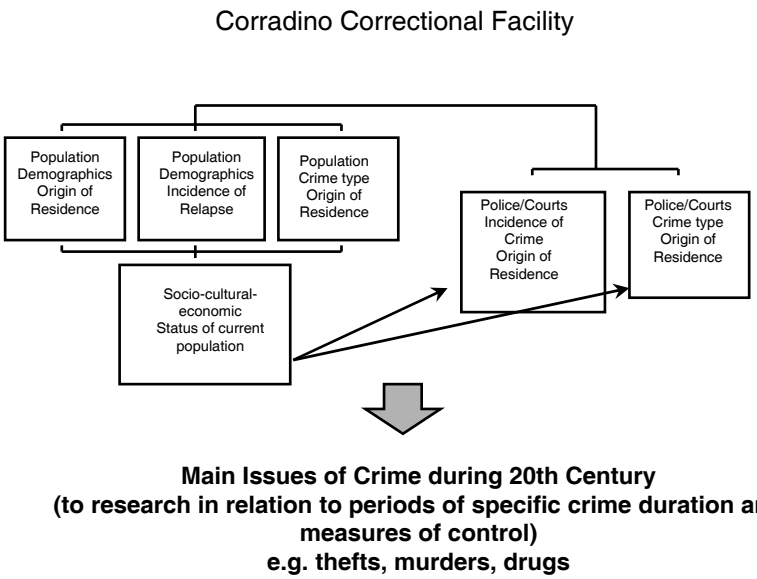
There exist a number of different research tools in the social sciences. These can be used either alone or in a combination, depending on the researcher's needs. For example, if you decide to study the *Sette Giugno* riots in Malta, you would be combining archival research (which is research that is historical in nature) with case studies (an in-depth study of a particular case). The techniques adopted by qualitative research vary from observations, to interviews to documentary analysis.

Archival Research

Denzin (1970, cited in Macdonald and Tipton, 1994:199) maintains that triangulation is of paramount importance for archival research to be valid. The first type is data triangulation. Data needs to be triangulated for time, place and author. All three variables need to be coherent. The second type of triangulation is investigator triangulation. This means that data from different sources should be used to confirm initial findings. Denzin calls the third type of triangulation 'theory triangulation' where theories are used to interpret a social phenomenon. The final triangulation he calls 'methodology triangulation', which refers to the method used.

Figure 2.2 gives you an idea of the complexity of historical research. It is important that when you are analysing historical documents you look at more than one source of information.

Figure 2.2: 20th Century Historical Demographic Analysis



Another variable in documentary research is found in adductive inference (Josephson and Josephson 1994:6), where one can construct a theory. We use adductive inference in everyday life when our observations and past experiences are used to generate meaning. Adduction inference is also used to support our historical knowledge. For example if you are conducting historical research and you spot that a prisoner's age as 2 years old, it is an obvious mistake, and you therefore point it out as a copying error. Adductive reasoning can also be used to create a theory. Although you take the historical documents at face value you have to also subject them to critical analysis. For example if you are analysing an official document created for public consumption, it may portray a picture which the government of the time wanted to show to the public. Therefore when an obvious skewed picture is being portrayed, it should be pointed out. Adduction is the whole process of generating information, criticising it and the possible acceptance or rejection of the hypothesis (Josephson and Josephson 1994:9). The best definition for adduction is 'finding the best explanation of a set of data' (Josephson and Josephson 1994:157).

The aims and purposes of the original writer are of paramount importance and require elaboration (Scott, 1990:13). Official documents are created for a particular purpose and not for future research. Hakim (1983:489) divides official documents into three types: routine, regular and special. Routine documents are central in administration. They form the backbone of the bureaucracy and they are usually extensive, consistent and factual. An example of prison documents that fall into this category are the admissions registrars. Regular documents are those produced for everyday purposes. Their use is purely internal. They are usually less important than the former, but they aid routine work. Special documents are those articles produced for a specific reason, such as annual reports. These offer accountability and transparency by being public.

