EUROPE

HOW TO USE RESEARCH TO ENHANCE GUIDING AND SCOUTING
- A tool kit for Guide and Scout Associations -

World Association of Girl Guides and Girl Scouts
Association Mondiale des Guides et Eclaireuses

World Organization of the Scout Movement
Organisation Mondiale du Mouvement Scout

CONTENT

Foreword

This tool kit describes some of the ways Guiding and Scouting Organizations can use or carry out research to enhance Guiding and Scouting in their Organizations. It is not designed as a research text, but rather as a guide to the ways in which research can assist with the conceptual development, implementation and evaluation of the different working areas in the Associations.

This tool kit is aimed at any Guide or Scout leader, with or without previous experience of doing research. It is meant to give assistance and ideas for all the work carried out at all levels of Guiding and Scouting. It stresses the main points and provides ideas for future work. The tool kit combines basic knowledge from different fields of science, such as sociology, geography and anthropology. It needs to be remembered that there are many fields of science that are not included in this tool kit.

A lot of the background research can nowadays be done on the Internet. This tool kit is not informing on how to do searches on the Internet or giving in-depth knowledge on different fields of science. There are plenty of materials available for this purpose.

Remember that the ideas introduced in this tool kit are based on the selection of the tool kit writer and do not include all the different methods available in different fields of research. For deeper knowledge, please, familiarize yourself with the wide selection of research literature available in your country and more widely. In the end of the tool kit you can find a glossary of the main terms used and a bibliography for further use.

This tool kit is made up of guidelines for developing small or large scale research studies. These guidelines are to be thought of as operational aids, of proven usefulness in your research. Study them, use them, but **modify** them in accordance with the requirements of your own research.

This tool kit was written predominantly by Stella Aaltonen with the exception of
 Ethics and research, Start where you are – internal analyses – Heather Roy
Starting point/Key questions, The process of defining primary questions, partly Generating hypothesis - Jocelyne Gendrin Guinebault.

The kit was edited by Stella Aaltonen, Heather Roy and David McKee.

1. Why use research in Guiding and Scouting?

A useful way to understand what research is - and how it works - is to think of it in terms of being simply another information stream feeding into an organisation's decision making processes. In this way, it is easy to see that the crucial question is not 'do I need research?' but 'what kind of information do I need to make better decisions?' The real value of research, then, can be seen in terms of strategic planning.

It is part of the responsibility of both movements to generate research and provoke discussion in society, so that the voice of the youth can be heard. Guiding and Scouting offers a good pool of expertise and source material for experimentation. This is not currently as widely used as it could be. It is valuable to use the expertise we have. Through research we can provide evidence about the good work that we do. It is important to realize that research is an important part of policy making at all levels. We are able to therefore use research to drive discussion about needs and trends of young people.

Through research it is possible to capitalize on experiences and learn from them. Research is therefore a learning process as it gives us a deeper understanding of the meaning of our actions (the results and impacts) and of the culture of our Associations. Research is an instrument that can create new concepts and generalizations. It is not only the feeling of the researcher! It is important to realize that research can result from a strategy (part of it) or influence the strategy of the Association.

Here are some of the benefits and challenges of any research. The aim of this tool kit is to assist you in capitalizing on the benefits of using research and overcoming the challenges of the research.

Benefits	Challenges
Gives broader picture Opens and develops opportunities Supports decision making processes Gives new ideas to innovate Objective if done properly Helps to know more about our public Gives relevant information Sharing with others, recognition by others Launches the thinking process, involves leaders in it.	Find the right questions To be creative in thinking To do a good research design Use of existing resources To evaluate the research To analyse results properly During research to continue managing and running the normal plans. There are challenges in every step of the research process

This tool kit aims to offer limited scientific background of research for two reasons.
First of all, knowing the terminology enables Member Organizations to:
1. understand better the various pieces of research available
2. identify the information they need, as most of the terms offered can be used as key search words
3. go deeper behind the outcomes and follow the research done by external researchers.

Secondly, the scientific framework enlarges the possibilities for research and can benefit MOs as a source for ideas and tools. Theories and hypotheses can be easily transformed into stepping stones for the Association.

1.1. Characteristics of research

By research we mean a systematic attempt to provide answers to questions.

Typical characteristics of any research are that it systematically and logically tries to provide answers to questions. In many cases the research is also empirical and it can be replicated if necessary. The information received from one research is also transmittable to other similar cases. In research we can make a distinction between fundamental research and applied research.

Fundamental Research

The objectives of this type of research lie mainly in the academic and classical areas. This research is made in order to create concepts or conceptual systems (universal dimension). The results of such research are, in fact, to gain unbiased knowledge as opposed to create action. It is therefore not a product for resolving a problem linked to an action. In the frame of Guiding and Scouting there are few occasions to undertake this type of research.

Applied Research

As for applied research, this concerns types of research such as action research, applied or operational research. The objectives are to take the fundamental concepts and apply them to new sectors, new areas and social phenomenon. In this type of research there can be a link between the social role and the role of the researcher, which can sometimes involve tension between the reason for action and that of the research. This type of research is closer to the type of projects that Guide or Scout Associations may undertake. Applied research is effectively used for modification of practices in educational, managerial and other such fields.

When defining terminology in research it is vital to offer a bigger picture for the phenomena. A model provides a simplified picture of a process that tries to show how its various elements are connected to each other. A model may often be suggested by the particular theory that informs the research[1]. Theories, for their part, offer a framework for critically understanding phenomena and arrange sets of concepts to define and explain them. It needs to be noted that models and theories are self-confirming in the sense that they instruct us to look at phenomena in particular ways. This means that they cannot be disproved but only found to be more or less useful. Theories exist only until a better theory comes along through research results, and then they are discarded.

Hypotheses are tested in research. During the early stages of research, hypotheses are produced and then tested through different research methods. Hypotheses are normally statements about the supposed relationships between or among variables, which are the elements measured in research investigations.[2] (More in chapter 5). Therefore, we assess a hypothesis by its validity or truth.

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[1] Fulcher & Scott (1999). *Sociology* p.73
[2] Riggio, Ronald E. (1996). *Introduction to Industrial/Organizational Psychology.* p 30

A methodology defines how one will go about studying any phenomenon. For example, in social research, methodologies may be defined very broadly (e.g. qualitative or quantitative) or more narrowly (e.g. grounded theory of conversation analysis). Like theories, methodologies cannot be true or false, only more or less useful. The research methodology is designed to assist the researcher in obtaining a more accurate and unbiased analysis of the problem in hand[3]. The research method, that is the specific technique, should be chose so that it fits with all the parts of the research.

The basic terms in research[4] are gathered here to show what their relevance is in research. From here you can see that the different models, theories and methodologies are relevant only if they are useful for the research problem.

Term	Meaning	Relevance
Model	An overall framework for looking at the research problem	usefulness
Theory	A set of concepts used to define and/or Explain some phenomenon	usefulness
Hypothesis	A testable proposition	validity
Methodology	A general approach to studying research topics	usefulness
Method	A specific research technique	good fit with model, theory, hypothesis and methodology

Scientific theories require that research should be conceived, then elaborated and finally checked out. The three aspects of the inquiry can be referred to using following terms:

1. induction - the actions that lead to discovery of a hypothesis that is, having a hunch or an idea, then converting it into an hypothesis and then assessing it
2. deduction - consists of drawing on the implications from the hypotheses for the purpose of verification
3. verification - the procedures involved in verifying if the hypothesis is supported by the results or not.

All three processes continue throughout the life of the research project and are absolutely essential. These aspects of inquiry can be described as spiral model that continues all the time.[5]

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[3] Riggio, Ronald E. (1996). *Introduction to Industrial/Organizational Psychology.* p 29
[4] partly adopted from David Silverman (2000) *Doing Qualitative Research. A practical handbook.*pp. 77-79
[5] Strauss, Anselm L. (1987) *Qualitative Analysis for Social Scientists. pp. 11-12*

1.2. Ethics and Research[6]

Ethics: a set of moral principles or values; a theory or system of moral values; the principles of conduct governing an individual or a group; a guiding philosophy

Research projects, like any project, have to take into account ethics. Ethics are the moral values or principles that fortify a project or situation. Research is like everything else in Guiding and Scouting – *the values and principles of our Movements should shape it.*

Even more importantly for Guiding and Scouting, children and young people may be involved in research and therefore strict care must be taken to ensure that they are not in any way taken advantage of or misused as research subjects. The need for child protection and controlled use of information about our members must be observed in a research scenario as well as in others.

It is important that anyone taking part in research knows exactly what they are taking part in. It may be useful to prepare an information sheet for participants in research that would state the following:

- *Who the research is for*
- *What it is about*
- *How the data is going to be used*
- *Who will see the data or have access to it*
- *How long the data will be used for*

This may seem a lot of information to give, but full transparency is better than difficult questions later.

Consideration and concepts of ethics is not only concerned with people issues in a research environment (e.g. focus groups, interviews etc) but also with the manner in which any research is carried out and is equally important. Integrity of data and transparency of sources is crucial as is objectivity in the collection and analysing of information.

There are a number of ethical principles that should be observed with any piece of research – both for literature research and for people research and these are generally accepted as a research code of conduct across the research community. These principles can be summarized as:

The principle of voluntary participation. All those involved in the research should be voluntarily participating. If a troop or a group of Guides or Scouts does not want to take part in a research on the programme then they should not be made to do so.

The principle of distance – research should be as objective as possible. It is of limited value for the leader of a group to ask questions about the relevance of the Programme of the Rover/Ranger section of his/her own troop if they will not be able to accept criticism

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without making comment. Ideally, somebody from outside the troop/group environment should be carrying out the research.

A researcher, who enters into the discussion, giving opinions on a subject rather than facilitating comments, will not be objective when analysing the data gathered.

The principle of informed consent. All those involved in the research should be doing so with full information about the nature of the research – the subject, the use, and the reasons for the research. This should be communicated very clearly to all those involved. In addition, questions that arise from this information should be answered openly and honestly.

If young Guides and Scouts are involved and the research will be in depth then it is advisable to ask for the consent of the parents or responsible adult before starting. The same principles of full information also apply here.

The principle of avoiding risk of harm. Harm could be both physical and emotional. Care needs to be taken to ensure that responses to research could not be used as a means of bullying or singling out individuals in a Guide or Scout group. It may also be necessary to avoid subjects that could cause distress to individuals. With adults, the risk of harm is minimized, but is still present.

The principle of confidentiality – information gathered from individuals in research should not be shared with others who are not directly involved in the research. In some cases, a principle of anonymity is also involved where the research subjects are completely anonymous – perhaps even to the researchers themselves. **It is vital that any research carried out and subsequent data held should conform with the Data Protection legislation in your country.**

The principle of reliability – information gathered must come from respected sources – whether that be other reports or research or from interviewed groups. The sample size of groups needs to be large enough to give some idea of a range – therefore making it easier to develop conclusive points.

The principle of validity – what makes research work valid? Good ethics from the start, transparency, reliability, objectivity – all of these will go towards making a piece of research valid. In addition, relevance to the society in which it is being conducted will also assist validity.

It is clear that the ethics of research can be much more complex and that no one solution exists for all situations. However if the above principles can serve as a starting point then it is likely that the right approach can be found.

2. Basic research process

In this tool kit we introduce a research process model that puts the emphasis on problem solving. This approach is seen as a practical way of approaching the research. It is important to remember that no piece of research stands alone. The possible research problems emerge as part of ongoing work; one research project may easily lead to another because it raises issues the researcher had not previously considered. Therefore all the research processes can be thought of as a spiral that goes on and on, leading to new areas or problems that need to be addressed. It is also good to remember that researches done are normally crucial parts of decision-making and policy building processes.

In this tool kit the research process will be explained as in figure 1. The following research process model has been inspired by theories created by *Ronaldo E. Riggio, Robson, Burns & Grove, Giddens and Jean-Paul Jeannin.* [7] Each of the chapters in this tool kit is based around different phases of the introduced research cycle. The main contents of each phase are as follows:

Ideas for the research (chapter 3)
Before starting any research it is beneficial to consider some relevant questions. This section offers you a starting point for this research process.

Formulation of the research problem and purpose (chapter 4)
The formulation of the research problem is the first step on the planning of the research. In order to know what to research, you need to know your Association well. For this you need internal analysing tools to help. Also clarifying existing materials and researches will help you to go further. It might be that in the end you decide to do research based on the existing materials. After knowing what is needed and what already exists it is easier to define the purpose of the research.

Developing the research question(s) and hypothesis (chapter 5)
The main work is to develop clear key question(s) for the research. After the key questions have been decided, it is time to decide on the hypothesis of the research. To assist with this process, terms such as variables and different measurements are introduced in this chapter.

Choosing a research strategy and design (chapter 6)
Once the research hypothesis is clear, it is time to design the research. This involves first deciding on the research strategy and after that looking into different research methods available. Crucial parts of research design are also the resources available for conducting the research.

Arranging practicalities and conducting the research (chapter 7)
Part of arranging practicalities for the research is deciding the sample size of the research and piloting or pre-testing the chosen research method(s). This tool kit also raises some issues on management and supervision of the research project and on actually collecting the data.

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[7] For further information, see bibliography list.

Analyzing the results (chapter 8)

Once the data has been collected the analysis of it starts. First the data is organized by categories, themes and patterns and then tested against the hypothesis of the research project. Part of analysing is also the process of looking for alternative explanations of data. Once all this is done, it is time to write the research report.

Acting on findings (chapter 9)

The research results may lead to some type of change in the organization and therefore some guidance on how to cope with results received from the research is given at the final section of this tool kit. The implementation of an action plan is not included in this tool kit, as that leads to another large subject, on which there are plenty of good materials available.

Figure 1.

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        Idea of a possible
        research
        problem/topic

Action plan                        Formulate the research
                                   problem and purpose

Act on research findings
                                   Develop the research
         Research cycle            question(s) and hypothesis

Analyse the results
                                   Design research in order to
                                   test/verify the hypothesis

         Arrange practicalities and
         conduct the research
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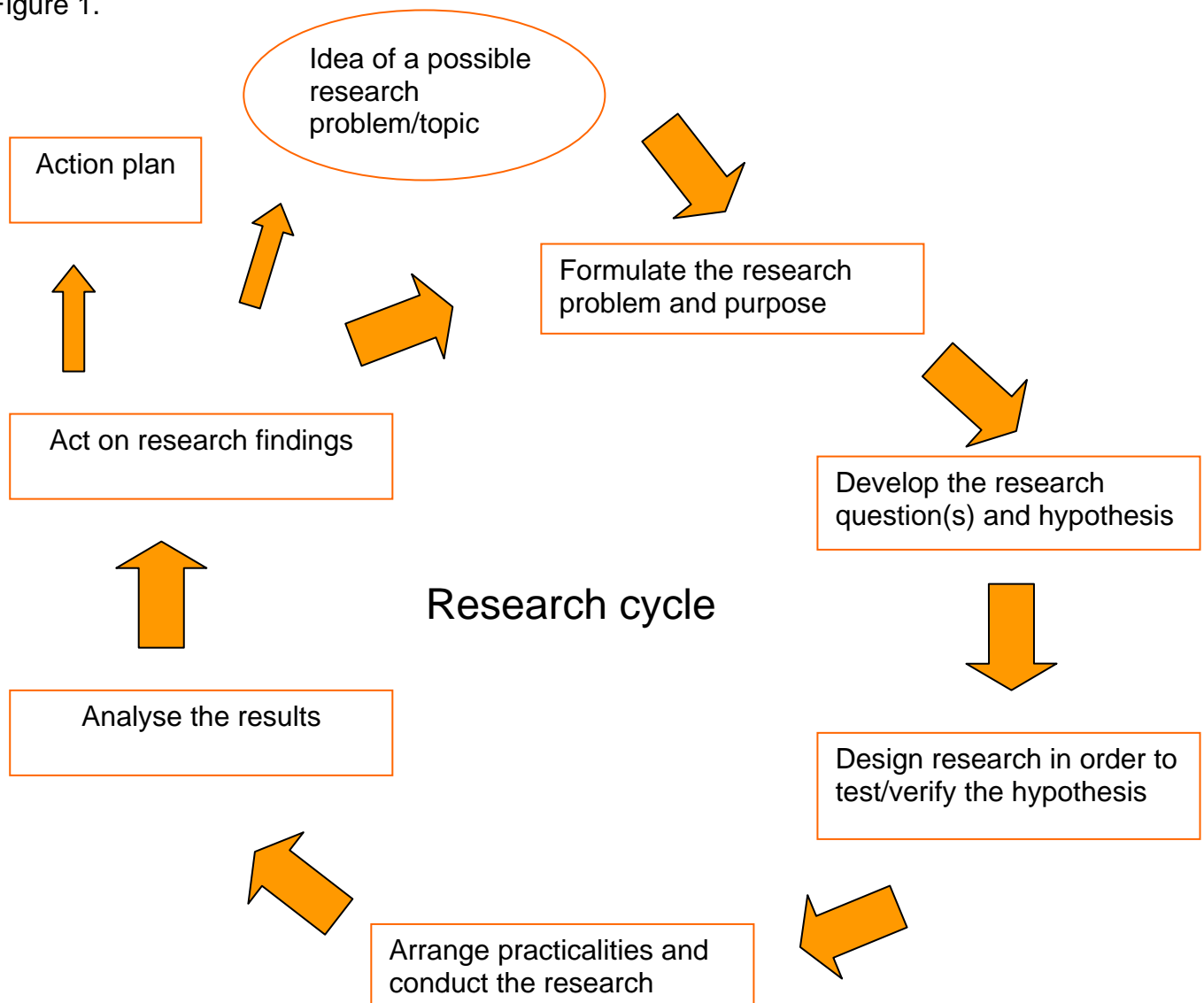
This research cycle explained is a straightforward model. A research process can also be described as a backward research process. This model turns the traditional approach to research design on its head. This procedure stresses close collaboration between researcher and decision makers. This model starts where the process usually ends and then works backward. Each stage in the design is developed on the basis of what comes after it, not before. The steps of the model in brief are:

1. Determine what key decisions are to be made using the research results.
2. Determine what information will help management make the best decisions.
3. Prepare a prototype report and ask management if this will best help them make their decisions.
4. Determine the analysis that will be necessary to fill in the report.
5. Determine the questions that will be asked to provide the data required by the analysis.
6. Ascertain whether the needed questions have been answered already.
7. Design the sample.
8. Implement the research design.
9. Analyse the data.
10. Write the report
11. Assist management to implement the results.
12. Evaluate the research report and contribution.[8]

The backward research process could be a good way to introduce the need for research project in the Association, as it clearly shows the linkage between the decisions to be taken and how the research can assist with it. If you feel that the backward process suites better your needs, you are free to use the model and implement the sections in this tool kit according to it. Just remember, that this model requires a lot of time commitment from management and the key emphasis should be on the first two steps as those are the most important ones.

The steps described in both models are a simplified version of what happens in actual research projects, where it is rare that the stages succeed each other so neatly, as there are almost always, many exceptions. The difference can be described a bit like that between the recipes outlined in a cookbook and the actual process of preparing a meal. People who are experienced cooks often don't work from recipes at all, yet they might cook better than those who do.[9] The more you have experience, the easier it is to see when you are able to create your own way of work, way of cooking. If you are not experienced yet, it is sometimes better to ask for professional help to support the fulfilment of the research. In that case, it is still wise to understand for yourself what is going on, as your contribution is vital in the research process.

