

RESEARCH METHODS:

SOME NOTES TO ORIENT YOU

Research Purpose

The purpose of your research can be exploratory, descriptive, explanatory or policy-oriented. These categories are not mutually exclusive, they are a matter of emphasis. As any research study will change and develop over time, you may identify more than one purpose. These four types of research are discussed below.

Exploratory Research

Exploratory research might involve a literature search or conducting focus group interviews. The exploration of new phenomena in this way may help the researcher's need for better understanding, may test the feasibility of a more extensive study, or determine the best methods to be used in a subsequent study. For these reasons, exploratory research is broad in focus and rarely provides definite answers to specific research issues.

The objective of exploratory research is to identify key issues and key variables. For example, one outcome might be a better system of measurement for a specific variable. If you define your study as exploratory research, then you need to clearly define the objectives. Calling your report "exploratory" is not an excuse for lack of definition.

EXAMPLE

An example in the business environment might be an exploratory study of a new management technique in order to brief a management team. This would be a vital first step before deciding whether to embrace the technique.

Descriptive Research

As its name suggests, descriptive research seeks to provide an accurate description of observations of a phenomena. The object of the collection of census data is to accurately describe basic information about a national population at a particular point in time. The objective of much descriptive research is to map the terrain of a specific phenomenon.

A study of this type could start with questions such as: *‘What similarities or contrasts exist between A and B?’*, where A and B are different departments in the same organisation, different regional operations of the same firm, or different companies in the same industry. Such descriptive comparisons can produce useful insights and lead to hypothesis-formation.

EXAMPLE

A detailed set of data on the profile of clients would be an example of this type of report. By understanding the customer better, sales and marketing management will be able to take better decisions on new product development.

Explanatory Research

Explanatory studies look for explanations of the nature of certain relationships.

Hypothesis testing provides an understanding of the relationships that exist between variables. Zikmund (1984) suggests that the degree of uncertainty about the research problem determines the research methodology, as illustrated in the Table below.

	Exploratory Research	Descriptive Research	Explanatory Research
Degree of Problem Definition	Key variables not defined	Key variables are defined	Key variables and key relationships are defined
Possible Situations	<p>“Quality of service is declining and we don’t know why.”</p> <p>“Would people be interested in our new product idea?”</p> <p>“How important is business process re-engineering as a strategy?”</p>	<p>“What have been the trends in organisational downsizing over the past ten years?”</p> <p>“Did last year’s product recall have an impact on our company’s share price?”</p> <p>“Has the average merger rate for financial institutions increased in the past decade?”</p>	<p>“Which of two training programs is more effective for reducing labour turnover?”</p> <p>“Can I predict the value of energy stocks if I know the current dividends and growth rates of dividends?”</p> <p>“Do buyers prefer our product in a new package?”</p>

Policy-Oriented Research

Reports employing this type of research focus on the question ‘How can problem X be solved or prevented?’

For example, the writer may wish to investigate such problems as high rates of labour turnover, how the firm can prevent collusive fraud, how to introduce an e-commerce operation in the company and so on.

With such policy-oriented theses many writers make the same mistake as politicians – they define a policy and then look for evidence to support it. This is the “Got policy. Will make it travel!” approach. Note that policy-oriented research requires explanatory level research to back it up in a conclusive manner. Policy-oriented research requires a theoretical foundation.

Time Dimension

Cross-sectional Research

One-shot or cross-sectional studies are those in which data is gathered once, during a period of days, weeks or months. Many cross-sectional studies are exploratory or descriptive in purpose. They are designed to look at how things are now, without any sense of whether there is a history or trend at work.

Longitudinal Research

Research carried out longitudinally involves data collection at multiple points in time. Longitudinal studies may take the form of:

Trend study – looks at population characteristics over time, e.g. organisational absenteeism rates during the course of a year;

Cohort study – traces a sub-population over time, e.g. absenteeism rates for the sales department;

Panel study – traces the same sample over time, e.g. graduate career tracks over the period 1990 - 2000 for the same starting cohort.

While longitudinal studies will often be more time consuming and expensive than cross-sectional studies, they are more likely to identify causal relationships between variables.

Research Setting

Research can be conducted either in contrived or non-contrived settings.

A **non-contrived setting** is the natural environment in which events normally occur. Field studies and field experiments are examples of non-contrived settings. A field study is a study carried out in the natural environment with minimal interference from the researcher. Field research appeals to those who like people-watching. Studies of corporate boards, organisational committees and work-teams are often based on field research. A field experiment is research into a causal relationship set in the natural environment with some manipulation of the variables.