Eley (1980:60) points out that a critical point in archival research is that, often it generates facts without interpretation. This happens because the huge amount of material one discovers in archival research makes it somewhat difficult to integrate it with theory. A common mistake that inexperienced researchers do is that they get lost telling the story and forget to interpret and analyse the data. History is made through the accumulation of pieces of valid and reliable data that leads to the construction of a story of historical narrative (Parker, 1980:422), but this does not explain change over time. Historical research is both chronological and topical. For example, Marx's political and economic determinism is well suited to Northern Europe of the 1840s, but further theorising is necessary as the focus moves to another place and another time (Parker, 1980:424). The most appropriate approach is to avoid narrative history (telling

the story), avoid the so-called Annales group (who tell the story but notice contradictions) and avoid the Marxist approach (focusing mostly on contradictions). The judicious by constant use of theory allows 'the interrelating of the story of human beings in everyday happenings and events with the movement of ongoing variables and structures' (Parker, 1980:428).

The status and standing of the archive material has four sequential dimensions (Scott, 1990:6-8). The first relates to authenticity and includes verification that the documents are original rather than fraudulent. The second relates to credibility, including an assessment of potential and actual sources of error and distortion. The third relates to representativeness, or whether a given document is typical of another from the same context. The final task relates to the attribution of meaning. After assessing the documents another problem is whether some documents have been distorted or if there had been some storage problems (Scott, 1990:8).

A further problem in archival research is access and restrictions in seeing the data. Not all data would be available for research. For example Maltese law makes official and personal data only available for research after a certain number of years have passed from their collection. For example prison data has a 30-year moratorium on official ledgers and an 80-year moratorium on personal data.

Case Studies

A case study is an in-depth study of a particular site, individual or occurrence in order to find some common interpretation or principle (Johnson and Christensen, 2008). In these instances an event or individual is studied over a period of time. There are no set rules but the researcher takes notes. Usually notes are taken keeping a format in mind. Choosing the case to be studied requires some thought. It could either be a particular individual – i.e. an individual who has certain characteristics or has done certain things; characteristics and experiences which you will not easily find in others. It could also be a particular event that has had an effect on society. The term 'case study' could also refer to a cluster of events, people or sites. For example you could decide to use the case study approach to study prostitutes. In this case you might be able to contact five prostitutes who will be willing to participate in the research and analyse their lifestyles.

Case studies are usually classified as qualitative research designs. Although this is true because of the small number of cases studies, many research strategies use sophisticated statistical analysis (Yin, 1994 cited in Maxfield and Babbie, 2006: 145), such as Nvivio, to link the variables together and create data sets.

The single case study is problematic when it comes to generalisation.

Surveys

Survey research can be divided into two – interviews and questionnaires. While in interview research the researcher asks questions orally (either in person or by telephone), in questionnaires the researcher presents the respondents with a set of written questions and expects them to give an answer (Harris, 1998). Interviews are usually classified as a qualitative methodology while questionnaires are seen as a quantitative tool.

Interviews

Using the interview as a research methodology is useful when one wants to get the story behind a person's experience. This methodology allows the researcher to dig out hidden or in-depth information about the subject. The questions used are usually open-ended as these elicit the most information.

Before you start your interviews you need to plan what you will be doing. After identifying your sample (or interviewees) you need to plan the interview. Interviews could either be totally planned (i.e. structured) or semi-structured. If you go for structured interviews you will have a set of questions which you will use, in the same order, with every interviewee. In a semi-structured interview you will construct a general outline of the interview. You will use this guide to ensure that you will ask the same questions to all interviewees. Another method is to have an informal conversation with your subjects. This is the least preferred method as there is a risk of forgetting certain questions and not asking all the information which you asked the others.

Once you have the interview schedule ready, you must contact your subjects, explaining to them the purpose of the interview, the confidentiality parameters and the possibility of stopping the interview at any time. The interviewee also needs to be told how long the interview will take, so that they can plan to be available during the required time. Remember that interviews are time consuming and that you might need to reschedule interviews because your subjects cancel the appointment, even at the last moment. Therefore be prepared and do not give up.

It is important that you chose your setting for the interview. Sometimes you will be constrained by the interviewee to go to their office. However if you can chose the setting, chose a quiet setting with as little distractions as possible and select a place you think will make your interviewee comfortable. You should once again explain what the aim of the interview is, confidentiality issues and that they are free to stop at any time. It is advisable to have a consent form which you will ask the interviewee to sign.

It is unlikely that you will remember all the information from the interviews; therefore you should at least take notes while interviewing. Interviews are sometimes recorded. This means that you will have to transcribe the interviews which have been recorded. When asking questions, ask one question at a time and give your respondents time to answer.