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[8] Kotler and Andreasen (1996). *Strategic Marketing for Nonprofit Organizations.* p 225
[9] Giddens, Anthony (2001) *Socxiology* p 643.

3. Idea for the research

Normally every one of us is full of ideas for things that need to be done and developed further. Therefore it is not a problem to find a topic for a research or a study. The main challenge is to clarify the background of the problem and all the things related to it. Sometimes, identifying the key problem could cause extra challenges, as the first idea that comes to our minds might not always be the most essential one.

We offer here a list of questions for you to consider on your way to defining the research topic. It is recommended that you involve many leaders in answering the questions. Remember that you are the expert on your Association and that each problem is unique.

Questions to be considered before starting the process:

- o What problems are we facing?
- o Do we know enough of the problem?
- o What more would we need to know?
- o Can the problem be broken down into smaller focuses?
- o Who is influenced by the problem?
- o What has been done previously on this area of work?
- o Are there any research/studies that can be used as support material?
- o What kind of background information do we need?
- o What knowledge and skills do we need to carry out the research/study?
- o Who should we inform about the research process?
- o How can we market the research /study?
- o Can the study be combined with any other topic (problem, research)?
- o What are my own motivations on this research?
- o Who can I ask to help me? Give advice and instructions?
- o Is it possible to find an external expert to help?
- o What is the aim/purpose of the research?
- o Who asks for the research? Us? National Board? Members? One person?
- o Do we have financial resources to support the research?
- o When is the best time to start the research?
- o Are we ready to give the research enough time and money to take place?

Conducting research can be fun and it teaches you many useful skills. It has proven to be a very rewarding, learning experience. At times it can also be frustrating, demanding, tiring and stressing. These symptoms pass by and you can avoid most of them by preparing yourself well for carrying out the research.

The following chapters will give you more food for thought and also provide you with some guidance on how to find the best research solution for your problem.

4. Formulation of a research problem and purpose

All research starts from a research problem that can be thought of as a puzzle. A puzzle is not just a lack of information, but a gap in our understanding of the problem. In many researches the concentration is on identifying puzzles.

A good practical research takes more than a simple answer to the question, "What is going on here?", as we would also need to understand Why? Each type of problem can be approached from different viewpoints depending on your starting point.

It can be approached:
- o from a factual viewpoint: What happened?
- o through comparative questions: "Did this happen everywhere?"
- o through developmental questions: "Has this happened over time?"
- o through theoretical questions: "What underlies this phenomenon?"[10]

In order to overcome the problem we then need to go further and to find ways to change the situation for the better. The formulation of a research problem plays a key role in this process.

Here is a list of specific considerations in choosing a problem that you need to bear in mind while identifying the problem [11]
- o Workability
  - ➢ Is the problem within the limits of your resources and time constraints?
  - ➢ Is the required methodology manageable and understandable?
  - ➢ Is there reason to believe you can come up with an answer to the problem?
- o Critical mass
  - ➢ Are there enough potential results? Enough variables? Enough to write about?
- o Interest
  - ➢ Are you interested in the problem area and potential solution?
  - ➢ Does it motivate you?
  - ➢ Will you learn useful skills from pursuing it?
- o Theoretical value
  - ➢ Will others recognize its importance?
  - ➢ Will it contribute to advancement in your field?
- o Practical value
  - ➢ Will the solution to the problem improve the situation?
  - ➢ Will your own practices be likely to change as a result?

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[10] Giddens, Anthony (2001). *Sociology.* pp. 640-641.
[11] Tuckman, Bruce W. (1994). *Conducting educational research.* pp. 39-40

4.1. Start where you are - Internal Analyses

Before you start any research you need to be clear on the subject of the research. It is important that an Association is clear on what needs to be researched or what research needs to be found. A good way to do this is to first evaluate the internal strengths and weaknesses. The weaknesses are the areas that need to be developed and research can help that development.

There are a number of tools that can be used to assess strengths and weaknesses:

4.1.1. SWOT Analysis

SWOT stands for Strengths, Weaknesses, Opportunities and Threats and provides a framework for discussing and analyzing each of them. Strengths and weaknesses refer to things inside the organization; opportunities and threats refer to things outside. Using this framework, you then need to make the most of your strengths and take advantage of the opportunities while at the same time doing something about your weaknesses and making sure the threats facing you do not damage the organization. This can then be used to identify topics for research.

Example:

Strengths	**Weaknesses**
Committed leaders Strong Finance	Out of date programme No succession planning Possible research topic – Programme needs of a particular age group.
Opportunities	**Threats**
Government encouraging volunteering in publicity campaign Promotional research on Volunteering and its contribution to the economy	Competition with other voluntary organizations Possible research topic – what do other voluntary organisations offer, comparative analysis

4.1.2. PESTLE Analysis

A PESTLE analysis is another useful tool to be used when analyzing the situation of your Association. A PESTLE analysis will help you to assess the external macro-environment in which your Association operates. It complements your SWOT analysis.

There are six parts to a PESTLE analysis:

Political factors	E.g.	Policy towards non-governmental organizations
		Political Stability
Economic Factors	E.g.	Economic situation of your membership and the wider public
		Support available from funders
Social Factors	E.g.	Health
		Population demographics
		Outlook of society on volunteering/youth organizations
		Employment market
Technological Factors	E.g.	Access to IT
Legal	E.g.	Changes in legislation for the voluntary/NGO sectors
Environmental	E.g.	New ways of living, migration, natural disasters

The outcomes of your PESTLE analysis can also be used in the opportunities and threats section of the SWOT analysis. It may be necessary to carry out some research in order to correctly assess the PESTLE areas, for example: reading latest reports on economic indicators or population demographics. As with the SWOT analysis, many research opportunities could be found in this e.g. Impact of Social factors on involvement of young people in volunteering.

It is important to think very hard when making the SWOT and PESTLE analysis. Only by being completely honest with ourselves can we start to move forward.

4.1.3. Needs Analysis

This is another way of assessing the internal situation of the Association. It is often based on the principles of SWOT and PESTLE but rather than identify issues it focuses on trying to answer questions. Normally an objective 'outsider' would run this process and provide the questions – e.g. Where do you want to be as an Association in 10 Years. What do you need to get there? What have you not got there yet? How would you change the situation? etc etc. The Needs Analysis is like the roots of a tree – it can spread and spread! However, like a tree, although the main part may be above the ground, the real issues (or roots) are underground and need digging to bring them out. Carrying out a needs analysis using the 'tree method' is a good way for getting to the heart of an issue, but it has to be done quickly and with dynamism so as not to loose the momentum and the 'true' answers.

4.1.4. Establishing the 'competitiveness' of the Association

Whether we like it or not, the fact that there are now so many opportunities for young people means that there is a competitive element to our work. We have to show why being part of Guiding and Scouting is more advantageous than other youth activities. It is therefore necessary to look outside in order to assess what is happening inside. Look at the Non Governmental Organisation (NGO) sector in your country and identify the five largest youth organizations. Look at what they offer for young people, look at how they offer it, look at the cost, look at the image or 'brand' and anything else you think may be relevant. Make a comparison across all the organizations with exactly the same data for each one. Then use the data to reflect on your organization.

Example:

Are all the other organizations cheaper than yours while still providing good value for money? If this is the case, then perhaps your Association needs to look further at how it is financed and how much is expected from the members.

4.1.5. Force Field Analysis

The force field analysis can be useful for considering what are the 'fors' and 'against' in any decision that needs to be taken. Often, this method is used when a particular area of change is being considered. By carrying out the analysis, it should be possible to clearly identify the strong reasons for a decision whilst at the same time identifying and hopefully dealing with reasons not to take or implement a particular decision.

To actually carry out a force field analysis the following steps should give some direction:

List all the forces (reasons) for change in one column and all forces (reasons) against change in another column.
Give each force a value on a scale of 1 to 5 where 1 is weak and 5 is very strong.
Put all of this data into a visual format:

Forces for Change   Forces Against Change

TOTAL   TOTAL
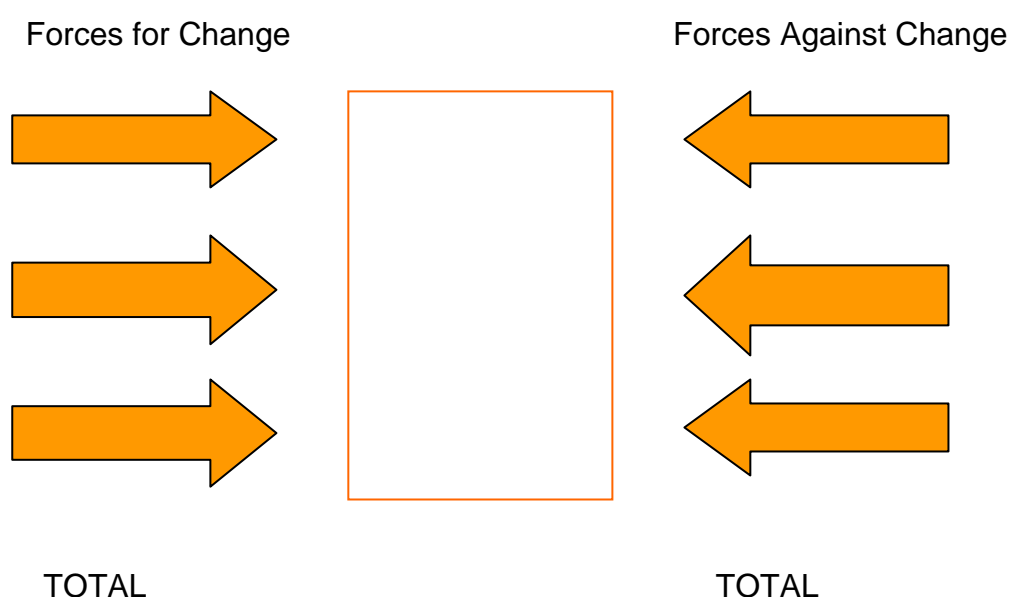
If the total in the Forces for Change column are lower than in the Forces against change column it may be worth re-thinking if the change is really viable and/or necessary. However, if it is decided to go ahead with the change, then the force field analysis can help you identify the 'against' factors and hopefully give a starting point to overcoming resistance to change.

An example relevant to an Association and one that could require significant research would be the decision whether or not to introduce a new age section to your Association e.g. a pre-brownie/pre-cub section.

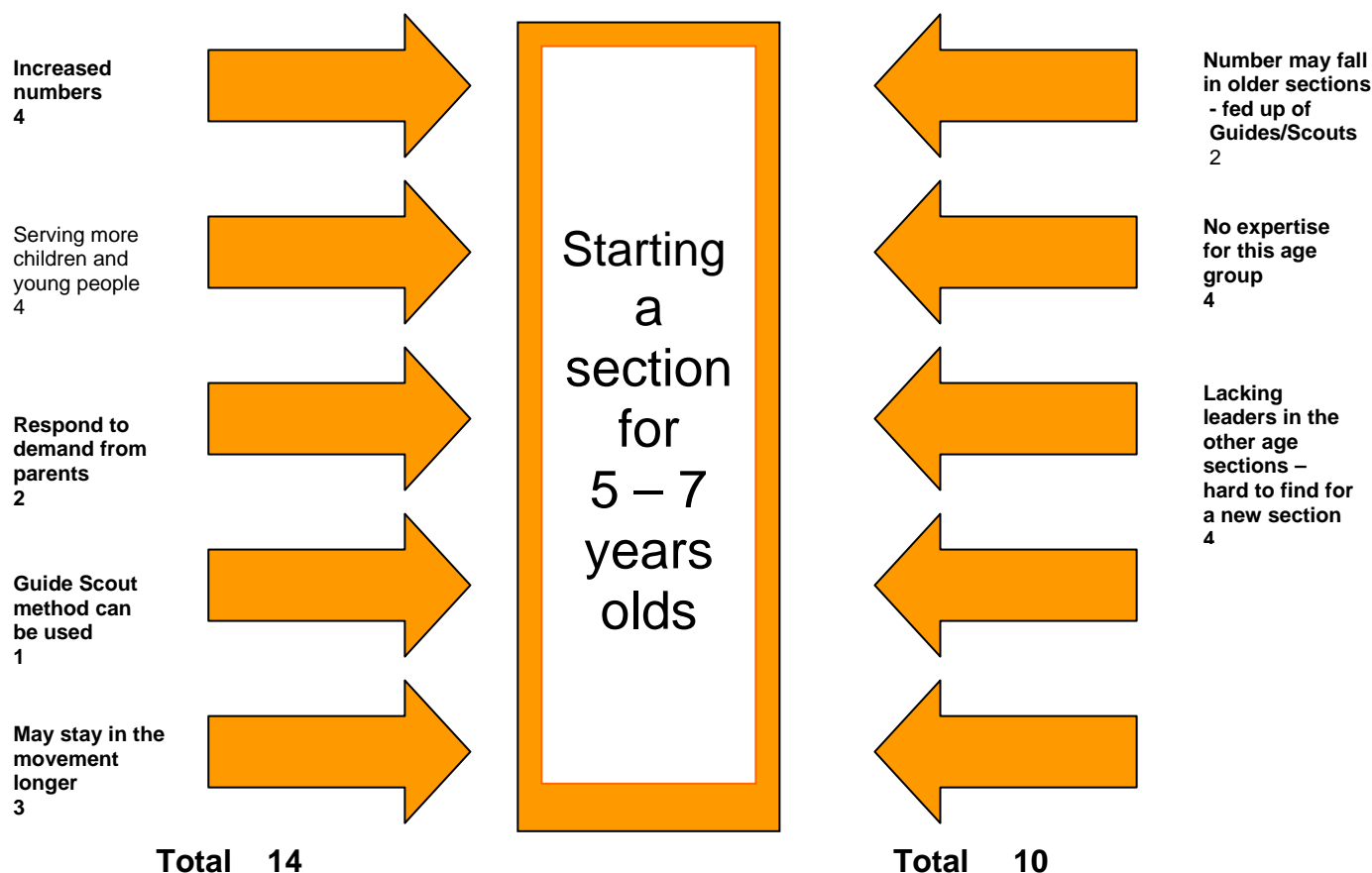| Forces for Change		Forces against change
Increased numbers 4 →	**Starting a section for 5 – 7 years olds**	← **Number may fall in older sections - fed up of Guides/Scouts** 2
Serving more children and young people 4 →		← **No expertise for this age group** 4
Respond to demand from parents 2 →		← **Lacking leaders in the other age sections – hard to find for a new section** 4
Guide Scout method can be used 1 →		←
May stay in the movement longer 3 →		←

Total 14   **Total 10**

In this example it is possible to see that the major issue is leadership and training. If those can be addressed clearly, there is a chance that the forces against the new section will be reduced. So the real area of work that the association or NSO needs to focus on is the recruitment of leaders and the development of training for the new section.

Further information on using the Force Field Analysis technique can be found at
http://www.extension.iastate.edu/communities/tools/forcefield.html
http://www.sytsma.com/tqmtools/force.html

Information on all of the above methods can be found in the T-Kit Organisational Management published by the Council of Europe and the European Commission
http://www.training-youth.net/INTEGRATION/TY/Publications/tkits/tkit1/index.html

4.2. Review of relevant data

Before rushing into gathering new data to carry out your research, it is recommended to invest time in finding out what kind of data there is already available for the research purposes. It might be that you are able to at least find some of the existing data for your study. In any case, a thorough look into data available will give you an understanding of the various ways you could use the sources available.

4.2.1. What is data

By data we mean facts and figures from which conclusions may be drawn.

Data for which the researcher designs the research, administers it, collects the data, and enters the data into a database are considered as primary data. Data that are used by someone other then the person who collected them are referred to as secondary data. Another important distinction in data is the division into quantitative and qualitative data. Quantitative data is numerical (such as membership data) and qualitative data normally is verbal (such as description of the situation). In this section we concentrate on the secondary data, that is identifying the data already available for research purposes.

Here are some advantages of using available data in researches. First of all the available data provides the researcher with the best and often the only opportunity to study the past. Secondly, the analyses of available data are well suited to studies of social or organizational change and trend studies. Thirdly, the existing data provides a good opportunity to study problems across more than one country. Fourthly, the use of available data often affords the opportunity to generate very large samples (a representative group from a larger population for study) and use replication in researches. And last but not least, it allows us to economize greatly on cost, time and personnel. The cost of obtaining available data is a small fraction of the cost of producing the data yourself.[12]

It is important to remember that although the data originate with the research; they are not there before the research is undertaken. In doing the research it is important to make use of available data. Sometimes it is worth using data that was produced by another investigator for a completely different research purpose, but at other times, one may use available data that were not produced for any research purpose at all. The variety of such data is tremendous; it is only limited by the researcher's imagination.[13]

4.2.2. How to find secondary data?

The sources of available data may be placed in five broad categories:
1) public documents and official records, including the extensive archives of different National Bureaus,
2) private documents,
3) mass media,
4) physical, nonverbal materials
5) scientific data archives.

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[12] Singleton, Royce JR et all (1988) *Approaches to Social Research* pp. 335-337.
[13] Singleton, Royce JR et all (1988) *Approaches to Social Research* p. 326.

These categories provide a useful summary of data sources, although they do not represent a mutually exclusive set of categories. It also needs to be noted that data source may be placed in one or more of these categories.[14]

The public documents and official records category includes all the public data available, starting from books to data collected by governmental agencies. A great deal of written records are public and available to be used as data. Just to mention some of the massive information available – documents from different departments of government, official statistics, data of births, directories and almanacs. Remember that there are many sources of statistical data available on the Internet.[15]

Private documents are a less accessible, but not less important, data source. By private documents we mean information produced by individuals or organizations about their own activities that is not originally intended for public consumption. Good examples of these are diaries, letters, personnel and sales records etc.[16]

Mass media is a part of written record, as well as an oral and nonverbal record. These include newspapers, magazines, television, radio and films. Although physical, nonverbal materials are seldom used in research, they constitute a rich source of evidence. These are considered to be works of art, clothing, household items and various artefacts. The last category, scientific data archives represents the data collected by various agencies and researchers that are accessible to public.[17]

To improve your ability to theorize about data, think about[18]:
1. Chronological. Gather data over time in order to look at processes of change.
2. Context. Consider how your data are contextualized in particular organizational settings, social processes or sets of experiences.
3. Comparison. Try to find ways to divide your data into different sets and compare each.
4. Implications. Think about how what you have discovered may relate to broader issues than your original research topic.
5. Lateral thinking. Explore the relations between apparently diverse models, theories and methodologies.

4.2.3. Planning the collection of the secondary data

There are multiple sources of available information, especially concerning the lifestyle of young people: what young people buy, how much they spend, weekly allowance, use of tv and radio etc. Be creative and use the opportunity to get information from other youth organizations. They can provide you with good examples of different polices and working areas. As there are so many possible sources, it is worth planning the collection of secondary data well in advance.

When you start to search for potential sources, make clear systematic plans for where and when are you going to do that. The further you go on your search, the more you realize

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14 Singleton, Royce JR et all (1988) *Approaches to Social Research* p. 326-327.
15 ibid.
16 Singleton, Royce JR et all (1988) *Approaches to Social Research* pp. 326-332
17 Singleton, Royce JR et all (1988) *Approaches to Social Research* pp. 332-335
18 Silverman, David (2000) *Doing Qualitative Research*. A practical Handbook p. 86

that good notes and clear plans save you a lot of time. Also use the help available (libraries etc). Nowadays there are many search programmes available and knowing how to use them will help you the most. If your research topic is very broad, be aware that you may need to reserve plenty of time for the collection of secondary data. The better you have identified the key words in your problem, the easier it is to limit the search. Do not ignore this part in the planning of your research strategy, as the groundwork lays the foundation to the entire research plan.