By contrast, the **contrived setting** is the creation of an artificial environment in which the events are strictly controlled. The researcher is looking to establish a cause → effect

relationship beyond any reasonable doubt. For this reason, the study participants will be carefully chosen and the stimuli manipulated. Many social psychological studies use artificial teams or activities as in leadership studies.

Qualitative and Quantitative Research

Data collection methods can be classified into qualitative and quantitative methods. This is a conventional classification – as a distinction it can be helpful to writers, but it can also be misleading, as we will see.

A useful way to distinguish between the two methods is to think of qualitative methods as providing data in the form of words (or maybe visually), and quantitative methods as generating numerical data. However, it is a mistake to assume that there must be a strict black and white dichotomy. Quantitative and qualitative methods of data collection are often employed in support of each other on the one research project. The qualitative researcher may use historical numerical data to support a particular finding, for example. Similarly, qualitative data can provide rich information about the social processes in specific settings.

Various methodologists (e.g. Neuman, 1994:317) have tabulated the differences between qualitative and quantitative research as shown in the table below.

Differences Between Qualitative and Quantitative Research

Quantitative	Qualitative
Objective is to test hypotheses that the researcher generates.	Objective is to discover and encapsulate meanings once the researcher becomes immersed in the data.
Concepts are in the form of distinct variables	Concepts tend to be in the form of themes, motifs, generalizations, and taxonomies. However, the objective is still to generate concepts.
Measures are systematically created before data collection and are standardized as far as possible; e.g.	Measures are more specific and may be specific to the individual setting or researcher; e.g. a specific scheme of

measures of job satisfaction.	values.
Data are in the form of numbers from precise measurement.	Data are in the form of words from documents, observations, and transcripts. However, quantification is still used in qualitative research.
Theory is largely causal and is deductive.	Theory can be causal or non-causal and is often inductive.
Procedures are standard, and replication is assumed.	Research procedures are particular, and replication is difficult.
Analysis proceeds by using statistics, tables, or charts and discussing how they relate to hypotheses.	Analysis proceeds by extracting themes or generalisations from evidence and organizing data to present a coherent, consistent picture. These generalisations can then be used to generate hypotheses.

Qualitative Data Collection

Qualitative methods of data collection focus on all relevant data whether immediately quantifiable in a standardized scale or not. It is important to note that it is not just non-quantitative research. As defined by Hakim, qualitative research provides the:

“‘individuals’ own accounts of their attitudes, motivations and behaviour. It offers richly descriptive reports of individuals’ perceptions, attitudes, beliefs, views and feelings, the meanings and interpretations given to events and things, as well as their behaviour; displays how these are put together, more or less coherently and consciously, into frameworks which make sense of their experiences; and illuminates the motivations which connect attitudes and behaviour, the discontinuities, or even contradictions between attitudes and behaviour, or how conflicting attitudes and motivations are resolved in particular choices made.”

Qualitative data is particularly useful when it comes to defining feelings and attitudes. For example a staff attitude survey would be meaningless without some qualitative elements.

Methods for Collecting Qualitative Data

Qualitative data collection methods include observation, participant observation, interviewing, focus groups and case studies.

Observation and Participant Observation

Observation is the systematic observation, recording, description, analysis and interpretation of people's behaviour. This method can be loosely structured or tightly structured with precise coding methods of behaviour patterns. Traditional time and method study of worker behaviour involved precise coding and timing of work patterns. In participant observation, the researcher participates to some degree in the lives and activities of the people being observed. The advantages and disadvantages of participant observation as shown below.

Advantages and Disadvantages of Participant Observation

Advantages	Disadvantages
Good at explaining 'what is going on' in particular social situations.	Can be very time consuming.
Heightens the researcher's awareness of significant social processes.	Can create difficult ethical dilemmas for the researcher. E.g. the problems of confidentiality and 'openness' – does the researcher tell people they are being observed?
Particularly useful for researchers working within their own organisations.	Can be high levels of role conflict for the researcher (e.g. 'colleague' versus researcher).
Can afford the researcher the opportunity to experience 'for real' the emotions of those who are being researched.	
Virtually all data collected can be useful.	

Interviewing

Data can be collected by using unstructured and semi-structured interviews (qualitative research) or by using structured interviews (covered under quantitative data collection methods). When using semi-structured interviews, the researcher may encourage an

informal conversation covering certain themes and questions. These questions may vary from one interview to the next, and the order in which questions are asked may vary also.