Certain questions are sensitive in nature. Be careful not to start with these questions as you risk putting your interviewee off. If you are going to ask anything controversial, two things are important. The first is that you ask about some facts before going on to controversial or sensitive material, the second is that you ask the question in a neutral manner. For example before asking about personal crime victimisation you start by asking a generic question about crime. This serves as a warm up question and puts your interviewee at ease. You will continue with a gradation of severity in crimes. Therefore you will ask whether they were victims of car vandalism, theft from cars, and theft of cars before asking about house burglaries, domestic violence and rape. The last question can be a generic question where you ask your interviewees if they want to add anything else and/or forward any suggestions.

When the interviews are ready, they have to be analysed. You need to look for common ideas, phrases, etc. and code them. This would enable you to pick out common trends and ideas. Many researches today use computer-assisted qualitative data analysis.

OPEN-ENDED questions – Questions which require an elaborate answer.

CLOSE-ENDED questions – Questions which have limited responses. The most simple require a yes/no answer. Others might require the respondent to make a choice out of several answers, while others still use a 4 or 5 point scale model such as: always, sometimes, rarely, never and I do not know.

Questionnaires

A questionnaire is made up of a number of written questions which the respondent is expected to answer. Questionnaires should:

- Be as concise as possible
- Include only indispensable questions
- Be thought out in a way as to allow the researcher to acquire the best possible information.

In an ideal world I would tell you to have open-ended questions which respondents will answer fully. However this is not an ideal world and using open-ended questions will drive you crazy when you start analysing and your respondents will give up when they are half way through your questionnaire.

The advantages of using questionnaires are that:

- They can be filled in the respondent's free time
- They can reach more people
- They can be filled in privacy
- The respondents remain anonymous

The disadvantages of questionnaires are:

- Response rates are low – about 30% return rate
- The respondents cannot ask for clarifications

Questionnaires should not take more than 20 minutes to fill. Questions should be clear, readable, easy to answer, stimulating and brief. Once drafted, questionnaires should be piloted (tested) in order to make sure that the intended meaning and the way people understand the questions are the same. Some questions would need revising while others would be discarded.

While constructing the questions (and this is also valid for interviews) avoid leading questions i.e. question which make your respondents agree with your statement e.g. "Would you support the government in the campaign against child abuse?" Such a question will invariably get you a "yes" answer. A better question would be "How efficient do you think that the government's child abuse campaign is: Very efficient, efficient, somewhat efficient, not efficient, and very inefficient".

You should also avoid including questions which have two statements, therefore require two answers as respondents might agree with a part of the statement and disagree with another part. For example: "Some women volunteer sexual favours to obtain career advancement. Thus policemen have learned to expect this sexual attention". Another common error is to use questions that are misleading, e.g. if you want to measure the likelihood of victimisation you do not ask the question "How crime-prone are the following: elders, middle-aged, youth and children?" as this measures the propensity to commit crime.
Avoid inserting questions that sound ridiculous such as "Executions teach a lesson even to others" and always check that your options match the questions. For example

A. Some people think that gays/lesbians should not be allowed to join the police force. To what extent do you agree?
    1. Strongly agree,
    2. Agree,
    3. Disagree,
    4. Strongly disagree
    5. I do not know

B. Some people think that gays/lesbians should not be allowed to join the police force. To what extent do you agree?
    1. Always
    2. Sometimes
    3. Rarely,
    4. Never,
    5. I do not know.

The options under B are not right.

When a researcher decides to use questionnaires, the aim is to get as large a number of responses as possible. Questionnaires are coded and the data is entered into a computer, usually using the Statistical Package for the Social Sciences (SPSS) software. SPSS enables you to analyse data using a Matrix (see Chapter 4).

The answers given in a survey have a meaning. Yes and No are the most straightforward. The answer "Depends" could be value loaded; for example, it could mean: "According to the time of passing of policy, law etc". The "No Opinion" category often means that the persons answering do not want to give their opinion, therefore one should divide this between the yes and no answers. Another problem is the missing values. The researcher is frequently faced with the question: Why did the respondent not answer the question?

Survey results need to be presented. The simplest method is to use frequency distribution – where a list of options is shown together with the number of respondents. In these instances N would refer to the total. Percentage distribution is a list showing percentages indicating options with 100% as total, while frequency and percentage distribution unites both frequency and percentage. Alone, they could give an unclear picture but when united, they give a complete account. In the following fictitious example, after one considers the table, one realises that if you were English you were much more likely to be granted a

pardon than if you were Maltese. Even from the numbers, one realises this. However, the percentages show this bias much more as shown in Table 2.1.