Guide and Scout Associations have many different sources of data. Good examples of these are the membership data available (how many, where, gender, age groups, length of membership etc), also all the data available from different activities (camps, trainings etc) and the different evaluations done in the Association. If there is an evident lack in gathering general information about the members of your Association, it might be a good time to start to plan a long term way to get this information, as it might play a vital role for the development of your Association in the future, especially when you want to do research where you need information from the past.

4.2.4. How to evaluate the information?[19]

It might seem as if documents are very straightforward sources of data that can be read and the data simply extracted. Unfortunately this is not the case, as many texts are extremely difficult to understand. As a reader, you need to be a critical consumer of the information you find. Remember that just because it has been published in one format or another does not validate it. Only you can assess its value!

The primary criteria for evaluating information resources are the scope and content of the information. Does the scope of your information provide sufficient breadth and depth? That is, are all aspects of the subject covered and to what level of detail in the subject does the resource go? Is the purpose, audience, accuracy, authority, currency and quality of your information appropriate for your information needs?

Questions to consider about the content (see definitions in the glossary):

Audience (target group)	Who is the intended audience for this information? Is it intended for a subject expert or to members?
Authority	What is the author's expertise? Are the author's sources of information documented?
Credibility	Is the source credible? Has it been done objectively?
Currency of information	Is the information in the resource limited to certain time periods? Is the information source current or out-of-date for your information requirements?

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[19] Kentucky Virtual Library. *How to do research tutorial?*

Purpose	What is the purpose of the resource?
	Is the purpose to inform or to persuade, to educate or to advocate?
	Or is it to entertain or to advertise or simply to report?
Quality	Is the text well-written?
	Is it creditable?
	Does it "add value" to the other sources of information you have found?
Reliable	Is the information accurate? How do you know it?
Representativeness	Does the sample of the research represent well the target group?
	Can you generalize the results to a larger audience?
Sampling	How has the sample been collected?
	Is it large enough?

Remember that if you end up using the secondary date you will need to ensure that you are acknowledging the original source of the data appropriately through references etc.

4.2.5. Efficient reading of research[20]

Before beginning to read a paper, consider why you are doing it. It is important to define what you want to get out of it, as your needs control how you read. Do you just want to have an overview or do you want to use the information later? If you do not know what you hope to gain from the paper, you can not tell whether reading it will be beneficial or not.

Remember that reading is a process of getting ideas from the author. You must focus on the author's thoughts, not just read the words on the paper.

In order to get most out of reading, you should be properly prepared. Start by asking "what did the author do?". Reading the title and the synopsis should tell you this. If you find the paper useful, then read it. If you think the paper might be useful later, file it. If it feels irrelevant to you, skip it.

Build a framework
Essential in reading papers is building a framework. For this you first need to skim the paper in question. This is done by reading first the introduction, section headings, the tables and graphs, definitions and also the conclusion. Also skimming the bibliography gives you an idea of the paper. In deciding on the credibility of the article, you should consider the following questions:
- Who wrote it? Are they well-known?
- Where do they work? What biases might they have a result of their employer?

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[20] Hanson, Michael J. (1989). *Efficient Reading of Papers in Science and Technology*

- Where was the paper published?
- When was it written? Might it be outdated or superseded?
- Has the research been commissioned by someone? How could that have influenced the results?

Developing the framework first, adds to your general understanding of the field and gives you a basis to understand the paper better. By knowing the conclusions they draw you can follow their arguments more easily. Once you know where they are going you can follow their path and have a chance to find shortcuts or places where they missed a turn.

After skimming the paper you can decide if you want to know more. If you are interested in how they did the paper, then read the body of the text for details. If not, file away what you have learned from the paper and congratulate yourself for saving the time of reading the paper in depth.

Challenge what you read

As you know, there is a lot of junk published, so you should be selective in what you read and what you believe. Always approach the papers with scientific scepticism. This can be done by trying to tear the arguments apart.

Examine the assumptions
- o Do their results rely on any assumptions about youth or trends?
- o Are these assumptions reasonable?

Examine the methods
- o Did they measure what they claim?
- o Can they explain what they observed?
- o Did they have adequate controls?
- o Were tests carried out in a standard way?

Examine the conclusions
- o Do the conclusions follow logically from the observations?
- o What other explanations are there for the observed effects?
- o What other conclusions or correlations are there in the data that they did not point out?

By challenging what you read, you will understand what and why the author is saying it. Then you are able to decide whether the evidence supports their conclusions and to draw your own conclusions from their data. Once you understand the paper, ask yourself how you could apply their approach to your own work. Defining highlights in each of the sources you find depends mostly on your own hypothesis; for example, you would need different evidence if your purpose is to confirm the hypothesis or if it is to overrule.

React to what you read

Taking notes as you read will help you to understand what you read and will save your efforts in the future. When you have just read a paper, everything may be clear to you, but this might not be the case next week. As you read, it is beneficial to highlight major points. By noting definitions, examples in the marginal and then explaining them in your own way, you will get deeper into the paper.

It is valuable to react to the points in the paper. If you see any correlation to your work or if you doubt a statement, note it in the margin. If you find a good quotation, write it down. Try

to construct your own examples, as this can tell you if you understand the definitions and terminology or not. When you have digested an article, try to write a short summary about it in your own words. What you have learned from it, what were the main points for you? This summary serves as a reference for you when you need to return to the paper.

By reacting to what you are reading, you get emotionally involved in the argument. Emotions emphasize what is said, making it easier to remember and understand. Writing a summary helps to relate the paper to what you already know, again aiding memory by tying into your framework for the subject.

4.3. Developing a framework/purpose

There are many purposes for which research might be carried out. A research might be someone's passion, ordered by someone higher up as part of a bigger project. Generally speaking, we can ask ourselves when conducting research, are we hoping to confirm, inform or manipulate someone with it. Or do we want to influence, delay having to make a decision or start a dialogue around the topic. In any case, the research normally involves many purposes (general, individual) and these depend on the people involved and are influenced by the research project. It is good to acknowledge these purposes and make them explicit for all the people involved. Through open communication the different purposes can be better met. The basic model in this tool kit concentrates on the purpose of problem solving.

In a scientific context, the following broad purposes can be identified:
Exploration tries to answer to the question "what is going on here?". It seeks to find something in a new or under-researched area. A researcher may, for example, try to find out how many members live in families that are living in poverty in a particular city.
Descriptive research is where the researcher tries to construct a clearer and more comprehensive picture of something in relation to the theoretical questions from which the research began. The research will be built on existing bodies of knowledge and fill in further details in order to arrive at a final picture. A descriptive project, may try to show how poverty, health and leisure time are related together as aspects of young people's lives in a particular city.
Explanatory research seeks to go beyond reporting the facts to seek out the causes and influences that are at work. It asks ´why is this happening´ and ´what is the most important factor in this?´. An explanatory study might try to see whether low pay, bad housekeeping or low leisure activity is the most important cause of young people dropping out of school.[21]
Predictive research tries to predict the outcomes of the phenomenon and forecast the events and behaviours resulting from it. It asks ´what will occur as a result of this phenomenon?´.[22] A predictive research could try to see what happens with young people if they grow up in poverty.

In most cases it is often forgotten that a purpose of research can be an evaluation. In general the purpose of any evaluation is to assess the effect and effectiveness of something typically, some practice or service. In fact most studies and research projects

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[21] Fulcher & Scott (1999). *Sociology*. p. 73
[22] Marshall & Rossman (1995). *Designing Qualitative Research*. p 41.

are for evaluation purposes and are highly likely to cause some change and therefore are very practical.

Evaluations studies carried out can have a <u>formative/process</u> approach or <u>summative/outcome</u> approach. In formative/process evaluations the intention is to help the development of the programme, innovation or whatever is the focus of the evaluation. Whereas in summative/outcome evaluations the concentration is on assessing the effects and effectiveness of the programme. This is likely to cover the total impact of the programme.[23]

There are many types of evaluation: – that is, different conceptualisations as to what evaluation is all about and what kind of activity is stressed in the evaluation. These include the following[24]:

1. *Front-end analysis* (context, pre-installation analysis). These take place before programmes start and aim to provide guidance in their planning and implementation.
2. *Evaluability assessment.* Assesses feasibility of evaluation approaches and methods.
3. *Formative evaluation* (developmental, process). Provides information for programme improvement, modification and also for management.
4. *Impact evaluation* (summative, outcome, effectiveness). Determines programme results and effectiveness, especially for deciding about programme continuation, expansion or funding.
5. *Programme monitoring.* Checks for compliance with policy, counting of members.
6. *Evaluation of evaluations* (secondary evaluation, evaluation audit). Critiques of evaluation reports, external reviews of internal evaluations.

In Guiding and Scouting the purposes for which the research is carried out are mainly to explore the situation, such as how to involve a new public into our activities; to explain why the situation is like this, for example why do we loose members in particular places; or to carry out various types of evaluations on our activities, such as evaluating if our educational programme is up to date and attractive.

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[23] Robson, Colin (1993) *Real World Research.* pp.170-181.
[24] ibid

5. Developing the research question(s) and hypothesis

In developing the research questions, it obviously helps if the person who will be conducting the research is really familiar with the area. It is also good to have a look around in different fields of research, as you might be able to find some useful parallels to your research questions. This way you can get more ideas for the research from different perspectives. Also consider using brainstorming with a group of leaders in order to see how they see the problem.

Try to avoid basic pitfalls of conducting research in the early stage of the planning process. For example: developing research questions simply on the basis that they allow the use of a particular computer package that you have available or carrying out a study that you don't know how to analyse or posing research questions that can't be answered or asking questions that have already been answered satisfactory in other researches.

5.1. Starting point/Key questions[25]

All research processes start with a point or an intuition. Any Association that undertakes a research would need to be able to take the lead in relation to these points and/or intuitions. This means clearly stating the objective of the research; this should be done first and foremost by defining a question from where to begin.

At the start of any research procedure, lots of questions spring to the minds of the group responsible for the research. It then becomes necessary to be selective to avoid loosing sight of the objective and the field of action. The question should express exactly what the initiators wish to know and understand. This will be the thin red line of the research.

A « starting-point » question should cover

3 criteria
Clarity (clear objective of the research)
Feasibility (possible to be done)
Pertinence (relevant)

6 qualities
1. Precise (neither vague nor confused)
2. Concise (not too long)
3. Straight forward (not fragmented)
4. Realistic (in relation to the means)
5. Explanatory (understandable)
6. Workable (possibility of finding an answer)

In fact the study should be based on something that exists (rather than on something that should exist) the intention being to understand or to explain the phenomena in a way that is not moralising or philosophic. The question permits the definition of the theme, the object of the study and the analytic field.

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[25] Jean-Paul Jeannin http://www.sosreseaux.com

It is essential to distinguish the type of questions such as:

« How to do …… » (that would orient the research towards a hypothesis or resolving action.
"How does that work..." and "why is it like this..." (that would lead to a hypothesis or explanatory research, trying to go beyond facts).

All research subjects are designed to clarify an action. Resolving a problem should begin with explicit questioning (why) and the solution should only be tackled in the 2nd phase.

5.2. The process for defining the primary question[26]

When starting research the first step is to define the primary question. This can be done collectively and then be followed by the project leader reworking the collective questioning to obtain a question that is in line with the 3 criteria and 6 qualities defined above.

Some ideas:
If the questions raised are too vague and too broad it is possible to identify the areas of tensions and/or contradiction, which are recognized as dominant points of difficulty.

If the identified areas or hunches are strong at the outset, a list should be made of all the questions that result and list them in 3 categories:
  o Simple questions that have their answers somewhere in the field
  o General theoretical questions
  o Complex questions, to which no one would seem to have the answer.

Your primary question will probably be found in the 3rd category.

Once the question has been defined, it will need to be tested with the members of the research group or the Association in order to verify the clearness, the precision and that it is understood by all in the same way.

This first important step should not be neglected, as it is the basis for good research and will lead to effective methods for finding the answers. Never hesitate to consult professionals in the field that the research touches on.

As you are defining your primary questions, bear in mind that it is best to prioritize clearly your focus. The better you can define it the easier it is for you to then move to the next level – forming of the hypothesis. Here are different types of research questions introduced for your inspiration:

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[26] Jean-Paul Jeannin http://www.sosreseaux.com

Types of Research Questions: [27]

Table 1.

Sample questions	General form
Causal-Research[28] Do Guides and Scouts behave better as a result of this educational programme? Do Guides and Scouts behave better in this program as compared with other educational programmes?	Does X cause Y? Does X cause more of Y than Z causes of Y?
Non causal-research What is the daily experience of the Guides and Scouts participating in this educational programme? Are the Guide and Sout centres located in the areas of primary need?	What is X? Is X located where Y is lowest?
Non causal-policy What do we mean by "members with disabilities"? Is the educational programme receiving support from the local authorities for other than educational reasons?	What does Y mean? Why does S support X?
Non causal-evaluation What are the characteristics of the best educational materials used? How do the various minority groups view this educational programme and judge its quality?	What makes W good? Does T value X?
Non causal-management What is the cost-effectiveness of the camp with other camps? How can we maximise the number of members with minimum expenses?	Is X more cost-effective than Z? How are U maximized and V minimized simultaneously?

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[27] Example modified from N.L.Smith 1987, p.311
[28] Condition for causality is that something necessarily precedes a result, but does not produce it.

5.3. Generating hypotheses

Hypotheses are statements/predictions about the supposed relationships between or among variables, a testable proposition.

When you have found the key questions, you are likely to have provisional or anticipated answers to them. It will then be necessary to logically prove (demonstrate) the appropriateness of the answer. Hypotheses translate the research problem and purpose into a clear explanation or prediction of the expected results or outcomes of the study. They are normally expressed as a declarative statement in the present tense. The generation of a hypothesis (or statements concerning the supposed relationships between and among things or event, known as variables) is based on observations about the phenomena or problems in the real world, analyses of the theory and existing knowledge.[29] Variables are those elements that a research investigation measures. The hypothesis will be later tested through the analysis of the collected, systematic observations of variables. By testing the hypothesis a researcher may develop a theory or model, which is an organization of beliefs that enables us to understand the research topic more completely. [30]

A hypothesis is a temporary suggestion, a presumption that needs verification. There is no observation or theory to be found in the hypothesis. When hypotheses are not explicit they are implicit or spontaneous. A hypothesis must be verifiable (by qualitative and quantitative factors); precise (speak to everyone, do not judge its value); communicable (other researches should be able to understand them and use them as a basis for other research).

Hypotheses are arrived at either by *deduction*, that is, deriving them from a more general statement like a theory or by *induction*, that is, deriving them from the combination of specific observations or facts. In the Guiding and Scouting context, it is likely that the hypotheses are arrived at by induction, based on observations/notes and applied to general context. Studies might have one, two, five or more hypotheses, depending on the complexity of the study. The type of hypothesis developed is based on the problem and purpose of the study. The organisation of research around a working hypothesis is an excellent way to carry it out in an orderly fashion without sacrificing the spirit of discovery and curiosity. Further, research that is not structured around one or more hypotheses will not be considered as a true research by many researchers.

To understand the nature of hypotheses they are analysed in the following categories[31]:

Non-directional versus directional hypothesis
Non-directional hypothesis states that a relationship exists but it does not predict the nature of the relationship, whereas the directional hypothesis states the nature of the relationship between two or more variables. A directional hypothesis is preferred for discussion purposes as it gives a study meaning and direction. The following terms normally indicate the directions of relationships in hypothesis: less, more, increase, decrease, greater and smaller.

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[29] Burns and Grove (2001). *The practice of Nursing Research.* p 187.
[30] Riggio, Ronald E. (1996) *Introduction to Industrial/organizational psychology.* pp.30-31
[31] Burns and Grove (2001). *The practice of Nursing Research.* pp.174-178.

An example of a non-directional hypothesis: The number of attended trainings per leader influences the motivation of the leader in question.
Directional hypothesis: The more we have young leaders in local groups the greater the increase of Guide and Scout section.

Associative versus causal hypothesis

An associative hypothesis describes an associative relationship between identified variables that occur or exist together in the real world. In that relationship, when one variable changes, the other variable changes. These relationships can be positive, negative or neutral.

An example of a positive relationship hypothesis could be "a positive relationship exists between being a Guide or a Scout and good performance in school".

Causal relationships identify a cause-and–effect interaction between two or more variables, known as independent and dependent variables.

For example, a hypothesis could be "Guides and Scouts in the experimental group that receives a orienteering training are less likely to be lost during the next hike than Guides and Scouts in the comparison group that does not receive the training "

Simple versus complex hypothesis

A simple hypothesis states the relationship (associative or causal) between two variables in question. One possible format for stating a simple associative hypothesis is: Variable X is related to variable Y.

For example "Camping skills are related to the number of years in Guiding and Scouting"

A complex hypothesis predicts the relationship (associative or causal) among three or more variables.

For example, "A leader training programme administered to young women: a) improves their level of self-esteem; b) lowers their level of depression; c) increases their level of participation in activities at national level."

Null versus research hypothesis

Null hypotheses/statistical hypotheses predict no relationship between variables. They do not need to be specified, as they are the hypotheses that are statistically tested in an effort to disprove them.[32] A null hypothesis can be simple or complex, associative or causal.

A research hypothesis is the alternative hypotheses to the null hypotheses. It states that there is a relationship between two or more variables and can be simple or complex, non-directional or directional and associative or causal.

There are also action researches where we make the hypothesis that by putting into place the project this will produce the action. In this case, the project is the directive for the action, its goal being to transform the reality and the procedures.

It needs to be noted that in some qualitative research, only a problem and purpose are used to direct the study. In these cases it is realized that the specification of objectives or questions might limit the scope of the study and the methods of data collection and

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[32] Tuckman, Bruce E. (1994) Conducting educational research. p 80

analysis. Discovery is important in qualitative research and the hypotheses are therefore not necessary nor desirable in a well-constructed qualitative design, in particular.[33]

5.4. Variables

> Variables are normally qualities, properties or characteristics of persons; things or situations that change of vary

The research purpose and objectives, questions and hypothesis identify the variables and concepts that need to be examined or observed in the study. In research, the variables in question are characterized by degrees, amounts and differences.[34] In other words a variable is any dimension in which individuals or groups vary. When discussing variables, the aim is often to work out a causal connection involved in correlations. By correlations, we mean the existence of a regular relationship between two sets of occurrences or variables.[35]

In different fields of science, variables have been classified into a variety of types to explain their use in research. In research studies some variables are manipulated; others are controlled. Some of them are identified but not measured; others are measured with refined measurement devices.[36] The types of variables presented in this section are independent and dependent variables, moderator and mediator variables, extraneous variables and intervening variables. Note that in reality there are more variables and also combinations of them.

The independent and dependent variables[37]
The relationship between independent and dependent variables is the basis for formulating hypotheses in many fields of study. An independent variable is a stimulus or activity that is manipulated or varied by the researcher to create an effect on the dependent variable in question. If an experimenter studying the relationship between two variables, X and Y, asks himself, "What will happen to Y if I make X greater or smaller?" he is thinking of variable X as his independent variable in the experiment. The independent variable can also be called an intervention, cause, treatment, experimental or factor variable.