Semi-structured interviews are primarily used in explanatory research to understand the relationships between variables, perhaps as have been revealed by some prior descriptive research. Additionally, semi-structured interviews are used in exploratory studies to provide further information about the research area.

Unstructured interviews, sometimes called in-depth or non-directive interviews, are designed to explore in depth a general area of research interest. Interviewees are encouraged to talk freely about events, behaviour and beliefs in relation to the research area. Such interviews are used in exploratory research to find out more about a particular event and seek new insights.

As for other data collection methods, more than one type of interview might be incorporated in the research design, as shown in the following examples:

Unstructured interviews to identify variables to be tested in questionnaire or structure interview;

Semi-structured interviews to explore and explain themes identified through a questionnaire;

Combining within one interview one section of factual, structured questions and one section of semi-structured questions designed to explore the responses from the first section;

Using semi-structured and unstructured interviews to verify findings from questionnaires. (Saunders et al, 2000: 245-6)

Interviews are useful in the following situations:

- where there is an exploratory or explanatory element to the research;
- when you want to know the meanings which respondents ascribe to various phenomena;
- where it will be important to establish personal contact;
- where the researcher needs to exercise control over the nature of those who supply data;

- when there are a large number of questions to be answered;
- when questions are complex or open-ended;
- when the order and logic of questioning may need to be varied.

Focus Groups

These are excellent research tools. Focus groups are forms of group ‘interviews’ – but there are differences. You will probably be familiar with the term ‘focus group’ from market research reports as they are used often to test reactions to new products or new politicians.

A focus group usually consists of 6-15 people. (If the group is too large, then it tends to break up into sub-groups and control is difficult). The researcher acts as a facilitator rather than an interviewer.

The facilitator starts with a clear theme communicated to the participants and a set agenda of items. The group then works through the items, but the facilitator should also be prepared to pursue novel issues as they arise.

Focus groups should be taped (audio) or videoed. Videoing can be more difficult and intrusive but is often worthwhile. Permission of the participants should always be sought for taping/ videoing.

It is vital to make sure that everybody talks. If you wish to use focus groups across an organisation as a primary method of research, then a ‘pilot’ focus group should be tried first – learn the problems!. Some of the advantages and disadvantages are summarised in the table below

Advantages and Disadvantages of Focus Groups

Advantages	Disadvantages
A dynamic focus group will generate many ideas, helping to explain or explore concepts. They will help to tell you why the organisation is as it is.	High level of skill of group leader/researcher is required to facilitate and manage the discussion. Otherwise the discussion degenerates into ‘waffle’.

Bottom-up generation of concerns and issues, which can help to establish survey variables.	Where focus groups are conducted within an organisation, participants may be concerned about confidentiality.
Can offer credibility to research where issues of bias are associated with interviews.	Some participants may be inhibited because of the group.
Relatively quick and easy to organise. Cheap on time compared to participant observation, etc.	Dominance by one, or some, participant(s) of the discussion.
A snowballing effect can occur as participants develop ideas triggered by other participants.	Problem of ‘groupthink’ – tendency to express views that satisfy others in the group, but which may not be valid outside the context.

Case Studies

The logic of case studies is that all cases start the same and then a sample of six cases is taken that represents the extremes of possibilities or critical incidents. What you are trying to say is that if this phenomenon doesn’t hold under the best conditions, it won’t hold anywhere else. Whereas if we maximise the favourable conditions for X to be X and it’s not, then we know that in all other conditions it won’t be either. Given these characteristics, case studies are *not* chosen on the basis that they are representative.

It is not the case that case studies are a “qualitative” research method in some black and white sense. Instead, many case studies collect large masses of quantitative data – performance data, profitability data, employment data, marketing data, etc. for a specific organisation.

Traditional Advantages and Disadvantages of Case Study Method

Advantages	Disadvantages
Holistic depth of analysis realistic attention to context extensive range of variables	Researcher Bias observation bias interpretation bias cannot see everything going on researcher presence may change case acceptance by subjects
Longitudinal	Historical

develop history of case details of process causation and interactions situation as it happens	organisational and economic change may make case out of date and irrelevant; e.g. a study of a “best practice” firm that is now bankrupt and closed down.
High Internal Validity more complete understanding direct observation of situation multiple sources of data triangulation of data (see below) meaningful to subjects	Low External Validity low generality little control over phenomenon comparative analysis difficult representativeness of case difficult to replicate
Adaptive questions can be changed as case develops methods can be changed data sources can be changed	Costly research time volume of data analysis of data problems of access

Triangulation of data

This refers to the fact that an issue can be addressed by three types of data – for example, interview data, organisational documents, and organisational statistics, plus cross-checking interviews.