Table 2.1 Frequency distribution of the requests for pardon in 1941

	Refused		Accepted		Reformatory		Total	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Maltese	75	87.21	4	4.65	7	8.14	**86**	**100**
English	11	55	9	45	**-**	**-**	**20**	**100**
Total (N)							**107**	**100**

In a survey, data is collected. There are four types of data falling within groupings called measurement scales: Nominal data, Ordinal data and Interval/Ratio data. **Nominal data** is data that fits distinct categories, for example Male/Female. It is the least sophisticated of the four, and only measures of central tendencies such as frequencies can be used.

> **Measures of central tendencies** are the mean (average), the median (the middle point of the data) or the mode (the most common occurring value).

Ordinal data are ordered in categories for example: strongly, moderately, slightly, etc. An example would be the Likert Scale. It also includes groupings of data into cohorts (example 5 to 10 years)

> **The Likert Scale** is a measuring scale used in questionnaires where respondents are asked to show up to what extent they agree with a statement. Respondents are asked to choose from a 4 or 5 point scale such as: I totally agree, I agree, I somewhat agree, I disagree, and I totally disagree.

Interval (and Ratio) data refer to the base data which allows for a way of grouping the data. An example is grouping individual ages of people to have a number a categories instead a whole list of ages. Therefore age groups could be divided into 0-5 years; 6-10 years, 11-15 years etc.

These data types are discussed under the section Measurement Scales in Chapter 5.

Surveys

This method has practically no interaction at all with the human target under study since it constitutes locational or remote data gathering processing. Thus, there are physical on-the-ground modes of data gathering and remote or desktop-based database surveying.

One can gather data in the field or from a desk-based study following initial snapshot recording.

The methods here are varied:

i) consider a surveyor who needs to review how many apartments are located in a specific street. One can go physically to the location and count the number of apartments, one can count the number of bells/intercoms/letter boxes in an apartment block or tick off against the list published online through a mapserver or an electronic register such as the electoral or postcodes online databases. The end result is the same: the number of apartments can be acquired, though one must compensate for those still under construction and those still vacant which would render the totals different in the online than the physical surveys.

ii) One can identify a location and wait for the target group to approach. An example would be the logging (counting) of the number of cars travelling through a major road, which data would serve as a surrogate for road-based pollution. The data gathering mode may constitute the ticking of marks on a paper or the click of physical counters or inputting in a digital hand-held mapping device.

iii) One can travel around a place and mark the vacant lots in a town. Such an exercise allows for mobility.

One can state that whatever the level of interaction, though restricted in a survey, does elicit the obligatory candidate who just has to come over and query the researcher on what his/her purpose is, why s/he is gathering the data and why that particular patch of ground…

Focus Groups

"Focus groups are group discussions organised to explore a specific set of issues" (Ketzinger, 1994:1) such as work problems, crime and health issues. Any topic could be addressed using this method. This type of research focuses on topics that discussion would help generate more information. This tool could be useful if, for example, a prison governor would like to address problems that prison officers face at work. Groups of 8 to 15 officers would discuss various prison officers' work problems and come up with suggestions. This method is not without problems. There is the problem of generalisation of the findings, if you are not addressing a small enough population where a census-like research can be carried out. A further problem could be that people will be reluctant to talk about certain issues in a group.

Group work is very important for "grounded theory development", where theory is generated through the use of the subjects' experiences. This is different from the traditional theoretical development where theory is first developed and later tested (Martin and Turner 1986). The use of focus groups has the following advantages:

- It helps the researcher identify the participants' priorities and language;
- It promotes discussion between participants even when the subject is embarrassing - usually reactions are more spontaneous;
- It helps identify group norms and the working of the group; and
- It helps people listen and reflect on each other's ideas, encouraging new ideas resulting in more accurate information.

Focus groups have some disadvantages. The major problem is the non-response rates, as those who choose not to participate, especially in sensitive topics, could turn your grounded theory upside down had they participated. Another problem is that the moderator of the discussion can introduce biases in the discussion procedures especially if he/she gives his/her opinion or does not ask all the questions. Furthermore well-trained and skilled moderators are not easy to find and their services are usually expensive.

In focus groups, analysis of the data is carried out in a similar method as in interviews and in participant observation.