A dependent variable is the response, behaviour or outcome that the researcher wants to predict or explain in the research. Changes in the dependent variable are presumed to be caused by the independent variable in question. In the previous example, "What will happen to Y if I make X greater or smaller?" the Y is the dependent variable. It is the variable that will change as a result of variations in the independent variable X. Dependent variables can be measured, but not manipulated. They can also be called an effect variable or a criterion measure.

For example, what will happen to the Guide/Scout section membership if the membership of brownies/cub scouts increases or decreases?

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[33] Burns and Grove (2001). *The practice of Nursing Research.* p. 182.
[34] Burns and Grove (2001) *The practice of Nursing Research.* p. 182
[35] Gibbens, Anthony (2001). *Sociology.* p. 644.
[36] Burns and Grove (2001) *The practice of Nursing Research.* p. 183
[37] ibid, Tuckman (1994) *Conducting Educational Research.* p. 84.

The moderator and mediator variables

The term moderator variable describes a special type of independent variable, a secondary independent variable selected to determine if it affects the relationship between the primary independent variable and the dependent variable. It can be measured, manipulated or selected by the experimenter to discover whether it modifies the relationship of the independent variable to an observed phenomenon.

For example, if the researcher is studying the effect of independent variable X on dependent variable Y but suspects that the nature of the relationship between X and Y is altered by the level of a third factor Z, then Z can be in the analysis as a moderator variable.[38] A moderator variable in our example could be the number of leaders.

A moderator variable affects the outcome, whereas the mediator variable acts as mediator between the intervention and outcome. In other words the intervention may have a direct effect on the outcome, a direct effect on the mediator or mediators, and an indirect effect on outcomes through the mediator variables.[39]

In the example case, X may influence Y directly, but also indirectly through mediator variable W. A mediator variable could be the number of groups/troops in the Organization.

The extraneous variables[40]

Extraneous variables or context variables exist in all the studies and can affect greatly the measurement of study variables and the relationships among them. They can interfere with obtaining a clear understanding of the relational or causal dynamics within the study. These variables can be classified as recognized or unrecognised and controlled or uncontrolled.

Those variables that are not recognized until the study is in process or are recognized before the study is initiated but cannot be controlled are referred to as confounding variables. Such extraneous variables need to be identified as areas of study weakness in the research report. Normally researchers attempt to recognize and/or control as many extraneous variables as possible in the studies.

Control variables are those factors controlled by the researcher to cancel out or neutralize any effect they might otherwise have on the observed phenomenon. The effects of control variables are normally neutralized; the effects of moderator variables are studied. [41]

Environmental or situational variables are a type of extraneous variable that make up the setting in which the study is conducted, such as climate, home, community setting etc. In many cases if a researcher is studying humans in an uncontrolled natural setting, it is impossible and undesirable to control all the environmental variables. In many of the qualitative and some quantitative (descriptive and co relational) studies the intent is to study subjects in their natural environment without controlling or altering it. This is mostly the case in the Guiding and Scouting context.

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[38] Tuckman (1994) *Conducting Educational Research.* pp 87-88
[39] Burns and Grove (2001) *The practice of Nursing Research.* p. 343
[40] Burns and Grove (2001) *The practice of Nursing Research.* p. 184.
[41] Tuckman (1994) *Conducting Educational Research.* p. 90

Intervening variables[42]

An intervening variable is that factor that theoretically affects the observed phenomenon but cannot be seen, measured or manipulated. It is not concrete, as are independent, dependent, moderator and control variables. The intervening variable always refers to a conceptual variable that is being affected by the independent, moderator and control variables and which, in turn, affects the dependent variable.

For example: In the following hypothesis: Leaders who have received more positive feedback will have more positive attitudes towards young people than leaders who have had fewer positive feedback experiences.

> Independent variable: the number of positive feedback experiences per leader
> Intervening variable: leader's self-esteem
> Dependent variable: positiveness of leader's attitude towards young people
> In this case, the number of positive feedback experiences leads to or causes observed and measured increases in the ², which in turn reflects a presumed increase in self-esteem.

5.5. Measurement[43]

> Measurement is the process of assigning numbers or labels to units of analysis in order to represent conceptual properties in question.

Every one of us is familiar with measuring. We measure every time we "rate" something, such as a movie, a restaurant or a blind date ("pretty good", "4-star", a "2"). There is a difference, of course, between the everyday examples of measurement and the process of measurement in research. In everyday life, the measurement is more or less intuitive, whereas in research it needs to be spelled out in detail. In this section we outline the measurement process and bring to your attention the different scales of measurement.

5.5.1. The measurement process

The measurement process begins as the researcher formulates his or her research problems and/or hypotheses. Every problem contains some concepts or variables that refer to aspects of reality in which the researcher is interested. The ultimate goal of measurement is to specify clearly observable variables in one's hypotheses. This process involves three steps:

1. Conceptualisation – the development of clear concepts. In order to identify observable representations of a concept the meaning of it needs to be clear, therefore the initial step is to clarify the mental imagery linked to the concept that is precise verbal definitions of the concept in question.
For example, if we are interested in testing the hypotheses that "education reduces prejudice" one needs to begin by defining the meaning of "education" and "prejudice".

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[42] Tuckman (1994) *Conducting Educational Research.* pp. 91-92
[43] Singleton, Royce JR et all (1988) *Approaches to Social Research* pp.97-125

Because of the complexity, the concepts could then be broken down into various components and dimensions. In our example, education could be broken down into formal, informal and non-formal education, prejudice into negative feelings, stereotypes and tendencies to discriminate. Specifying dimensions of concepts facilitates measurement in two ways. First, it allows for more refined statements of problems and suggests a more limited and practical research focus. For instance, one might decide to focus on relationships between formal education and prejudice towards a specific group. Secondly, dimensional analyses often suggest empirical manifestations of concepts that are ways of observing the presence of absence of this concept. For example, "strong beliefs of others" and "unwillingness to associate with the group in question" could be as components of prejudice.

2. Specification of variables and indicators to provide empirical proof of one's concepts.
The concept identified through conceptualisation may signify a single category, such as male or prejudiced or may imply several categories of values, such as gender and degree of prejudice. It might be also possible that concepts are not directly observable: for example we cannot "see" education, we need to find ways to observe it through different variables. The lower levels of abstraction are the specific events, called *indicators* that signify concrete instances of variables. We move from abstract to concrete – from concepts to variables to indicators.
For example, we have the concept "education", its variable substitute, "level of education", and the indicator "years of schooling". It needs to be remembered that indicators often contain errors of classification and rarely capture all the imagery of a concept. Therefore researchers often use multiple indicators, which may be combined to create an index or scale.

3. Operationalization – the description of the research procedures necessary to assign units to variable categories. Operationalization assists in finding the procedure necessary to assign units of analysis to the categories of a variable. In our example, years of schooling, might be operationalized by asking people questions. The concrete operational definitions would include specific questions asked, together with response categories and instructions for gathering data and assigning cases to categories.
For example, in order to bake an identical cake that your friend has just made, you would need to have complete instructions – the recipe (operational definition), without that you would not be able to bake it.

Operational definitions can be formed either by experimentally manipulating a variable or through non-manipulative procedures such as verbal reports and observations of behaviour. These operational definitions/designs are selected in the context of an overall strategy with an eye towards obtaining the best possible fit with the concept being measured.

5.5.2. Scales of measurement[44]

It is important to understand that data may be collected on three basic scales of measurement:

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[44] Krebs, Charles J. (1999) *Ecological methodology.* pp. 6-7.

Nominal data. Nominal data are attributes like sex or species. This is the weakest form of measurement. We can determine if one object is different from another on a basis of equivalence (the state of being equivalent or of having equal values)

Ranking scale/Ordinal measurement. In ranking scales we have a series of classes, as a nominal scale, but now the classes bear some rank with respect to one another. There are two formal properties in ranking data: equivalence and greater than. It is normal that ranking scales can be symbolized by the conventional number or letter order: 1, 2, 3, 4,… or A, B, C, D,….

It is recommended to use the letters rather than numbers because the most common mistake in ranking data is to assume that they are measured on an absolute scale. So for example a bird ranked 4 is not twice as dominant as a bird ranked 2 in the hierarchy, the scale is relative. Sometimes this ranking scale is also used with quantitative measurement, as it is faster and cheaper than doing a precise quantitative measurement.

Interval and Ratio scales. Interval and ratio scales have all the characteristics of the ranking scale, but in these scales also the distances between classes are known. There needs to be a unit of measurement for interval and ratio data; cm, degrees, kg. If we have a unit of measurement with a true zero point, then we have a ratio scale of measurement. For example a fish measurement is a measurement on the ratio scale. But water temperature is a measurement on the interval scale because 0 degrees is not the lowest possible temperature.

For statistical purposes, these two scales represent the highest form of measurement and are much used in statistical analysis of data.

6. Choosing a research strategy and design

In this chapter we look into how the purpose and the research hypothesis can be linked into different research strategies, and further, what kind of research designs there are available for research purposes.

6.1. Different Research Strategies

The research strategy can be imagined as a road map, an overall plan for undertaking a systematic exploration of the phenomenon of interest; the methods are the specific tools for conducting that exploration. A history, for example, could rely on an array of methods ranging from in-depth interviewing to use of census data. It is important to decide on the overall approach (strategy) by placing boundaries around the study, identifying the level of analytic interest (person, group, programme, organization, inter-organization) and specifying whether interest is in the past, the present or in the future. The research strategy thus reflects a series of major decisions made by the researcher in an attempt to ascertain the best approach to the research questions posed.[45]

In developing the overall approach to the study – its strategy – it has been proposed that qualitative research should be judged on three criteria.

The first is informational adequacy. Does the research design of questions maximize the possibilities that the researcher will be able to respond to the questions thoroughly and thoughtfully?
The second criterion is efficiency. Does the plan allow adequate data to be collected at the least cost in terms of time, access and cost of participants?
The third criterion is the ethical considerations. Will the proposed strategy violate the participants' privacy and unduly disrupt their everyday life?[46]

Research strategies can be classified in many different ways. For example, you can decide to use a longitudinal strategy, where you investigate changes over time, or a cross-sectional strategy, where you ignore the time and produce a single picture of how things are at one particular date. One simple approach is to make a distinction between three main strategies: Experiments, surveys and case studies. These strategies are explained below.

6.1.1. Experiments

An experiment can be defined as an attempt to test a hypothesis under highly controlled conditions established by an investigator. These kinds of experiments are often used in the natural science; for example, one group tests a drug and are compared to the non-testers.[47] Here we want to stress that an experiment can also be done outside the laboratory in a real world. In a broader understanding experiments measure the effects of manipulating one variable on another variable.

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[45] Marshall & Rossman (1995) *Designing Qualitative Research* pp. 40-42
[46] Marshall & Rossman (1995) *Designing Qualitative Research* p. 42
[47] Giddens, Anthony (2001). *Sociology* p. 649.

Through experiments basically any kind of behaviour (both verbal and non-verbal) can be studied, but experiments are limited to both practical and ethical considerations to ´low impact´ variables and research questions (no experimental studies on murders etc). It is important to know that in order to do any form of experimental design you need to be able to carry out a random assignment to the different treatments. This is normally a random assignment of persons to treatments. The unit, which is randomly assigned, need not be the person (it could be a group) in which case the experiment and its analysis is on them, not on individuals. After the try out the selected sample is allocated to different experimental conditions. Then a planned change (treatment) is introduced to one or more variables. After that there needs to be measurement and control of other variables and this usually involves testing of the hypothesis.[48]

An experimental study in Guiding and Scouting could be a very useful way of getting new explanatory information. Therefore a small number of simple designs are presented here.[49]

The simple two group design.
In this design an ´experimental group´ and a ´comparison group' are set up using random assignment. The experimental group gets the ´treatment´; the comparison group does not get any special treatment. Then `post-tests´ are given to both groups. Minor variants of the design are possible involving two or more treatment groups.

> For example, the treatment could be a team–building training.

The before and after two group design
In this design 'pre-tests´ to both groups are incorporated into the simple two group design. Also in this case variants are possible, for example using two treatment groups, or two treatment groups and a comparison group. Through pre-tests it is possible to check if the chosen groups are equivalent or not and also to take into account the individual differences.

> For example, the pre-test could be testing the level of skills in camping.

Factorial design
In factorial design more than one independent variable is involved. These variables necessarily have more than one value or level (in the simplest form this would be the presence or absence of the variable). The factorial design then involves all possible combinations of the levels of the different independent variables. Therefore there needs to be as many experimental groups as there are combinations of these levels. Also pre and post-tests can be included in this design.

> For example, if there are two independent variables with two different levels, there needs to be four experimental groups. These independent variables could be "length of stay in a camp" and the "amount of food supply".

Parametric design
In parametric design a range of several levels or values of an independent variable are incorporated into the experiment so that a fuller picture of its effect can be obtained.

> For example, if there are 3 levels of an independent variable, there needs to be 3 experimental groups. The independent variable could be a length of a hike.

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[48] Robson, Colin (1993) *Real world research.* pp. 77-120.
[49] ibid

Matched subjects design

In its simplest form, matching involves testing subjects on some variable, which is known to be related to the dependent variable on which observations are being collected in the experiment. For example, the dependent variable could be leadership skills). The results of the tests are then used to create ´matched pairs´ of subjects, that is, those that have given very similar or identical scores on the related variable.

Then random assignment is used to allocate one member of each pair to the treatment group and one to the comparison group. This design can be considered as an extension to the simple group design, but with randomisation carried out on a pair basis rather than on a group basis.

Simple repeated measures design

Two experimental groups are set up using random assignment. Group A gets treatment 1 followed by treatment 2. Then the group B gets treatment 2 followed by treatment 1. Both groups are tested after each of the treatments.

> For example, it could be used to identify which should come first - a new programme concept or a training on the new programme concept.

Here are some examples where a random experiment would be appropriate[50]:

o *When an innovation cannot be introduced in units simultaneously.* In many cases innovations have to be introduced gradually because of resource or other limitations. This provides a good opportunity for randomisation of the order of involvement. For example, the use of new uniforms.

o *When experimental units are isolated from each other.* This kind of isolation could be temporal or spatial – or simply because it is known that they do not communicate. For example, it could be two or more groups or units working in different parts of the country.

o *When it is agreed that change should take place but there is no consensus about solutions.* In these situations it might be good to suggest a system of planned variation associated with random allocation. For example, when discussing about different communication channels experimental groups could be very valuable.

o *When you are involved in setting up an organization, innovation etc.* There are many opportunities for randomisation if you, as the researcher, can get in on the early stages of a programme or organization. For example, experimental designs could offer new revealing information about the best option for the organization.

6.1.2. Surveys

Survey research is a way of collecting information from a large and dispersed group of people. The survey is not synonymous with a particular technique of collecting information: questionnaires are widely used but other techniques such as structured and in-depth interviews, observation, content analysis and so forth are also appropriate. The distinguishing features of surveys are the form of data collection and the method of analysis. [51]

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[50] Robson, Colin (1993) *Real world research* .pp. 77-120.

[51] De Vaus D.A. (1996) Surveys in social research. pp. 3-5.

Surveys tackle one of the basic problems of social science research: how to collect data when the people from whom it must be obtained are either too numerous, or too dispersed across a wide geographical area to be accessible? Surveys are normally undertaken with two rather different intentions in mind. They can be done either to establish a description of some phenomenon of interest, or to try to explain why a particular phenomenon has occurred. These are called descriptive and explanatory surveys[52]. The two foundation concepts of this method of research are the concepts of the population and the sample (see more under arranging practicalities and conducting the research).

The four basic types of surveys are:

The one-shot survey
>Here the data are collected from a single sample drawn from the population of interest. Description research is the only possible outcome, as comparisons and the causes of data cannot be discerned.

The before-after design
>In this design, data are collected from the members of a single sample on two distinct occasions. The occasions are separated from each other by some kind of treatment or event. By comparing the second set of data with the first, it can be seen whether the second set of results has changed in response to the intervening event.

The two-groups controlled comparison design
>In the simplest version of this, data are collected from two separate samples, when each of the samples has received a different form of treatment before the data are collected.

The two-groups before-after design
>The before-after design with controls, which combines features of both the preceding ones, is the most powerful of the survey designs dealt in this context. It involves taking two (or more) samples, which are each pre-tested before being given different treatments, and then subsequently tested again, using a comparable test to the first.[53]

These four ways represent the basic ways of organizing an investigation, which are essentially the same whether data are to be collected by survey, observation or experiment.

6.1.3. Case study[54]

We use case studies to develop detailed, intensive knowledge about a single ´case´ (contemporary phenomenon) or of a small number of related ´cases´. The case in question can be virtually anything. The individual person as the case is probably the most used. But it can also involve several such individual cases or it can be done on a group, on an

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[52] Dyer, Colin (1995) Beginning research in psychology pp. 88-89,145
[53] Dyer, Colin (1995) Beginning research in psychology pp. 90-96
[54] Robson, Colin (1993) Real world research. pp. 146-167

institution or on an innovation. It can also be studies on a decision, on a service or on a programme, for example. Here are some examples of the wide use made of case studies:

Individual case study forms a detailed account of one person. It tends to focus on contextual factors, perceptions and attitudes preceding a known outcome (e.g. drug user; immigrant). It is used to explore possible causes, factors, processes, experiences etc., contributing to the outcome.

Set of individual case studies As above, but in this case a small number of individuals with some features in common are studied.

Community studies are studies of one of more local communities. Community studies describe and analyse the pattern of, and relationship between, the main aspects of community life (work, leisure, family life, etc).

Social group studies are studies of small direct contact groups (e.g. families) or larger, more diffuse ones (e.g. occupational group). These studies normally describe and analyse the relationships and activities.

Studies of organizations and institutions These are normally studies of firms, workplaces, schools, non-governmental organizations etc. They have many possible focuses, e.g. best practice; policy implementation and evaluation; management and organizational issues; organizational cultures; processes of change and adaptation; etc.

Studies of events, roles and relationships overlap with social group studies and with studies of organizations and institutions. These studies are very varied; including studies of doctor-patient interactions; studies of role conflicts; stereotypes and adaptations etc.

It is important to note that case studies normally focus on current events and concerns and do not permit statistical generalizations. Case studies are the most appropriate for exploratory work. They also differ from the other two strategies. Multiple methods can be used to carry out the case studies (typically involving observation, interviewing and the analysis of documents and records).

6.1.4. How to choose the strategy?

The type of research question chosen helps you the most in identifying a suitable research strategy, along with other factors, such as the degree of control that the investigator has, or wishes to have, over events or whether the focus is on current or past events. In the following table 2, you can see how suggested research strategies are linked to these topics.[55]

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[55] Robson, Colin(1993) *Real World Research,* pp. 43-44

Table 2. Appropriate uses of different research strategies			
Strategy	Type of research question	Requires control over events?	Focus on current events?
Experiment	How Why	Yes	Yes
Survey	Who What Where How many How much	No	Yes
Case study	How Why	No	Usually but not necessarily

It is important to note that the above-presented three traditional research strategies do not provide a logical partitioning covering all possible forms of enquiry. It may well be that some hybrid strategy falling between these ´ideal types´ is appropriate for the study with which you are involved. It can also make a lot of sense to combine strategies in a research to get the most out of it. It needs to be stressed also that each of them has its strengths and weaknesses.