Triangulation involves asking whether the data from the various sources leads to the same conclusions. If it does, then we will have much more confidence in our argument.

Qualitative Data Collection: Six Characteristics

There are six characteristics of qualitative research: importance of the context, the case study method, the researcher’s integrity, grounded theory, process and sequence, and interpretation.

Context

Qualitative research assumes that data belongs to a larger whole, in which the historical and situational context can affect the meaning of the data collected.

Case Study Method

Case study method focuses on one case, or perhaps a small number of related cases, from which the researcher seeks a lot of detailed information. However common as we have noted, case study research frequently involves quantitative data and case study method should be seen as both qualitative as quantitative.

Researcher's Integrity

The immediacy, direct contact, and intimate and detailed knowledge provided by qualitative research is sometimes offset by questions concerning researcher bias. Bias is a potential problem given the researchers' role as participant in the research drama and the copious amount of information generated through qualitative research, only some of which will make its way into the research findings and report. It is important, therefore, for checks to be incorporated into the research design. Such checks can include confirming evidence from several participants, maintaining detailed written notes, cross-checks with other, related research, and a well-presented and argued report.

Grounded Theory

"Grounded theory is grounded in data which have been systematically obtained by social research." In quantitative research, data is collected to test hypotheses. Qualitative research begins with a research question and often little else. Theory develops during the data collection. This more inductive method means that theory is built from data or grounded in the data. "There is need for effective theory – at various levels of generality – based on the qualitative analysis of data. Without grounding in data, that theory will be speculative, hence ineffective.

Process and Sequence

Qualitative research recognises that the order in which events occur, and when they occur, is significant. This is similar to the recognition of the *context* in which events are recorded.

Interpretation

Textual evidence, rather than numerical data, is paramount in qualitative research. The significance given to data and the way in which the data are presented are dependent on the researcher. Interpretation is three-fold:

First-order interpretation: the researcher learns about the meaning of the “data” or action *for the people under study*.

Second-order interpretation: the researcher understands the significance of the action for the people under study.

Third-order interpretation: the research assigns general theoretical significance.

Primary and Secondary Data Sources

We have already discussed case studies and survey research methods. These are primary data sources – you are generating new data. Primary sources are self-generated and consist of experimental designs, case studies, survey data, focus groups, participant observation data, and so on.

Another route that you, may wish to pursue is that of using existing materials or “secondary sources”.

Secondary sources can be various - company records, archives, trade union materials, census data and government sources. Much economics research is performed as secondary data analysis of the multitude of time-series data sets that most governments maintain.

Secondary data occur as raw data or processed. If raw data is available, then the data can be reworked. More often, however, only published reports are available.

For international studies, secondary data analysis is the most common type of study performed. Similarly, many longitudinal studies involve secondary data analysis. (

What are the advantages of secondary data analysis?

The advantages typically listed are:-

- Relative speed and low cost;
- The research domain can be defined precisely prior to the study. In other words, the issues of sampling frame, sample and response rates have already been sorted out for you. For example, if you use census data the research domain is explicit.

- The possibility of generating longitudinal data sets by comparing data across the years.
- The possibility of generating comparative, international data sets.

Finding the Data

Economists have persuaded governments to collect all their data for them - financial statistics, trade statistics, labour statistics and so on. The view of nearly all economists is that “if you want data, then switch on the computer”. Management researchers are not so lucky. Many firms do not keep good archives and material is discarded with each new bout of restructuring. Consequently, good data requires searching. So, who keeps good data?

Social science archives. Most countries have social science archives where collections of large surveys are stored as input data. Therefore the data can be re-analysed. For example, in the UK the main social science archive is housed at Essex University – accessible on the Internet at <http://dawww.essex.ac.uk>

Industry associations

Professional associations

Media sources. There are limitations to media sources, but they should not be ignored

Management consultancy companies

Academics themselves. Most academics generate more data than they can use and analyse in a limited timeframe

Financial data sources: Bloomberg, Reuters, etc.

Lateral Thinking about Sources

It is easy to think along the following lines: “This is my defined research focus so where are the *relevant* sources of data”? The notion of relevance or appropriateness creates a mind-set that may not be helpful.