Ethnography/Participant Observation

Participant observation is a qualitative approach where the researcher spends time analysing and observing a group. This tool was developed by anthropologists. By using the word "ethnography", the researcher indicates the wish to describe a cultural group. Participant observation can be conducted either overtly (i.e. the participants in the group know about your role as a researcher) or covertly (i.e. you hide your research purpose from the group and you portray yourself as one of them). The latter yields truer and richer data but it has huge ethical issues.

Participant observation is used in developing grounded theory. Grounded Theory is developed by using only field data. Contrary to the classical method of constructing theory, this type of theoretic development ignores existing theory and constructs theory from the findings. As data is continuously being discovered, this feeds the theory thereby changing the latter continuously (Jupp, 1996:59). Participant observation has numerous advantages, such as enabling the researcher to understand a reality which is foreign to his/her culture. McNeill (1994:83) claims that the major advantage is that subjects may be observed in their "natural setting" and that it enables researchers to conduct a "study of social process" instead of being restricted to a mere "snapshot or series of snapshots".

Mc Neill maintains that the main disadvantage of ethnographic research is that it is difficult for the researcher to remain detached from the situation especially in covert research. Furthermore participant observation is also difficult, time-consuming, expensive and unreliable. The major problems are that this type of research cannot be empirically tested and it is very difficult for the researcher to remain detached and unbiased. Another problem with participant observation is that the presence of the researcher might alter the groups' behaviour and by definition this research cannot be generalised.

There are various contenders to this throne but all have a common element: the observer is somehow involved in the process. There is no actual hiding behind the proverbial bush, but some interaction is carried out. This type of interaction can be termed as participative at various diverse levels. The next steps identify such levels of activity:

- **Uncontrolled/Naturalistic Observation**

  This method elicits visions of tropical paradise scenarios with bare-backed tribal natives being observed by the solitary be-moustached anthropologists in the sweltering, humid, mosquito-infested field. Anthropologists use this method to its highest sophistication levels. Jeremy Boissevan (1964, 1980) and Adrianus Koster (1984) employed it in the Maltese context, the former dedicating his life to the Maltese nation where his works spanned decades.

  Such methods might seem archaic in modern times, but the world is a large place and such studies can be carried out in such modern setting:

  Check out "People Watching" by Desmond Morris (2002) for a comprehensive read on such an activity.

  The method has been taken to new levels through the advent of the internet and the world-wide web with the resultant virtual worlds' observation.

  Stop for a second and think of activities that one can partake to on or through the internet that subscribes to this process:

  a. CCTV with live feeds on the net. (such can be used for both academic and also for practical studies as could be used by intelligence agencies to observe people movements). On the other hand, intranet systems (those confined to the virtual boundaries encompassing an agency network and not disseminated to the whole world) are normally used to observe against shoplifting (such as evidenced in most markets, malls and parks);
  b. Blogging and studying the comments by certain persons who periodically feel the urge to put in their penny's worth;
  c. Social networks, such as Facebook, where even if you have been invited to join a "friends" list and then observe the activities that that person writes about or does, such as going to events, writing about one's mood, interacting with other friends and a myriad of other day-to-day activities;
  d. Real-time 3D world interactions such as "Second Life" where one can move around different worlds and observe the interactions therein.

  Other networks can also serve as a tool for such activities. Bring up the reference to the ECHELON Project within the European Parliament 2001 Report (http://www.statewatch.org/news/2001/sep/echelon.pdf) which uses remote technologies to operate a 'global interception system' that observes communications around the globe.

  Though as yet still far from a 'big brother scenario", where all activities are monitored by the state in such dramas as Nineteen Eighty Four (George Orwell wrote that classic in 1949) the tools used through the employment of modern technologies are vast and open to debate on how sophisticated this data gathering method has become.

Complete Participant

This method enables the highest-intervention mode where the investigator becomes an intrinsic component of the target under observation. This is also consonant with full-immersion activities where the person becomes part of the same topic under investigation.

Think infiltrators
Think undercover
Think inside man/woman

The action is less glamorous than depicted in the media or in movies. It elicits a well thought out project, a long-term strategic approach and a high-risk approach to research activity. The approach requires the researcher to give up certain liberties and may even cause him/her to become part of the same problem/issue under investigation.

The principal point concerns the fact that the researcher must conceal his/her identity from those he/she is observing. This *modus operandi* also requires the full participation in the activities of group.