6.2. Research methods

> By methods, we mean a range of approaches used in research to gather data.

Methods are specific research techniques. They are more or less useful, depending on their fit with the theories and methodologies being used and the hypothesis being tested and/or the research topic that is selected.[56] Once hypotheses are generated and the research strategy chosen, the researcher chooses a research design that will guide the research process. The type of design selected depends, among other things, on the research setting and the degree of control that the researcher has over the research setting.[57] Also the resources available and the expected outcome influence this decision.

It needs to be stressed that any method or technique or combination of methods can be used with any of the three traditional research strategies. The decision depends on what is the best fit for the research problem in question. You will need to show how and why the research question will be best addressed using a certain approach. Some questions that will help you in making this decision are:

- What kind of results do you want? - quantitative or qualitative or both. Quantitative and qualitative research complement each other, as they generate different kinds of information that are useful in Guiding and Scouting.
- What kind of resources do you have available (human, money, time)?
- What kind of skills do you have available?
- How do you want to report it? See 8.5. Writing a research report

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[56] Fulcher & Scott (1999). *Sociology* p.73
[57] Riggio, Ronald E. (1996) Introduction to Industrial/organizational psychology. pp.31-32

This chapter concentrates on some research methods that can be used in Member Organizations as a starting point for the research studies. It provides a short introduction to other methods, which could be used.

6.2.1. Interview[58]

We have all been exposed to interviewing methods in our daily lives, as that is the most common form of purposeful, planned communication. Interviews can range from informal to formal, unstructured to structured, simplistic to sophisticated, a few minutes to a few hours, supportive to threatening. It is important to distinguish interviewing from other forms of interpersonal communications.

The main characteristics of the interviewing method are explained here. An interview:
- o   is interactional, there is an exchange and sharing.
- o   is a complex, ever-changing process, once it is initiated.
- o   is a dyadic process, involving two parties – an interviewer party and an interviewee party. More than two people may be involved, but never more than two parties.
- o   is purposeful and has a degree of advanced planning and structure.
- o   involves questions and answers.

A suitable definition for interview is that it is an interactional communication process between two parties, at least one of whom has a predetermined and serious purpose that involves the asking and answering of questions.

Depending on the purpose of your study you need to consider when to use interviewing. Interview as a method is suitable when you want to use traditional ways to verify that an interviewer or interviewee is who he or she claims to be and fulfils specific criteria such as age, sex, race, educational level etc. It is also a good method when you want to control timing, presence of other people, questions and answers and situations. With interviews you can also motivate people to take part, listen and respond freely, openly and accurately. Interviewing allows you to adapt to each interviewee, for example when you may need to ask the same questions and provide same answer options.

Interviews are also ideal for getting in-depth information, as people are not likely to write lengthy and detailed answers to e-mail messages or respond at length to questionnaire. Interviewing also gives opportunities to examine personal backgrounds, actions and attitudes more easily. It allows to explain, clarify and justify questions or answers and also to observe the interviewer's or interviewee's appearance or non-verbal communication. Interviews are also suitable as a supplement or follow-up for the questionnaires.

Things to consider in an interview:
1. The opening of an interview, as it sets the tone for the interview and affects the willingness and ability to go forward.
2. The body of the interview. You will need to develop an interview guide that contains topics, not yet questions. This way you ensure that all important aspects and subtopics are included.

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[58] Stewart and Cash (2003) *Interviewing principles and practices. 10th edition.* pp.1-13, 79-99.

3. The interview schedules. You need to decide how much you wish the interview to be scheduled.
    - In a non-scheduled interview there are no questions prepared in advance. This is extremely flexible interview schedule but it requires a lot of skills and is difficult to replicate.
    - In a moderately scheduled interview the major questions are developed in advance. This allows you to probe into answers and adapt to different interviewees.
    - In a highly scheduled interview all questions and the exact wording to be used with each interviewee are thought in advance. This form is easy to replicate and conduct.
    - In a highly scheduled standardized interview all questions and also answer options are stated in identical words to each interviewee who then picks answers from those provided.
    - Also a combination of these forms is possible.
4. Question sequences. You need to decide how you want to sequence the questions; a series of similar questions after each other, beginning with broad, open-ended questions and then proceeding with ever more restricted questions or starting with closed questions and then proceeding towards open questions. More about different question types under the section on questionnaire.
5. Closing the interview. You need to consider in advance how the closing of an interview will happen and be tactful in what you say and do in the closing.

Depending on the purpose of your research and your resources you need to decide if interviewing is suitable for you and choose, whether you want to do face-to-face interviews, group interview, focus group interviews or telephone interviews. New forms of interviewing are emerging all the time and it might be worth trying electronic interviews.

6.2.2. Questionnaire

Questionnaires can be used as the main method or in combination with other methods. The most commonly known questionnaire type is the self-completion questionnaires, which the respondents fill in themselves. This method is very efficient in terms of researcher time and effort. If the questionnaire has been well constructed, the time needed to code and analyse responses can also be short. This explains why it is so widely used.

These self-completion questionnaires can cause problems, as the data can be very superficial. By using this method, you are not likely to be able the check the honesty or seriousness of responses. Responses in these cases have needed to be squeezed into predetermined answers, which may or may not be appropriate. For the results to have any hope of being meaningful, a questionnaire must be well constructed with very clear and unambiguous instructions, and careful wording of questions. While analysis may be easy, interpretation can be problematic.

The key skill of questionnaire design lies in making sure that the form and the content of each item exactly represent the researcher's intentions and that they will be interpreted by the respondents in the way intended[59]. The main difference in question types is whether they are open and closed questions. It is worth cutting down the number of open-ended

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[59] Dyer, Colin (1995) *Beginning research in psychology*. p.46

questions, unless you can afford to spend a lot of time on analysis or only have a small number of respondents to deal with. It is worthwhile to pilot the questionnaire using interviews and open-ended questions that can provide suggestions for closed alternatives.

There are six different types of closed format questions:
a) Single answer. The respondents are required to choose a single reply from a pre-selected list of options, usually consisting of a set of mutually exclusive categories (such as age, martial status, nationality). To achieve exhaustive coverage it is often necessary to include a category such as "other" or "don't know.
b) Multiple answers. The respondent can tick none, one or more than one box in the response to a question.
c) Rank order. This extends the multiple choice question by adding information on relative preferences. In this type respondents are asked to rate or rank each option that applies. Usually no more than five options should be specified if a valid ranking is desired.
d) Numeric. The researcher can develop a range of possible answers, but the respondent has to specify a particular value within the anticipated range.
e) Likert-style formats. A Likert scale is a form of ranking scale in which a series of statements are provided to respondents indicating attitudes towards a chosen topic. It places people's responses on an "attitude continuum", e.g. ranging from "strong agreement" through "neutral" to "strongly disagree". Respondents are asked to show their strength of agreement or disagreement with each statement in question. As it is attitudes that are being investigated by this scale, questions can be biased.
f) Semantic differential. In this format respondents are presented with a set of opposing adjectives (good-bad, active-passive, near-far) as answers to questions and are invited to indicate their response either numerically or graphically. [60]

Here are some suggestions from various research literature on how to design good questionnaires.[61]

Specific questions are better than general ones
General questions offer a wider range of interpretations by respondents and are therefore more difficult to interpret.
Examples:
General   How would you say you are these days: very happy, reasonably happy or not too happy?
Specific   How would you describe your meetings: very happy, reasonably happy or not too happy?

Closed questions are usually preferable to open questions
There are circumstances where the open form is preferable, e.g. when not enough is known to write appropriate response categories or in measurement of sensitive behaviour.
Examples:
Open   People look for different things in a hobby; what would you most prefer in a hobby?
Closed   People look for different things in a hobby; which one of the following five things would you most prefer in a hobby:

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[60] Robinson, Guy M. (1998) *Methods & Techniques in Human Geography* pp.386-387
[61] Robson, Colin (1993) *Real World Research* pp.247-249

a) hobby that gives a feeling of self-fulfilment
b) hobby where you make most of the decisions yourself
c) hobby that is pleasant
d) hobby that is challenging
e) hobby that you can share with friends?

Offer a ´no-opinion´ option

Polls often assume that because a problem is of importance, everyone will have an opinion about it. This is not the case. Therefore it is best to offer a no-opinion option, as otherwise some people manufacture an opinion for the survey in question.

Example   The decision making structure in our organization is open to all. Do you agree, disagree or not have an opinion on that?

Omit the middle alternative and measure intensity

Normally those respondents that are using the middle category are those that do not have a strong feeling on the issue. In some cases it would be the best not to offer a middle category, but to measure the intensity of the answer through ranking scale.

Example

Middle category   Should receiving specialized badges be easier to do, more difficult to do or stay as it is now?

Use of forced choice rather than agree/disagree statements

Generally respondents have a tendency to agree irrespective of item content. Therefore forced choice items appear more apt to encourage a considered response rather than agree/disagree.

Example

forced-choice   Would you say that most men are better suited emotionally for decision-making; that men and women are equally suited; or that women are better suited than men in this area?

agree/disagree   Do you agree or disagree with this statement?: Most men are better suited emotionally for decision-making than are most women.

Question order

The meaning of almost any question can be altered by a preceding question. However, the only suggestion that has been given so far is that general questions should precede specific questions.

Wording effect

It is difficult to predict what kind of effect a particular wording changes will have in the answers. Therefore it is important not to base conclusions on the results from a single question. Strategies to avoid this include:

▪ Creation of split sample comparisons in which different forms of words can be incorporated into the surveys that are administered to different people.

▪ Asking multiple questions on a topic. This is normally done when attitude or other scales are used.

The size of a sample is crucial in questionnaires. Therefore it is important to think about the factors that could lower the return rate of your questionnaires. The questionnaire can be given to a focus group of respondents, at a camp or in a meeting, used as part of interviewing or other methods. In these cases you are likely to get a relatively good

response rate back. If you do a postal questionnaire, you need to consider carefully the following things:

- Is the design and layout of your questionnaire appealing?
- Is the wording of the questionnaire clear? (Pre-test the questionnaire!)
- Have you done a clear cover letter to explain the meaning of the questionnaire?
- Have you considered sending follow-up letters to respondents not sending in the questionnaire on time? (maximum of three reminders are commonly recommended)
- Have you considered using incentives? It has been proved that incentives accompanying the initial mailing appear to be more effective than rewarding the return of completed questionnaire.

6.2.3. Observation[62]

Observation consists of systematic noting and recording of events, behaviours and objects in the social setting chosen for the study. In any of the situations we enter, we can watch people to see what they do and listen to what they say and who they speak to. However, sociological observation is more then this. It is necessary to decide when and where to observe, how to ensure observation of exactly those things that are of interest and how to make use of the observations. The way in which these issues are handled depends upon the particular research role that is taken. In sociological observations typically one of the three research roles are chosen: the complete participant, the participant-as-observer and the complete observer.

In the case of the complete participant, the observers take a highly active and involved stance towards those being observed. The observer aims to become a member of a group or to enter an organization in order to appear to others as an ordinary participant. This kind of research is covert/secret, as those being studied do not know that they are being observed for research purposes. This kind of approach can be highly effective and allows a deeper understanding of the activities, but there are also some challenges. The researcher must always act in the role and cannot step outside it. Therefore it is difficult to ask questions and maintain the distance that the research requires. Also it is difficult to record observations.

In the participant-as-observer the researcher's purposes are explained and the actors know that research is being undertaken. This resolves most of the difficulties in the complete participant observation. In participant observation the observer cannot help but affect what is happening. The disadvantage is that it may be more difficult to gain entry to a group when its members know that they are going to be observed. Also, even if access is gained, people may be more guarded in what they say and do in the presence of the researcher.

In the third observation role, the complete observer, the researcher does not engage in interaction with those who are being observed. In this role, it is stressed that any involvement through participation will affect the very situation that is being studied, therefore it is better to be outside. In some cases the observer does not even speak even if he is spoken to. This can also be done by staying out of sight and becoming a covert observer.

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[62] Fulcher & Scott (1999) *Sociology* p. 87-

6.2.4. Supplemental Data Collection Techniques

There are also many other data collection techniques available then those explained above. Here are some of the techniques that could be useful to examine when deciding on the suitable technique for the research. Hopefully this will give you some ideas and inspirations on the variety of techniques available.

Psychological testing[63]
There are thousand of different psychological tests available. The diversity of tests ranges from personality inventories to self-scored IQ tests, from scholastic examinations to perceptual tests. If you consider using psychological tests in your research, it is recommended to get advice from professionals, as many of these tests need special attention to be paid to analysing and ethical considerations.

Simulation
Role-playing, games and machine or computer simulation are methods that are used to throw light upon the role/rule context governing ´real´ life social episodes. These methods can be used in developing sensitivity and awareness, experiencing the pressures, which create different roles and situations, testing out for oneself possible modes of behaviour and in simulating a situation for others (and possibly oneself) to learn from.[64]

Life histories
Life histories consist of biographical material assembled about particular individuals – usually as recalled by the individuals themselves. Normally other sources, such as letters, contemporary reports and newspaper descriptions are used to expand on and to check the validity of the information individuals provide.[65] Life histories are valuable in studying cultural changes that have occurred over time and in gaining an inside view of a culture. Life histories can give us ways to understand the total picture, but are limited because of the lack of generality.[66]

Narratives
In a narrative inquiry the researcher explores a story told by a participant and records that story through the construction of a narrative. This story telling demands intense active listening and gives the narrator every chance to speak. The narrative inquiry is a collaboration and both voices (researcher and narrator) are heard in it.[67]

Kinesics
Learning about society can be enhanced if we study not only what people say with their lips, but also what their body movements reveal as well. The study of body motion and its accompanying messages – body motion communication - is a technique known as kinesics. All kinesics research rests upon the assumption that, without being aware of it, humans are engaged all the time in adjustments to the presence and activities of other persons. The strengths of kinesics analysis are that it provides a view into unconscious thoughts and a means for triangulation (see chapter 6.2.5 Triangulation) of verbal data. It

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[63] For more information, see Murphy, Kevin R. and Davidshofer, Charles O. (1998) *Psychological Testing. Principles and Applications.4th edition.* Prentice-Hall, Inc. ISBN: 0-13-649344-0.
[64] Cohen et al (2000). *Research Methods in Education. 5th edition* pp. 374-375.
[65] Giddens, Anthony (2001). *Sociology* p. 650.
[66] Marshall & Rossman (1995) *Designing Qualitative Research* pp. 87-89.
[67] Marshall & Rossman (1995) *Designing Qualitative Research* pp. 86-87

has to be noted that it is also limited as body language is not universal, and researchers must be aware of cultural differences.[68]

Proxemics

Proxemics is the study of people's use of space and its relationship to culture, ranging from interpersonal distances to the arrangements of furniture and architecture. There are several advantages to the use of proxemics; it is unobtrusive, and usually it is difficult for a subject to mislead the observer deliberately; useful for studying the way individuals react to others regarding space; can be used in cross-cultural studies as people's use of personal space varies greatly from one culture to the next; useful in analysing how seating arrangements effect behaviour. The greatest disadvantage of proxemics as a data collection method is that the researcher must be skilled in the interpretation of the observed behaviours in order to be accurate.[69]

Use of documents and records

A document in its broadest sense is an object that contains a handwritten or printed text. Records are normally films, videos, tapes or photographs. All these are widely used, especially by historians and those doing background research.

6.2.5. Triangulation

In choosing the method for your research study you need to be flexible and open. You could end up using more then one method in a single piece of research. The use of two or more methods of data collection in the study is called triangulation. In triangulation you are studying the subject from more than one standpoint and making use of both quantitative and qualitative data.

There can be six different type of triangulation identified[70]:
1. Time triangulation: attempts to take into consideration the factors of change and process by utilizing cross-sectional and longitudinal designs.
2. Space triangulation: this tries to overcome the difficulties of conducting the studies in the same country or within the same subculture by making use of cross-cultural techniques.
3. Combined levels of triangulation: this type uses more than one level of analysis from the three principal levels used: the individual level, interactive level (groups), and the level of collectives (organizational, cultural and societal).
4. Theoretical triangulation: this uses alternative theories instead of using one viewpoint only.
5. Investigator triangulation: this type engages more than one observer.
6. Methodological triangulation: this type uses either (a) the same method on different occasions, or (b) different methods on the same object of study.

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[68] Marshall & Rossman (1995) *Designing Qualitative Research* p. 92-93
[69] Marshall & Rossman (1995) Designing Qualitative Research p. 93-94
[70] Cohen & Manion (1994) *Research methods in Education* pp. 235-238.

How could this be used in Guiding and Scouting?
Triangulation is just a scientific term for offering a more holistic view towards the study by not limiting only to one viewpoint. This approach can be easily done in the context of Guiding and Scouting.
Some examples:

Space triangulation: by investigating a number of groups across the country in some way.

Investigator triangulation: two observers independently rate the same phenomena, such as the activity level in a certain Region of the Association.

Methodological triangulation: using the same method in different camps, such as observation

6.3. Resources and research design

> By research design we mean a plan or scheme to carry out the research.

In this section we will look into allocating time, money and human resources. Part of good research design is to acknowledge the constraints the research project has on the Association and to decide on when to use external help. A vital part to consider is the use of evaluation in the course of the research.

6.3.1. Time

Normally the time allocation in the research project is not enough. It is better to use time in the initial stage to plan everything well, as otherwise the actual data gathering might take a lot of time. In the time allocation it is worth thinking of the critical time paths, that is those tasks that need to be done in a particular order and the time allocations for those as they are related to each other. This is especially worth if some things need to be translated into other languages or analysed by external people.

It is good to assess the following factors when deciding on the time allocations needed[71]:
1. type and number of subjects needed
2. number and complexity of the variables to be studied
3. methods for measuring the variables (are instruments available or do they need to be developed)
4. methods for collecting data
5. the data analysis process
6. preparing the research report and presentations

The last point is normally overlooked and this might be crucial, as the research needs to be presented well so that it can actually have an impact.

Those responsible for the research should be familiar with tools for project management especially time planning and monitoring of the steps. If you do not feel competent on this, please, ask others to help you.

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[71] Burns and Grove (2001). *The practice of Nursing Research.* pp. 97-98

6.3.2. Money commitment

In research, the problem and purpose selected are influenced by the amount of money available to the research. Once the problem and purpose have been identified, it is time to look for potential sources of funding. The actual cost of a research project can range from a few euros for a student's small study to hundreds of thousands of euros for complex projects. In estimating the cost of a research project, the following questions need to be considered carefully[72]:

1. Literature: What will the review of literature - including computer searches, copying articles and purchasing books – cost?
2. Sample: Are the subjects that participate in the study volunteering or do they have to be paid? How difficult it is to find them?
3. Equipment: What will be the equipment cost for the study? Can it be borrowed, rented, bought or obtained through donation? Is it available or does it need to be built? What about maintenance for the equipment? What will the measurement instruments cost?
4. Personnel: Will assistants, consultants, or both, be hired to collect, computerize and analyze the data and assist with the data interpretations? Do you need clerical help to type and distribute the report?
5. Computer time: Will computer time be required to analyse the data? If so, what will be the cost?
6. Transportation: What are the costs related to transportation?
7. Supplies: Do you need supplies such as envelopes, postage, pens, paper and photocopies? Do you need to make long distance phone calls?
8. Communication: How do you make sure that the necessary people are being informed and updated? Does that require money allocation?