There are very serious issues that need to be tackled in this observation mode. These relate to ethical issues that impinge on the same study. This process may extract very sensitive and controversial points, which are dealt with in Chapter 14. This mode may appear as very unethical and deceiving as there is no informed consent.

As an example consider the case of a student who wished to use this method to observe an extreme religious group; a sect known for its non-conformity to social rights and obligations and which operates through extreme indoctrination. The student requests a guarantee from the university that after a specific period the supervisors would extract the researcher from that group. This cannot be granted due to the fact that it is not legal to extract someone from a group when that same person (an adult in this case) refuses to do so; practically the researcher has become one with the group and has rights under law to maintain that relationship even if she had signed an extraction letter years before. The process of extraction could become even more dangerous as that person may be exposed and placed in a potentially life-threatening position.

Not an easy case!

There is also the issue here that the period of observance requires vast amounts of time dedicated to unlearning or desensitisation to the activities that had become the norm during the period under immersion (full-participation in the group activity).

Participant as observer

This method calls for the researcher's full immersion in the activities of the target but goes a step beyond and identifies his/her role as a researcher.

This mode helps the researcher in terms of safety and in terms of ethical issues, however it has its intrinsic disadvantages. Among these:

i) the participants are aware of the observation and act accordingly within such knowledge thus contaminating the process. They act in order to impinge upon the observer those actions that they want the observer to record, and not others that show otherwise or even normal processes that they abide by;
ii) the observer can become subjective due to the same group dynamics that are resultant from team-building efforts, risking the research's validity and becoming prejudiced.

For example, if the research is about drug abuse during parties, the group under observation may choose to stay away from drugs while the researcher is around. Of course, the group could indulge in drugs again once the researcher is away.

Observer as Participant

This method enables the researcher to observe a group but the immersion is not total. The researcher identifies his or her identity to the targets and observes the group on an ongoing basis.

The interactions possible within this method are those deemed as constituting episodes that are both formal and sporadic.

An example could include participation in a sports group with interventions targeted around new sports rules where the researcher drops hints periodically covering the inclusion of new regulations for sports events, which the group then reacts to.

Complete Observer

This method, though apparently similar to the uncontrolled methods discussed earlier, does the same work but the target group is still aware of the observer's presence.

The researcher thus is totally detached from the study group and s/he observes their activities. However, s/he does not become part of that same group.

For example: observing youths' behaviour during the screening of a violent movie.

Questions (refer to Appendix for the answers)

1. What are the two main points that you should keep in mind before deciding what your research topic should be?
2. The research question is formulated using two approaches: the deductive method and the inductive method. Briefly describe these two methods.
3. List the nine main steps of research design.
4. What is the empirical research (social scientific research) method?
5. Good research is based on objectivity. Very briefly explain this.
6. Briefly describe one major difference that exists between the social sciences and the natural sciences.
7. Why is it very important for the researcher to collect and choose the right data?
8. List the five main rules that researchers must take into account when conducting research.
9. What do you understand by "sampling".
10. List the five main types of sampling.
11. What do you understand by "sampling error"?
12. What do you understand by "causality"?
13. When does a perfect positive relationship between variables occur?
14. When does a perfect negative relationship between variables occur?
15. What conditions enable the researcher to claim that there is a correlation between variables?
16. List the four main problems associated with using formal official data.

17. Very briefly describe the two main categories of research: qualitative and quantitative.

18. Triangulation is of paramount importance for archival research to be valid. List the four main types of triangulation.

19. Very briefly explain what you understand by “adduction” (with reference to archival research).

20. List the three main types of official documents (with reference to archival research).

21. Eley (1980) warns about a critical point in archival research. What is it and why does it happen?

22. Scott (1990) claims that the status and standing of the archive material has four sequential dimensions. List them.

23. List the two main problems associated with archival research.

24. Briefly explain what case studies are and state their main problem.

25. Survey research can be divided into two main categories: interviews and questionnaires. Briefly describe these two categories.

26. List three main advantages of interviewing research participants.

27. List the four main advantages of using questionnaires and the two main disadvantages of using questionnaires.

28. Why should questionnaires be piloted (tested)?

29. List the three main types of data and very briefly describe each one, even if by simply providing an example.

30. What are “focus groups”?

31. List the four main problems associated with conducting focus groups and list the four main advantages reaped by conducting focus groups.

32. Briefly describe ethnography/participant observation.

33. List the main advantages of conducting ethnography/ participant observation.

34. List the main disadvantages of conducting ethnography/ participant observation.