You also need to carefully consider what will be the communication channels used in the research. If there is a need to have an ongoing communication with many people, this needs time and money allocations. Also if you will have a steering committee or group to report to, this will require some resources.

6.3.3. Human Resources

As soon as you have the time and money allocations clarified, you will need to consider what human resources are needed to carry out the research design chosen. Here are some points that you will need to remember when thinking about the human resources:

- o You will need to create a supportive and open atmosphere for the project. This will help the team to become more creative and efficient.
- o It is important to recruit enough motivated people to run the research designed.
- o You need to have a core group of leaders that know how to do the research by the chosen methods.
- o Make sure that you take care of the communication between all people involved. The communication lines need to be working both in lateral and horizontal ways. If necessary you may also need to communicate externally.
- o Remember to make sure that each person in the research team benefits from the project – it can be learning, having fun, making friend etc.

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[72] Burns and Grove (2001). *The practice of Nursing Research*. p. 98.

o   Remember to asses the risks involved in having volunteers doing the project.

It might also be important to understand that the personal characteristics of researchers can influence their ability to carry out the research design. Consider how might the age, class and ethnicity of the researcher have an effect, for example, in following cases:
   o   a study of a young male's living conditions
   o   a study of interaction in a mixed-sex camp
   o   a study of a leader's ability to combine work and Guiding/Scouting.

6.3.4. Using external help

It is important to remember that any research problem and purpose must be selected based on the ability of the investigator. It needs to be challenging, but not too challenging. It might be good to work with another researcher (mentor) to learn the process and then investigate a familiar problem that fits one's knowledge base or experience. This way a lot of the frustration and confusion can be avoided.

If the research topic or the research methods and design are not familiar to the people that are to carry out the research, it is recommended to use external help. There is a lot of different help available, it is just up to you to find the right people to help. For example, different research networks, university departments might be able to provide their knowledge towards the research problem. You may also want to contact external researchers/research offices that might be interested in carrying out your research, partly or entirely.

It is worth considering if your Association could "*piggyback*" that is to add questions onto studies undertaken by others. It might be that non-profit organizations could add questions onto studies carried out by several national research organizations. In many cases the studies include questions also from sponsors and therefore it might be possible to add some with very low cost or even free of charge. Another good idea to remember is different student projects that could give an input to the research of the Association. In these cases, remember that there needs to be enough time set aside to consult with the student and there needs to be sensitivity towards the university's research norms.[73]

Benefits for having external help in research process:
   o   External researchers are distanced from the Association and can therefore provide a different view point and a more valid analyses.
   o   They might be able to identify how the Association has got stuck, and discover some of the dilemmas behind it.
   o   Are able to show how the focus of attention that may be limited to the local and the immediate, can be enlarged.
   o   Open the field of design possibilities
   o   Provide different analysing methods, such as statistical measurements.

If you are unsure about the capabilities of the Association it is more realistic to use external help.

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[73] Kotler and Andreasen (1996). *Strategic Marketing for Nonprofit Organizations.* p. 235

If you are using external research expertise, it is your responsibility to make sure that the external researcher understands your situation and your needs. It would be valuable to share your ways of thinking and acting before the research process starts so that a mutual understanding can be created. You need to remember that in this way of work it is your responsibility to follow the research process and the research expert's responsibility to do the task.

For comparison, here are some advantages and disadvantages of using ´practitioner-researchers´ coming from inside your organisation:

Advantages	Disadvantages
• the pre-existing knowledge and experience base about the situation and the people involved • likely to be easier to implement the research process • helps in designing, carrying and analysing the results • more cost-effective, as creative solutions can be used more often. • great learning process	• lack of time, trying to do the research in top of other commitments • lack of experience. This depends on the individual. The most common problem is "not knowing what it is that you don't know". • lack of confidence • possible preconceptions about issues, solutions. Also possibly hierarchy difficulties and in the end the outside person might be better valued.

6.3.5. Evaluation

Evaluation is an important part of any development process. In a research process, evaluation should be a natural part of it. A mid term evaluation should be included in the plans, as it is easier to see if the research is on the right track or not and if the hypotheses are still correct. Sometimes the hypotheses need to be adapted to the changed circumstances and for this process, evaluation is vital. Also the end-evaluation can then reveal the worthiness of such a process.

Before simply adding evaluation as a part of the research process, stop to think what methods of measurement you will be using in the evaluation so that it will answer best to the needs of your research problem. It is important to remember that any evaluation should meet the following criteria[74]:
1. Utility. There is no point in doing an evaluation if there is no prospect of its being useful to some audience in the Association.
2. Feasibility. An evaluation should only be done if it is feasible to conduct it in practical and cost-effectiveness terms.
3. Propriety. An evaluation should only be done if you can demonstrate that it will be carried out fairly and ethically, following the given guidelines.
4. Technical adequacy. Given reassurance about utility, feasibility and proper conduct, the evaluation must then be carried out with the necessary technical skill and sensitivity.

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[74] Robson, Colin (1993) *Real World Research*. pp.170-181.

It is important to remember that unless you have a good chance of accomplishing a proper evaluation in the research, it is worth avoiding them. Otherwise evaluations easily become a pointless activity, as the purpose of the evaluation in the research is not to prove but to improve.

6.3.6. Checklist for planning of research design[75]

Here is a check list for you to use when planning a design for your study. These questions will hopefully assist you in this process.

1. Reason, purposes and motivations
   - Who is the research for?
   - Why is it being done?
   - Who should have the information obtained?
2. Value
   - Can actions and decisions be taken as a result?
   - Is there a chance that somebody or something is going to stop it being carried out?
3. Interpretation
   - Is the nature of the research agreed between those involved?
4. Subject
   - What kinds of information do you need?
5. Researchers
   - Who gathers the information?
   - Who will write the report?
6. Methods
   - What methods are appropriate to the information required?
   - Can they be developed and applied in the time available?
   - Are the methods acceptable to those involved?
   - Are there enough financial resources to carry out the chosen methods?
7. Time
   - What time can be set aside for the research?
   - Is this adequate to gather and analyse the information?
8. Permissions and control
   - Have any necessary permissions to carry out the research been sought and received?
   - Is participation voluntary?
   - Who decides what goes in any report?
9. Use
   - Who decides how the report will be used?
   - Will those involved see it in a modifiable draft version? Is the format of the report appropriate for the designated audience (style/length)?

And remember:
   o Keep it as simple as possible – avoid complex designs and analyses.
   o Think defensively – if it can go wrong, it will, so try to anticipate potential problems beforehand.
   o Plan the analysis before the data are collected.[76]

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[75] Robson, Colin (1993) *Real World Research* pp.181-182

7. Arranging practicalities and conducting the research

Now that you have chosen the research design you need to know what you are going to do before starting the data collection. For this you need to concentrate on issues like sampling, pilot testing the research design, managing and supervising the entire process. It is time to get yourself organized and conduct the research!

7.1. Sampling

Sampling is the selection of a representative group from a larger population for study.

Sampling is part of everyday life whether we are aware of it or not. For instance, after meeting someone from your neighbouring country, a person may decide that all the inhabitants of that country are friendly and wise. The idea behind sampling is that :(a) we seek knowledge or information about a whole class of similar objects or events (usually called population); (b) we observe some of these (called a sample); and (c) we extend our findings to the entire class.[77] Sampling is closely linked to the external validity or generalizability[78].

Researchers seek to establish the broadest possible generalizations. As in many cases, it is impossible to observe all relevant cases, therefore sampling methods are needed. Also paradoxically, the attempt to observe all cases may actually describe a population less accurately than a carefully selected sample. The reason is that the planning and logistics of observation are more manageable with a sample and also greater attention can be given to the design of the research.[79]

The sample size is important for two reasons. First, large samples generally enhance our confidence in study results. Secondly, by increasing sample size, we may gain access to specialized problems and smaller populations that otherwise might not be studied.[80] A larger sample also lowers the likely error in generalizing. It is important to remember that the type of analysis you are going to do influences the sample size, as does the number of categories into which you will be subdividing the data. So you need to consider what you are going to do with the data in terms of analysis at the design stage.[81]

The various types of sampling plan are usually divided into ones based on probability samples/representative samples (where the probability of the selection of each respondent is known) and on non-probability samples (where it isn't known). The main difference is that from probability samples you can make statistical inferences to the population, whereas this is not possible from the non-probability samples.[82]

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[76] Dollinger & DiLalla (1996) Cleaning up Data and Running Prelimenary Analyses. In Leong and Austin (Eds) *The Psychology Research Handbook.* (pp.167-176)
[77] Singleton, Royce JR et all (1988) *Approaches to Social Research* p.130
[78] Robson, Colin (1993). *Real World Research.* p.135.
[79] Singleton, Royce JR et all (1988) *Approaches to Social Research* pp.131-132.
[80] Singleton, Royce JR et all (1988) *Approaches to Social Research* p. 336
[81] Robson, Colin (1993).*A Real World Research.* pp. 136-137
[82] Robson, Colin (1993).*A Real World Research .*p. 136.

7.1.1. Probability samples[83]

The systematic sample
The systematic sample involves choosing a starting point in the sampling frame at random, and then choosing every *n*th person. Normally the number for the systematic sample is between one and forty to start off the sequence. This type of sampling relies on the list being organized in a way unrelated to the subject of the survey. It has to be noted, that this type of sample raises statistical peculiarities, such as once the first person has been chosen most persons will have no chance of inclusion and also most combinations of persons are excluded from the possible samples that might be chosen.

The simple random sample
This sample method involves selection at random from a list of the population (known as "sampling frame") of the required number of persons for the sample. For the selection a lottery method, random number tables (as found in many statistics books) or a computer can be used. It is important to take care that each person has an equal chance of being included in the sample and all possible combinations of persons for a particular sample size are equally likely. Note that in this sample type each person is chosen at random, as compared with systematic sampling where only the first one is randomly chosen (see above).

The stratified random sample
For this type of sampling the population needs to be divided into a number of groups or strata (layers, plural of stratum), where members of a group share a particular characteristic or characteristics (e.g. stratum A may be females; stratum B males). Then a random sampling is done within the strata. In this case it is usual to do <u>proportionate sampling</u>: that is, where the numbers of the groups selected for the sample reflect the relative numbers in the population as a whole. For example, if 80 per cent of the population are from one ethnic group and 20 per cent from another group, then one sample should be four times the other in size.
Sometimes it might be helpful to have <u>disproportionate sampling</u>, where there is an unequal weighting. This would allow you to 'over sample´ a small but important stratum or to ensure that there is at least some representation of certain ´rare species´. For example, if most of the members are from one ethnic group, this would allow you to ensure that also those members that are from minority groups would be included not depending on their general weight in the membership. It needs to be noted that sampling theory shows that the averages of stratified samples are likely to be closer to the population mean for a given sample size than in simple random sampling.

Cluster sample
As the name cluster sample implies, the population is divided into a number of units or clusters, each of which contains individuals having a range of characteristics. The clusters for the sample are chosen on a random basis. Then the sub-population within the cluster is chosen and sampled. This method has the valuable feature that it can be used when the sampling frame is not known and when a population is widely dispersed and large.

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[83] Robson, Colin (1993).*A Real World Research.* pp. 137-139

Multi-stage sampling

This sampling type is an extension of cluster sampling. It involves taking samples from samples; i.e. selecting the sample in stages. For example, one might take a random sample of schools; then a random sample of the classes within each of the schools; then from within the selected classes choose a sample of children. Both cluster sampling and multi-stage sampling provide means of generating a geographically concentrated sampling.

7.1.2. Non-probability samples[84]

Quota sampling

In quota sampling the strategy is to obtain representatives of the various elements of a population, usually in relative proportions in which they occur in the population. The important categories would be considered and chosen, for example female managers/male managers/female workers/male workers etc, then interviewers would be given a quota of each category (with examples to assist them in categorizing) continuing until their quota for the day is complete. Within the category, the interviewer then normally uses convenience sampling (see below). It needs to be noted that these samples are then only representative in numbers, not in terms of the type of persons actually selected. Both quota and dimensional sampling (see below) are basically trying to do the same job as a probability sample, aspiring to carry out a sample survey, which is statistically representative.

Dimensional sampling

This is an extension of the quota sampling, where the various dimensions thought to be of importance in a survey are incorporated into the sampling procedure in such a way that at least one representative of every possible combination of these factors or dimensions is included. For example, this can be done through forming a table or a matrix with the chosen dimensions (lets say ´ethnic group´ and ´length of stay in Guiding and/or Scouting´) constituting the rows and columns. In a refined version of this approach, particular combinations of these dimensions are involved (for example ´Asia´ with 3-5 years of Guiding and/or Scouting´), either because of their particular importance, or because of an inability through lack of time and resources to cover all combinations.

Convenience sampling

This type of sampling is sometimes used as a cheap and underhand way of doing a sample survey, as it does not produce representative sampling. Convenience sampling involves choosing the nearest and most convenient persons to act as respondents. This sampling process is continued until the required sample size has been reached. This method of sampling is probably the widest and the least satisfactory one. This method can be used sensibly in getting the feeling for the issues involved or piloting a proper sample survey.

Purposive sampling

This type of sampling is commonly used within case studies and it is based on the researcher's judgement as to what is typical or of interest to him. In this type the sample is built up so that it enables the researchers to satisfy their specific needs in a project. For

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[84] Robson, Colin (1993). *A Real World Research.* pp. 140-142

example, researchers carry out initial sampling and from an analysis of the results extend the sample in ways guided by their emerging theory.

Snowball sampling
In this type the researcher identifies one or more individuals from the population of interest. After they have been interviewed, they are used as informants to identify other members of the population, who then again are themselves used as informants, and so on. This approach is useful if there is a difficulty in identifying members of the population.

There are also many other types of samples created for special purposes. These are not explained in this context.

7.1.3. Focus groups[85]

The focus group can be defined as a special type of group in terms of purpose, size, composition and procedures. It is typically composed of seven to ten participants who are unfamiliar with each other. These participants are selected because they have certain characteristics in common that relate to the topic of the focus group. A focus group could be used, for example, in developing the educational programme for a certain age section, for getting ideas about trends among young people and for evaluating events.

In focus groups the discussions are carefully planned and they are designed to obtain perceptions on a defined area of interest in a non-threatening environment. Conducted with a skilled interviewer, the discussion needs to be relaxed, comfortable and often enjoyable for participants as they share their ideas and perceptions. In focus groups, group members influence each other by responding to ideas and comments in discussion.

For ideas on how to solicit responses in focus groups, see appendix 1.

7.2. Pilot and pre-tests

Before gathering the actual data it is recommended to organise a pilot survey or pre-test the methods used. This is especially important for successful implementation of questionnaires. The pre-testing can be used for a number of purposes:
1. To test the questions:
   o To test for variation in the target population by helping to detect possible subgroups, who give different answers to particular types of questions.
   o To test the meaning of questions by checking whether respondents understand terms and nuances, and also to assess the difficulty of particular questions.
   o To test respondent interest and attention.
2. To test the questionnaire.
   This involves checking the flow and naturalness of different sections in the questionnaire, the order of questions, skip patterns (e.g. "If answer to question 1 is ´Yes´ then go to question 4"), the overall length of questionnaire, and the interest of the respondents. Consideration should also be given to the respondents' well being

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[85] Kruger, Richard A. (1988). *Focus Groups: A Practical Guide for Applied Research.* p. 18

in terms of the sensitivity of questions. Shorter questionnaires are less likely to fatigue the respondent.[86]

Pilot surveys can also have the advantage of providing field training for interviewers or research assistants, helping them to develop personal skills and rapport with respondents. Furthermore pilot surveys provide a small dataset for use in preparing provisional coding for analysis.[87]

The evaluation of a pre-test can be quantitative (if the sample taken is large enough) or qualitative. In the case of a qualitative evaluation this can include marginal comments, an oral debrief, written reports, answers to written questions and field observation of questionnaire application. When possible, it would also be good to provide some checks upon the input of the researcher's subjective values to the questionnaire by introducing elements of replicability and standardisation. The former refers to a mechanism for checking whether a survey's findings are applicable in other contexts. For example, if a second researcher administers the same questionnaire with a comparable sample, this provides a check upon possible bias in the current research methods. However, this requires standardisation in which the conditions operating during the taking of the questionnaire are repeated (for example, asking the same question in the same manner).[88]

7.3. Management and Supervision

Research work involves organization of work including the management of physical, social and personal resources necessary for getting the research work done, whether working alone, with someone else, or in a team. It needs to be noted that while much research involves routine operations and can at times be boring, assuredly also it can be most creative, exciting, fun, challenging, although sometimes extremely disturbing and painful. This means that researchers, as workers, can and should care very deeply about their work.[89]

Good managements starts when the resource decisions are made. By simply being realistic many practical difficulties can be avoided. Already when deciding on the research methods and designs the main decisions on resources should be made. For example, if there are not enough financial resources available, the research design should not be expensive. If the design is not practical to the resources it is very likely that the management of the research process will be very difficult.

The main management tasks that need to be undertaken are:
- o Clarifying all the responsibilities, including informing and what happens after the research has been conducted.
- o Recruiting enough people for the study process and briefing them about the process and ethics connected to it.
- o Motivating the people in the research team.
- o Training the staff for the research process.

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[86] Robinson, Guy M. (1998) *Methods & Techniques in Human Geography* pp.382-383
[87] Robinson, Guy M. (1998) *Methods & Techniques in Human Geography* p.384
[88] Robinson, Guy M. (1998) *Methods &Techniques in Human Geography* pp. 383-384
[89] Strauss, Anselm L. (1987) *Qualitative Analysis for Social Scientists.* p. 9.

- o Making a time line plan for completion of each task in the study
- o Assigning all the staff and staff time to tasks and activities.
- o Negotiating access to places if needed.
- o Making sure that the research budget is kept and followed.
- o Doing a risk assessment of the research project.
- o Agreeing on clear check-up times with all the people involved in the process.
- o Communicating effectively with all the necessary people.
- o Evaluating the performance of research staff members and the tasks fulfilled.

The person responsible for the management of the research needs to be able to adapt to the changing situations. She/he needs to be ready to change plans and act quickly when circumstances change and surprises occur. It needs to be remembered that the implementation of any research takes a lot of time, normally more than is estimated in the beginning!

As a research manager it is recommended that you work on your relationships. Your task is to enable others to do their best. Also do not just disappear at the end as you are the person needed for passing the research to the next level – into actions.

7.4. Collection of data

Before you start collecting data, have a look at the following questions and consider if you have taken care of them:
- o Have you explored thoroughly the choice of methods?
- o What mix of methods do you propose to use?
- o Have you thought through potential problems in using the different methods?
- o Do the methods have the flexibility that you need?
- o Have you considered how you will be analysing the data afterwards?

Whatever the method you use, data collection calls for commitment. Motivate and train all the people involved in the data collection. This way you can be sure about the quality of the data you receive. Keep your mind clearly focused during the collection and be ready to adapt your plans according to the changing situations. Also remember to enjoy the data collection process as it is normally very satisfactory.

Remember that the collection of data is governed by the particular research design used. An important concern in data collection is sampling, or selecting a representative group from a larger population for study. If it is impossible to study all members of particular population, then a sample is selected, and the results obtained from this subgroup are generalized to the larger population. The process of selection must follow strict guidelines to ensure that the sample is representative of the larger population from which it is drawn.

8. Analysing the results

Analysis is synonymous with interpretation of data. While analysing we in fact make interpretations on the data of the research. Analysing can also be done by three types of "readings":

1) The literal. Here the focus is on aspects of interaction. Analysis is likely to focus on words and language used, the sequence of interaction, the form and structure of the dialogue, and the literal content. In an interview, this approach will require a tape or video recording.

2) The interpretive. This involves consideration of meanings or what the researcher can infer about something beyond the interview interaction/observation itself. The researcher has to construct or document a version of what they think the data means or represents.

3) The reflexive. This approach relates to the role of the researcher and the interface between researcher and the researched. Therefore the researcher explores their personal role in the generation and interpretation of data and this is reflected in the "analysis".[90]

It has to be noted that much qualitative research involves "reading" data in all three ways, though with variation in emphasis.

Generally five categories of data analysis strategies can be identified. These are[91]

8.1. Organizing the data;
8.2. Generating categories, themes and patterns
8.3. Testing hypotheses against the data
8.4. Searching for alternate explanations of the data
8.5. Writing a research report

Each phase of data analysis entails data reduction as the collected data are brought into manageable chunks, and interpretation, as the researcher brings meaning and insight to the words and acts of the participants in the research study.

8.1. Organizing the data

This phase includes reading, reading and reading once more through the data in order for the researcher to become familiar with it. To assist this, the data gathered usually needs to be processed in some way before it becomes capable of providing answers to the question, which is being researched. It is important to organize the data systematically. This allows the researcher

a) to obtain high-quality, accessible data,
b) to document analyses as they are conducted and
c) to retain the data and associated analyses on completion of the research.

During the reading process, the researcher can list on note cards the data available and perform minor editing, necessary to make the data more manageable. At this time it is

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[90] Robinson (1998) *Methods & Techniques in Human Geography* pp.426-427.
[91] Finley & Highlen (1996) Doing Qualitative Analysis. In Leong and Austin (Eds) *The Psychology Research Handbook.* pp. 177-192

worth considering entering the data into one of several software programs for the management and/or analysis of it.

The format chosen of data organization reflects the categories of available data. The following list of data organization formats is extensive:

1. Raw material – raw data (field notes, interview tapes)
2. Partially processed data (transcriptions, the researcher's reflective remarks)
3. Coded data (specific codes describing small chunks of data)
4. Coding scheme (Extended definitions of codes)
5. Memos or other analytic material (researcher's reflections on conceptual meanings of data)
6. Search and retrieval records (a system of linking (?) codes and the original data source)
7. Data displays (charts or networks displaying information in compressed forms)
8. Analysis episodes (documentation of the research process)
9. Report text (successive drafts of what is written on the study's design and methods)
10. General chronological log or documentation (data collection and analysis work)
11. Index of all previously listed material.[92]

In this stage of the research it is extremely important to pay attention to detail. This includes well-planned and efficient data management practices with labelling materials, making extra copies, colour-coding notes and transcribing data.

Normally the numerical data then have to be subjected to statistical analysis, while qualitative data, which consists of descriptions in words rather than in numbers, needs to be simplified and summarized to render it more manageable.

8.2. Generating categories, themes and patterns

Once the data has been collected and "cleaned" for errors and outliers, it will be useful to conduct preliminary analyses. The preliminary analyses will help the researcher decide how best to proceed with telling the story of the data. In preliminary analyses the main idea is to consider whether the sample you gathered was typical or not. This will help you to spot problems or discrepancies in the data set. Also if you are already able to find out something about the hypotheses, that will help you to plan the next stages of the analyses. These are drawing the main results and supplementary results.[93]

The heart of any data analyses consists of identifying categories, recurrent themes, ideas or language, and belief systems that are shared across research participants and settings. In order to do this the researcher first needs to consider how the data is processed. The key elements that need to be considered are[94]
   o Do you know well enough the statistical software you are using?
   o How the possibly used scale values are coded?
   o How the higher measurements are used? (suggestion: high scores means greater affect)

[92] Finley & Highlen (1996). Doing Qualitative Analysis. In Leong and Austin (Eds) *The Psychology Research Handbook.* pp.177-192

[93] Dollinger & DiLalla (1996) Cleaning up Data and Running Prelimenary Analyses. In Leong and Austin (Eds) *The Psychology Research Handbook.* pp.167-176

[94] ibid

o How do you code each case?
o How do you code the missing data?
o Remember to label the cases as you will hand it over to a stranger.
o Make sure that everyone encoding the data is using the same rules of recording the data.

This leads us to the topic of coding of the data.

8.2.1. Coding

Coding in research represents the operations by which data are broken down, conceptualised and put back together in new ways. One important point about coding that is many times misunderstood is this: While coding involves the discovery and naming of categories, it must also tell the researcher much more than that. The quality of the research, to a great extent, relies on the excellence of the coding.[95]

In this tool kit we will introduce you to open and axial coding that are linked to theme analyses and concept development. These analysing methods are part of the so called grounded theory procedure. In many cases it is worth seeking professional help with coding, so that it is done objectively and effectively.

Open coding [96]
Open coding means the process of breaking down, examining, comparing, conceptualising and categorizing data. Two analytic procedures are basic to the so called open coding process. The first concentrates in making the comparisons and the other in asking of questions. As you can see in each step of the analysis, these two procedures can be used together. The first step in analysis is the conceptualising of data. By breaking down the "raw" data and conceptualising we mean taking apart an observation, a sentence, a paragraph and giving each discrete incident, idea or event a name, something that stands for or represents a phenomenon. This is done by asking questions about each one, like: What it is? What does it represent? All the incidents need to be compared and similar phenomenon can be given the same name, the conceptual label that represents it.

Once we have identified the conceptual labels, we can begin to group our concepts around them. This is done by reducing the number of units with which we have to work. The process of grouping concepts that seem to describe the same phenomena is called categorizing. The phenomenon represented by a category is given a name that should be more abstract than that given to the concepts grouped under it. The important thing is to name a category, so that you can remember it.

Once you begin to develop a category you do so first in terms of its properties, which can then be dimensionalized. Properties are the characteristics or attributes of a category, and dimensions represent locations of a property along a continuum. For example, in a type of work called watching, the frequency, extent, intensity and so forth are the properties of it. Each of the properties can then be dimensionalized; that is, they can vary along continua. The watching can vary in frequency from often to never; in extent from more to less and so forth. Therefore each specific instance of the same general property (such as colour) will

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[95] Strauss, Anselm L. (1987) *Qualitative Analysis for Social Scientists*. p. 27
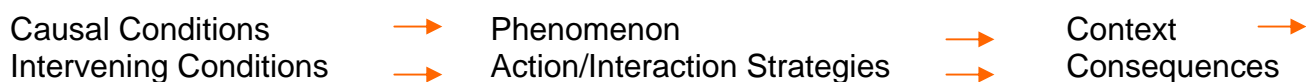[96] Strauss & Corbin (1990) *Basics of Qualitative Research*. pp. 61-74.

have a different location on the dimensional continua. This gives each occurrence of a category a separate dimensional profile and several of these profiles can be grouped to give you a pattern. Then again each property can have sub-properties that can be dimensionalized. The dimensions of each property can be identified by asking relevant questions.

There are generally several different ways of approaching the process of open coding. One is to start the analysis from the first interview or observation with a line-by-line analysis. This is possibly the most detailed type of analysis, but the most generative. It is also possible to code by sentence or paragraph. Here you might ask: What is the major idea brought out in this sentence or field note? A third way is to take an entire document and ask: What seems to be going on here? In the last two cases you would then go deeper into the data and specifically analyse for those similarities and differences.
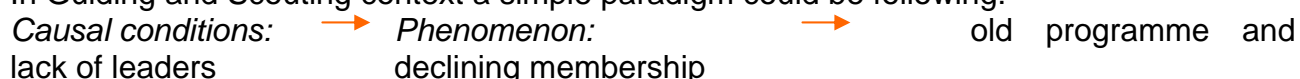

Axial Coding[97]
Axial coding is a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories and its subcategories. It is a complex process of inductive and deductive thinking involving several steps that are accomplished, as with open coding, by making comparisons and asking questions. This is done by utilizing a coding paradigm involving conditions, context, action/interactional strategies and consequences.

The paradigm model. In the paradigm model, subcategories are linked to a category in a set of relationships. Highly simplified the model looks like this:

Causal Conditions   →   Phenomenon   →   Context   →
Intervening Conditions   →   Action/Interaction Strategies   →   Consequences

In Guiding and Scouting context a simple paradigm could be following:
Causal conditions: →   *Phenomenon:*   →   old programme and
lack of leaders   declining membership

Context: →   *Intervening conditions:*   →
less income, motivated leaders   culture of the Association, traditions

Action/interaction strategies: →   *Consequences:*
Innovative leader trainings organized,   stabilized/increase in membership
renewal of the programmes

Use of this model helps you to think systematically about data and to relate them in very complex ways. Phenomenon is the central idea, event or happening, about which a set of actions/interactions is directed at managing or handing, or to which the set is related. Causal conditions are the incidents that lead to the occurrence or development of a phenomenon. A context then represents the specific set of properties that pertain to a phenomenon. It is also the particular set of conditions within which the action/interaction strategies are taken to manage, handle, carry out, and respond to a specific phenomenon.

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[97] Strauss & Corbin (1990) *Basics of Qualitative Research*. pp. 96-115.

Intervening conditions are the broad and general conditions that either facilitate or constrain the action/interactional strategies. These conditions ranging from those most distant to the situation to those closer to it, include: time, space, culture, economic status, technological status, career, history, and individual biography. Action/interactional strategies are directed at managing, handling, carrying out, responding to a phenomenon as it exists in context or under a specific set of perceived conditions. The action and interaction taken in response to, or to manage, a phenomenon have certain outcomes or consequences. Also the failure to take action/interaction has outcomes and consequences. It needs to be remembered that what are consequences of action/interaction at one point in time may become part of conditions in another.

8.2.2. Other ways of analysing

It is worth also trying so called <u>content analyses</u>, where you generate categories by identifying patterns in the data and placing each pattern into a category. In this way of analysing you examine portions of the text and give them labels, as if you were constructing an index for a book. This indexing system can be developed either manually, using cut-and-paste methods with index cards and paper copy transcripts, or using computer software. If you are not yourself familiar with computer programmes, it is wise to get support from professionals.

You may also want to consider following ways for generating categories, themes and patterns:
1. Read transcripts as they are completed to identify emerging themes that may modify subsequent data collection (e.g. interview questions) and analysis.
2. Read transcripts three times before coding to identify themes and to avoid getting lost in the minutiae.
3. Carry a notebook or tape recorder to record spontaneous analytic thoughts as they emerge.
4. Reread the data and analytic files regularly, adding thoughts, questions and insights as they surface.[98]

In analysing the study the researcher normally adopts a certain viewpoint towards the data. It is important to realize this and also explain it in the research. For example, if qualitative data have been gathered from interviews, it is common for analysis to adopt one of three viewpoints:
1. That the interview represents the "truth" about the respondent's position or actions and that this truth can be analysed.
2. That the interview will reveal the structural constraints under which the respondent operates and that the nature of theses structures can be determined by the use of theory and information supplied via interviews.
3. That the basic form of the interview is paramount and that underlying structures and objectives interpretation should not necessarily be the primary concern of the analysis. The focus should be on regularities and fundamental features in the interview. This is referred to as discourse analysis or conversation analysis and it

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[98] Finley & Highlen (1996). Doing Qualitative Analysis. In Leong and Austin (Eds) *The Psychology Research Handbook*. pp. 177-192

treats the interview itself as the social encounter of prime significance rather than it being a key to an external reality.[99]

8.2.3. Statistics[100]

Statistics are arithmetical procedures designed to help summarize and interpret data. While a comprehensive treatment of research methods and statistics is beyond the scope of this text, it is important to emphasize that doing any kind of research requires also understanding statistics as research tools. It is commonly believed that you can prove nearly everything with statistics and that information and knowledge is only valid and reliable if it comes in the forms of numbers. This is not always the case. It needs to be noted that also other kinds of information and knowledge can be just as useful and relevant.

Statistics can normally provide good data in a number of important areas, such as social demography, family and household patterns, and especially for tracing transitions between education, training and employment. In many other relevant issues it can not provide useful material, therefore it is needed to be cautious about the use of statistics.

In this section we will discuss two basic types of statistics: <u>descriptive statistics</u>, used to summarize recorded observations of behaviour, and <u>inferential statistics</u>, used to test hypotheses about research data.

Descriptive statistics
The simplest way to represent research data is to use descriptive statistics as it describes data in ways that give the researcher a general idea of the results. A descriptive statistical technique is a <u>frequency distribution </u>that presents data in a useful format, arranges the performance scores by category, so that we can see at a glance for example, how many employees received each numerical rating. It can be presented in a form of a bar graph or histogram.

Other important aspects of descriptive statistics are the measures of <u>central tendency</u> and <u>variability</u>. Measures of central tendency present the centre point of a distribution of scores and therefore it is useful in summarizing the distribution in terms of the middle or average score. The most common measure of central tendency is the <u>mean</u> or average. This is calculated by adding all of the scores and dividing by the number of scores. Another measure of central tendency is the <u>median</u> or the mid-point of a distribution of scores. Median is such a score that 50 percent of the scores fall below the median, and 50 percent fall above the median.

Measures of variability indicate how scores are dispersed in a frequency distribution. If scores are widely dispersed across a large number of categories, the variability will be high in that case. If scores then again are closely clustered in a few categories, variability will be low. *Standard deviation* is the most commonly used measure of distribution variability. The standard deviation shows how closely the scores are spread around the mean in frequency distribution. The more widely the scores are dispersed, the greater the

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[99] Robinson, Guy M. (1998) *Methods & Techniques in Human Geography* p. 426
[100] Riggio, Ronald E. (1996) *Introduction to Industrial/organizational psychology.* pp. 46-51

standard deviation. Both the mean and the standard deviation are important indicators to more sophisticated inferential statistics.

Inferential statistics

Inferential statistics are used for analysing data to test hypotheses. When inferential statistics are used to analyse data, the concern is whether a result is meaningful, or statistically significant. The concept of statistical significance is based on theories of probability (will not be discussed here). Normally statistical tests are used to determine whether a difference in two groups is statistically significant.

Also the concept of the normal distribution of variables is important for the use of inferential statistics. It is assumed that many psychological variables, especially human characteristics such as motivation or personality constructs, are normally distributed. In the normal distribution the scores on the variables in the general population are presumed to vary along a continuum, with the greatest proportion clustering around the midpoint and proportions dropping off toward the end points of the continuum. This is symbolized visually by the bell-shaped curve. It is a representative distribution of known mathematical properties of the normal distribution.

Figure 2. A figure of a normal distribution.
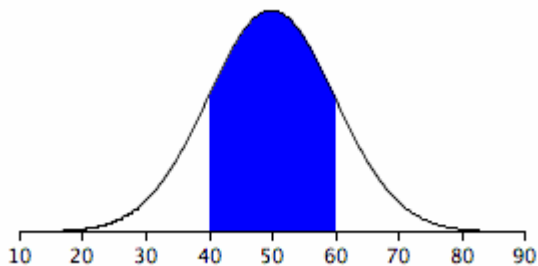
The median of the normal distribution is the same as the mean. In a case of a normal distribution, 50 percent of the scores lie above the midpoint and 50 percent below. The normal distribution is also divided in terms of standard deviation from the median. In a normal distribution, approximately 68 percent of all scores lie within one standard deviation above or below the mean.

8.3. Testing hypotheses against the data

Now that you have the preliminary results in front of you, you will need to find out if the results received support the hypotheses of the research. This is done through evaluating the hypothesis and testing them through the data. You will need to search through the data challenging the hypothesis and search for negative instances in the patterns. This way you are able to find out if the hypothesis are supported or not. Part of this process is also evaluating the data for their informational adequacy, credibility and usefulness. Be sceptical and bare in mind that the participants in the study might have given a particular presentation of themselves to you as a researcher.

Once you have evaluated the hypothesis and tested them, you will need to consider are the results seen as helping with the problem or not? If your answer to that is yes, your

main task ahead is to report and "sell" the report to the people concerned. After that make sure that the results are implemented into action.

If the answer to the above question is negative, you first of all need to develop alternative explanations and look for possible spin-offs. It might be that there is a need to have a new research before the findings can really benefit the situation and therefore you may already have new research ideas. Your task then is to justify the need for further research before taking actions.

8.4. Searching for alternate explanations of the data

During coding of the data it is important to incorporate multiple perspectives to gain analytic breadth and to check for researcher bias. Multiple perspectives include coding data from different theoretical perspectives, having multiple researchers code the same piece of data, including individuals with different backgrounds and asking participants for feedback about assigned codes and/or suggestions for codes. All this increases the study's trustworthiness.[101]

Once a set of themes has emerged across the data, it is important to search for disconfirming/ unusual information in the remaining text. For example, if four of seven interviewees emphasize positive experiences at camps, the researcher must conduct a negative case analysis to search for contradictory evidence in the other three cases. It needs to be remembered that reporting themes in the study must take into account all cases and must include qualifying statements when evident. Attention to disconfirmatory data is necessary in order to avoid making simplistic interpretations, to allow readers to make their own interpretations of the data, and to maximize the study's trustworthiness.[102]

The main things in analysing are critical thinking and creativity. Criticism is an essential foundation of creativity. It needs to be remembered that discovering something new may first require realizing that a current manner of work or theory is inadequate in some ways. Creativity plays an important role in developing new explanations and devising tests for them. It also helps us to see what has not been seen before.[103]

It is important to remember that each of us brings to the analysis of data our biases, assumptions, patterns of thinking and knowledge gained form experience and reading. They can block us from seeing what is significant in the data, or prevent us from moving from descriptive to theoretical levels of analysis. Especially in the early analytical stages, we need ways of opening up our thinking about the phenomena we are studying. Here we introduce some techniques that can be used to prevent or rectify these problems[104].

The use of questioning

The purpose behind the use of questioning is to open up the data so that we can think potential categories, their properties and dimensions. Questions do not represent what is "really" in this data, rather we are referring to what future data analysis could tell us, if we

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[101] Finley & Highlen (1996). Doing Qualitative Analysis. In *The Psychology Research Handbook*. p.189
[102] Ibid.
[103] Ford, David E. (2000) *Scientific Method for Ecological Research.* p 7.
[104] Strauss & Corbin (1990) *Basics of Qualitative Research*. pp. 41-95

knew what questions to ask. The basic questions are Who? When? Where? What? How? How much? and Why? Each one of these questions is likely to stimulate a series of more specific and related questions, which in turn lead to the development of categories, properties, and their dimensions. There are also a set of temporal questions that can be asked: frequency, duration, rate and timing. Also spatial types of questions, such as how much space does it take? Or technological types of questions, such as: are special skills required to use it?

Analysis of a Word, Phrase, Sentence

Normally, when anyone sees words he or she will assign meanings to them, derived from common usage or experience. We often tend to believe that because we would act and feel in a particular manner, that this, of course, is what the respondent means by those words. This is not necessary accurate. Think for example all the different associations for word "red", from lipstick to passion. The procedure here is to first examine a document, or at least a couple of pages of it, and then return to any word of phrase that struck you as significant, important or of interest. This item should be one that you wish to think about more deeply. Then list all the possible meanings possibly with some ideas from others, from the most probable to the most improbable.

The Flip-Flop Technique

The idea in this technique is to turn the concept of domination upside down, and imagine the very opposite. For example, suppose that we are interested in games. We chose this particular option because we have had some experience with games and had the possibility of developing the concept further. Since our familiarity with the area of study is hindering our analysis by keeping us too focused on the observable reality we need to get new ideas. We decided to take one of the subcategories of games and chose "action games" and opened it up in order to uncover potential properties and dimensions that might apply to it. For comparison we choose fishing, as it does not need much activity nor many people involved. Then thinking how fishing is interesting we identified the following things, age -you can do it in any age, place- it is done outdoors, equipment – you need special equipment, time – you can identify best times for it. With these ideas we can develop further our action games. This exercise should help you to think analytically rather than descriptively about data, to generate provisional categories and their properties and to think about generative questions.

Making of comparisons

A good creativity exercise is to compare the issue of the study with close-in subject, lets say a teenage girl with a teenage boy. In this comparison it is important to ask questions systematically bringing out similarities and differences. Another good way is to do a far-out comparison, for example comparing weight lifting with playing a violin. They both need equipment. The things that differentiate them from each other are the portability and breakability of their equipment among other things. You can play with the comparisons for hours if you like. It needs to be remembered that the comparisons should be done just until we are freed of whatever is blocking us or we have a list of properties and dimensions to pursue.

Waving the red flag

This technique has to do with helping the analyst to see beyond the obvious in data. Assumptions that are based on cultural perspectives are especially difficult to recognize because everyone of the same cultural heritage thinks the same way so that no one is likely to question you for making these shared assumptions. You should become very sensitive to certain words and phrases: such as "Never", "Always", "It couldn't possibly be that way", "Everyone knows that's the way it is done", "There is no need for discussion". These words and phrases should be taken as signals to take a closer look at them. The analytic issue here is never to take anything for granted, always to question things.

8.5. Writing a research report

There are at least three issues that need to be addressed by researchers as they move from data collection to the construction of the research report: *sense making, representation and legitimization.* First, questions for <u>sense making</u> that must be addressed are "What will be reported?" and "How it will be presented?" This mainly deals witj the information sources, including all the data collected, researchers' notes and any information obtained through member checks and follow-ups.

Second, <u>representation</u> deals with the voice of the text and who are the audience of the report. It needs to be considered how to separate the participant's voices from the voice of the author. Also during this stage it needs to be remembered that all texts are historically, socially, politically and culturally bound. Third, <u>legitimisation</u> is the correspondence of the text to an agreed-upon standard. It needs to be considered if the report is faithful to the context and the individuals it is supposed to represent. Also has it right to assert that it is a report to the larger world?[105]

The actual report can have various forms of text organization and writing styles, depending on the purpose of a study. These various methods of writing styles, referred often as *tales*, include realist (observational position of authority), confessional (interpretation), impressionist (creative), critical and formal tales.[106]

In writing the report it is good to remember the following points:
- Reporting is an essential part of the research process
- Report as soon as possible after you have completed the field research, so the information is relevant and up-to-date.
- The appropriate format for the report depends on the nature and purpose of the research
- You need not be limited to a single type of report – use your imagination! You could use also dialogue presentation or news releases.
- Bare in mind the professional standards of reporting and presentation. Don't forget to provide references in the reports, also from the web.

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[105] Finley & Highlen (1996) Doing Qualitative Analysis. In Leong and Austin (Eds) *The Psychology Research Handbook. (pp.177-192)*
[106] ibid

- Tailor your report and presentation to suit the audience. For example, find out how key decision makers in the Association and other audiences prefer to have research reported (e.g. presentation; written report; informal briefing). It might be that they want to have two different reports one full with appendixes and one "executive summary" just shortly covering the problem, methods used, results and conclusions.
- Be as transparent as possible and use acknowledgement if accessible.
- Well published, striking outcomes are going to sell well even if the scientific standing is not so strong.

Crucial elements in the reports are the recommendations. The most important aspects are that they should be clearly derived from the data and practical (capable of implementation). It is helpful to distinguish among:

      a. findings – information about the situation
      b. interpretations – explanations offered about the findings
      c. judgements – values brought to bear on the data and
      d. recommendations –suggested courses of action.

The process of generating recommendations takes time and many researches are ruined by rushing at this stage. You could also consider presenting recommendations as a set of options. In the findings there may be several reasonable interpretations and different value positions, which will generate a whole range of options. It is also best for yourself that those people that are going to make the decisions are involved in creating the recommendations, as then they are more likely also to act on them. Also for you this enables you to escape being over-influenced by your own prejudices. [107]

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[107] Robson, Colin (1993).*A Real World Research.* pp. 421-422

9. Acting on findings

After you have the research results in front of you, it is time to make the plans to go further. The first step starting the implementation of the results is to make sure that all the necessary people/leaders have access to the research findings and are able to seriously consider them. This includes proper informing and briefing of the outcomes. You need to be sure you prepare information according to the needs. You will need to consider at least people who have been involved in carrying out the research; people who asked for it and people who will decide on or carry out the actions afterwards.

Secondly you need to make a decision, which may not be a simple acceptance or adoption but could involve postponement until further work is done. It needs to be remembered, that a lack of implementation does not necessarily mean rejection or resistance, but it could be due to lack of resources or time. The decision here plays a crucial role, as it clarifies things. If the decision is to go ahead, then the implementation can start. In many cases this involves change and therefore you need to know something about a process of change.

9.1. Are we ready for change?

One approach on preparing ground for any change is the concept of readiness. From a practical change implementation perspective, it is useful to ask the questions: Are the conditions right, or do we have to do some preliminary work before we go ahead?

When readiness is high, change may be a straightforward process. On the other hand, when readiness is low, some ´groundwork´ may be required to increase readiness among those affected. Eight preconditions for successful change have been identified. These are[108]

1. Is there *pressure* for this change?
2. Is there a clear and shared *vision* of the goal and the direction?
3. Do we have effective *liaison and trust* between those concerned?
4. Is there the *will and power* to act?
5. Do we have enough *capable people* with sufficient resources
6. Do we have suitable *rewards* and defined *accountability* for actions?
7. Have we identified the actionable *first step?*
8. Does the organization have a *capacity to learn* and to adapt?

Where the answers are ´yes´, the organization's readiness for change is high and resistance is likely to be insignificant. Where the answers are ´no´, readiness is low and change is likely to be correspondingly more difficult to carry out.

Some readiness factors may improve by waiting. Time plays an important role here. Also some readiness factors can be managed by actions. These are to manipulate readiness factors, to heighten the impatience for change or to strengthen a welcoming predisposition.

It needs to be stressed that change does not automatically mean the same thing as improvement or progress. The results of any research should not be seen as necessarily supporting change. The conclusions can provide evidence that a particular change is not

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[108] Buchanan & Huczynski (2004). *Organizational Behaviour An Introductory Text* pp. 621-622

worthwhile. In these cases rejecting a proposed change is more progressive than accepting it.

If the decision is to carry out a change, you need to remember that people involved in the research process, are more likely to be positive about the changes that need to take place, then those that are just informed about it. Therefore it is vital to spread information about the research undertaken to the entire Organization and also to as many people as possible already into the process.

Effective implementation of change means a process of clarifying all the things involved in the change process. This reduces the ambiguity and uncertainty about the meaning of the change. People need pressure to change but this is only effective if they are allowed to react and interact. Therefore you need to re-socialize the people, otherwise you may loose a lot of leaders. Don't expect that everyone will change. The progress occurs by increasing the number of people affected. Little by little you will reach the target.

A clear plan is needed to implement the change process. For this, also keep in mind the following things:
- some conflict and disagreement is fundamental to change.
- interaction of the meaning of the change is vital. Don't assume your version of the change should be the one that could or should be implemented.
- effective change needs time.
- change is a process, not an event.

Remember that change can be frustrating. If you are not in a position to understand the process of change, don't expect significant change as far as implementation is concerned.

9.2. Coping with results

Every member in our organizations feels differently about changes that happen both inside and outside our Organizations. We need to remember that there is a limit to the amount of change individuals can handle. Especially if the culture of the Organization is not used to changes, it might be hard to do things differently. You need to be aware that change always needs negative reactions. The following coping cycle has been used to help understand responses to radical changes and it can explain also some of the reactions that you may find when the actions that need some changes, are implemented.

Stage	Response[109]
denial	person is unwilling to confront the reality; "this is not happening?"
anger	person turns accusations on those apparently responsible; "why do I need to be involved in this?"
bargaining	person attempts to negotiate; "what if I do it this way?"
depression	person appreciates the reality of transition; "it's hopeless, there's nothing I can do now".
acceptance	person comes to terms with and accepts the situation and its full implications; "what are we going to do about this?"; "How am I going to move forward?"

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[109] Buchanan & Huczynski (2004). *Organizational Behaviour An Introductory Text* p. 614.

Six useful techniques to manage resistance have been identified. These are[110]:

1. Education and commitment
    Sharing of perceptions, knowledge and objectives with those affected by change. This can involve trainings, face-to-face counselling, meetings, publication of memos and reports. Aim is to clarify the misunderstandings and inaccurate information.
2. Participation and involvement
    Those who you think might resist the change, should be involved in planning and implementing it. This can reduce opposition and fears and encourage commitment. Also it brings in the individual skills and knowledge of these people.
3. Facilitation and support
    It might be necessary to develop individual awareness of the need for change and also self-awareness of feelings towards change and how these can be altered.
4. Negotiation and agreement
    Sometimes it might be necessary to reach a mutually agreed compromise, through trading and exchange. This way you are adjusting to meet the needs and interests of potential and powerful resistors.
5. Manipulation and co-optation
    In this approach you try to manipulate the change by putting emphasizes to advantages and give direct access to the key resistors to the decision-making process.
6. Implicit and explicit coercion
    Where there is profound disagreement between those concerned with the change, and little chance of anyone shifting their ground, this may lead to someone being coerced into agreeing to something in order to break the deadlock.

These methods can be used in combination and the choice depends on the likely reactions of those involved. Although the support approach may be the norm, there may be circumstances where some other ways are more appropriate.

The top people of your Association need to be aware that the more they prepare people in the actions towards change, the less likely they are to face hard denial. There may still be many other emotions to deal with and they need to be ready for that. Research findings can provide a great opportunity to change the actions taken in the Organization. Research is a tool to analyse the situation and to base the future steps on more solid objectively tested ground. Do not miss the opportunities provided by research findings!

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[110] Buchanan & Huczynski (2004). *Organizational Behaviour An Introductory Text* pp. 620-621.

Glossary of main terms

Applied research	Dealing with data or problems in a practical manner.
Associative hypothesis	Describes an associative relationship between identified variables.
Audience	Those reached by a study, research
Authority	Personal power that commands influence, respect or confidence
Axial coding	A set of procedures whereby data are put back together in new ways
Case	A contemporary phenomenon
Case study	Development of detailed, intensive knowledge about a singe case or of a small number of related cases.
Causal	Expressing a cause or a reason
Causal hypothesis	Identifies a cause and effect interaction between two or more variables.
Cluster sample	The population is divided into a number of units or clusters and sampled.
Coding	The operations by which data are broken down, conceptualised and put back together in new ways
Concepts	Conceptual labels place on discrete happenings, events and other instances of phenomena.
Conceptualisation	The development of clear concepts
Convenience sampling	Choosing the nearest and most convenient persons to act as respondents.
Complex hypothesis	Predicts the relationship among three or more variables
Correlation	The existence of a regular relationship between two sets of occurrences or variables.
Credibility	The capacity of being believed
Currency	The state of being current
Data	Facts and figures from which conclusions may be drawn
Deduction	Drawing implications from hypothesis or larger systems of them
Dependent variable	The response, behaviour or outcome that the researcher wants to predict or explain.
Descriptive statistics	Arithmetical formulas for summarizing and describing research data
Dimensionalizing	The process of breaking a property down into its dimensions
Dimensional sampling	Extension of quota sampling, where important dimensions are incorporated so that at least one representative of every possible combination of these dimensions is included.
Dimensions	Location of properties along a continuum.

Directional hypothesis	States the nature of the relationship between two or more variables
Empirical	Relating to or based on experience or observation
Ethics	A set of moral principles or values; a theory or system of moral values; the principles of conduct governing an individual or a group; a guiding philosophy
Experiment	An attempt to test a hypothesis under highly controlled conditions established by an investigator
Extraneous variables	Affect the measurement of study variables, such as environmental or situational variables.
Focus group	A special type of group in terms of purpose, size, composition and procedures.
Frequency distribution	A descriptive statistical technique that arranges scores by categories
Fundamental research	A research that serves as a foundation or basis.
Hypothesis	Statements/predictions about the supposed relationships between or among variables, a testable proposition
Independent variable	A stimulus or activity that is manipulated or varied to create an effect on the dependent variable in question.
Indicator	Signifies concrete instances of variables.
Induction	Converting an idea into an hypothesis and assessing it
Inferential statistics	Statistical techniques used for analysing data to test hypotheses
Intervening variables	The factor that theoretically affects the observed phenomenon, but cannot be seen, measured or manipulated.
Interval scales	Scales where the distances between classes are known.
Interview	Interactional communication process between two parties, at least one of who has a predetermined and serious purpose, that involves the asking and answering of questions.
Kinesics	The study of body motion and its accompanying messages.
Likert scale	A form of ranking scale in which a series of statements are provided to respondents indicating attitudes towards a chosen topic.
Mean	A measure of central tendency; also known as average
Measurement	The process of assigning numbers or labels to units of analysis in order to represent conceptual properties in question.
Median	The midpoint of a distribution of scores
Mediator variable	Acts as mediator between the intervention and outcome.
Method	Range of approaches used in researches to gather data.
Methodology	A general approach to studying research topic
Model	An overall framework for looking at the research problem

Moderator variable	A secondary independent variable selected to determine if it affects relationship between the primary independent variable and the dependent variable.
Multi-stage sampling	Involves taking samples from samples.
Nominal data	Attributes like sex or species
Non-directional hypothesis	States that a relationship exists but id does not predict the nature of the relationship.
Non-probability sample	A sample where the probability of the selection of each respondent is not known.
Normal distribution	A distribution of scores along a continuum with known properties, known also as bell-shaped curve
Null hypothesis	Predicts no relationship between variables.
Observation	Systematic noting and recording of events, behaviours and objects in the social setting chosen for the study.
Objectivity	The unbiased approach to observation and interpretations of *research targets*
Open coding	The process of breaking down, examining, comparing, conceptualising and categorizing data.
Operationalization	The description of the research procedures necessary to assign units to variable categories.
Paradigm model	A model, where subcategories are linked to a category in a set of relationships.
Purpose	The idea or ideal kept before the mind as an end of effort of action, plan, design, aim
Properties	Attributes or characteristics pertaining to a category
Proxemics	The study of people's use of space and its relationship to culture.
Qualitative data	Data represented in the form of verbal descriptions
Quality	Degree of excellence, relative goodness
Quantitative data	Data represented by numbers.
Quota sampling	Sampling so that representatives of the various elements of population occur in the sample in relative proportions.
Piggyback	To add questions onto studies undertaken by others.
Population	The whole number of people in a place or given area.
Primary data	Data for which the researcher designs the research, administers it, collects the data, and enters the data into a database
Probability sample	A sample where the probability of the selection of each respondent is known, also known as representative sample
Random sampling	The selection of research participants from a population so that each

	individual has an equal probability of being chosen.
Ranking scale	Series of classes, that bear a rank with respect to one another
Reliable	Exhibiting a reasonable consistency in results obtained
Representativeness	One who or that which is fit to stand as a type, a typical instance
Research	A systematic attempt to provide answers to questions
Research design	A plan or scheme to carry out the research
Research hypothesis	States that there is a relationship between two or more variables.
Sample	A representative group from a larger population for study.
Sampling	The selection of a representative group from a larger population for study
Sampling frame	Known as a population
Secondary data	Data that are used by someone other then the person who collected them
Simple hypothesis	States the relationship between two variables in question.
Simple random sample	Selection at random from a list of population.
Standard deviation	A measure of variability of scores in a frequency distribution
Statistical significance	The probability of a particular result occurring by change, used to determine the meaning of research outcomes
Stratified random sample	A random sampling done within a population divided into a number of groups.
Stratified sampling	The selection of research participants based on categories that represent important distinguishing characteristics of a population
Stratum/strata (plural)	A layer or group of something.
Survey	A way of collecting information from a large and dispersed group of people.
Systematic sample	Choosing a starting point in the sampling frame at random and then choosing every nth person.
Theory	A set of concepts used to define and/or explain some phenomenon
Triangulation	The use of two or more methods of data collection in the study.
Validity	The state or quality of being valid, soundness, as in law or reasoning, efficacy
Variables	The elements measured in research investigations
Verification	The act of verifying or a state of being verified.

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Appendix 1

Useful suggestions on how to solicit responses in Focus groups.
(adopted from Kotler, Andreasen 1996 *Strategic Marketing for Nonprofit Organizations*, p 233-234)

1. Build the relevant context information – What are the issues that surround Guiding and Scouting that influence how it is viewed?

2. Top-of-mind associations – What's the first thing that comes to mind when I say "Guiding or Scouting"?

3. Constructing images – Who area our members? What do they look like? What are their lives about? (Or) Where are you when you are in Guiding or Scouting? Describe the place. What do you see? What do you feel? What do you do?

4. Querying the meaning of obvious – What does "international" mean to you? What does the phrase "do my best" mean to you?

5. Establishing conceptual maps of organizational levels – How are levels similar/different? What would you call these levels?

6. Metaphors – if Guiding or Scouting were a flower, what kind would it be and who would pick it? If National Board were a family, who would the different members be and how do they relate to each other?

7. Image matching – Here are pictures of ten different situations/people … Which go with the image of our Association and which do not? Why?

8. "Man from the moon" routine – I'm from the moon; I've never heard of Guiding or Scouting. Describe it to me. Why would I want to be a Guide or Scout myself? Convince me.

9. Conditions that give permission and create barriers – Tell me about two or three situations in which you would decide to be a Guide or Scout and two or three situations in which you would decide to be someone else.

10. Chain questions – Why are you a Guide or a Scout? Why is that important? Why does that make a difference to you? Would it ever not be important? (Ask until the respondent is ready to kill the interviewer!)

11. Benefit chain – This hobby has offers more possibilities to develop; what's the benefit of that? (Answer: "You get many different skills.") What is the benefit of knowing many skills? (Answer: "You can use them in different situations.") Why is that good? (Answer: "You feel more confident.") And what is the benefit of that? (Answer: "I feel better.")

12. Laddering (chain of associations) – What do you think of when you think of camping? (Answer: "Nature.") And when do you think of nature, what comes to your mind? (Answer: "Sun.") And when you think of a sun? (Answer: "I feel happy.")

13. Pointing out contradictions – Wait a minute, you just told me you would like Guiding or Scouting to be less sporty and now you're telling me it's fund because of the hikes and outdoor games – how do you explain it?

14. Sentence completions and extensions – The ideal Association is one that … The best thing about this organization is … It makes me feel…

15. Role playing – Okay, now you're the Chairman of this Board. What would you do? (Or) I'm the Chairman, talk to me what you want.

16. Best-of-all-possible-worlds scenario – Forget about reality for a minute. If you could design your own camp that has everything you ever wanted in and more, what would it be like? Use your imagination. There are no limits. Don't worry about whether it's possible or not.

17. Script writing – If you were able to tell a story or write a movie about your Association, what it would be about? Who are the heroines and heroes? Does the movie have a message? Would you go see it? Who would?

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