It is worthwhile to consider alternative sources of data which may have been set up for completely different purposes but which will yield unique insights, or represent a source that nobody has used before, or used in that way.

Meta-Analysis

Frequently, when we write reports for an organization, we are involved in ‘meta-analysis’ – it is just never called that. What is meta-analysis? It consists of the re-analysis of a collection of research studies that have been subject to analysis separately, but not together. According to Hakim (1987:19) “..the aim of meta-analysis is to provide an integrated and quantified summary of research results on a specific question with particular reference to statistical significance and effect size (that is the size or strength of the impact of one factor on another).” Meta-analysis usually requires quantitative data able to be subject to statistical analysis. Meta-analysis by definition should be comprehensive – all the available studies in the field.

In order to understand the inherent limitations of meta-analysis, it is useful to consider a specific example. A well-known study published in 1982 by John Kelly was a meta-analysis of job redesign experiments in organizations. Job redesign is the reshaping of jobs and task sets in order to improve labour productivity and/or job satisfaction. Kelly examined a series of research studies in the specific area –195 studies in total.

Are the Advantages of Secondary Data Analysis Real?

Look back at the purported advantages of secondary data analysis. They were cost, relative speed, clarity of research domain, possibility of longitudinal data and the ‘second-hand clothes’ argument. Let us consider these points in the light of the discussion.

Cost – Cost is normally a definite advantage. Generating longitudinal data from scratch is usually impossible, and, if possible, could easily cost \$250,000 upwards. Secondary sources may also provide geographical and international spread. However, until investigated this cost advantage should not be taken for granted. The supply of data from data archives can be costly and requesting special tabulations from government survey sources can be very costly. Many company data sets are extremely useful, but commercial data providers can charge up to \$65,000 subscription per year.

Relative Speed – This is a definite advantage of most, but not all, secondary data theses. Library-based or Internet-based research is usually much faster. For example, with longitudinal data, a set of well-run surveys could take six years to obtain coverage plus the analysis time. This is impossible for all thesis writers.

Clarity of Research Domain – As we have seen with meta-analysis, this may be true only in part. As the data sets already exist, then it is true that you can evaluate them prior to use. However, there are serious issues of sampling frame and the known population, measurement bias, and lack of reliability.

Second-Hand Clothes - Secondary data are dirty and you can only blame your older sister up to a point! You may have to clean up the data, check it against other sources and contact organizations to clarify some issues. This can be very time-consuming. In addition, second-hand clothes are dated; the data available to you may be 10 years out of date. You need to address the question of whether you need current data.

One often-unrecognised disadvantage is that you lose out on the training advantage of the research process - doing interviews, framing a questionnaire, and handling SPSS or other statistical packages. Your research craft training is diminished. This may not be important to you, but the issue should be recognized and assessed.

Reflection

The balance between theory and fact in reports is often misunderstood. The role of theory is to provide a model of the world that assists in decision-making. But for the theory or model to have strength it needs to be underpinned by hard data. This also enables the implications and outcomes to be quantified.

It is vital for you to allow time for the research phase to sink in, for the mass of ideas and information to swirl about in your mind. From this is likely to emerge patterns and ideas that will form the basis for your conclusions and recommendations. Don't be afraid to toy with a range of ideas at this stage.

If you are working on your report with others, this is the time to brain-storm ideas and jointly make sense of what you have. A team can be a genius, while the individual members are just ordinary people.

The importance of focus

Under-focus

An example here is of a study of a specific sector, such as the service sector, the banking industry, or mining. The most common problem is for the writer to research everything

ever written on that industry and generate 400 pages of descriptive material. What do you do with this material? There is no obvious limitation, government reports and newspaper reports continue to flood out – so the thesis goes on forever. Expansion becomes infinite and there is too diffuse a focus. This is what Howard & Sharp (1983) called “under-focusing”.

Over-focus

A manager starts by saying they will look at ‘reengineering’, or the ‘learning organisation’ or ‘knowledge capitalism’ – a current, topical, management term. The problem in this case is that the writer spends all their time trying to define the term - what is meant by ‘reengineering’? A series of attempted definitions follow; the writer produces ten agonized papers trying to define the term. Of course, the term is just a current buzz word used by management consultants to sell a package. But the writer project becomes more and more introspective and ends up becoming too narrow. This is what Howard & Sharp (1983) called “over-focusing”.

Making sense of your material

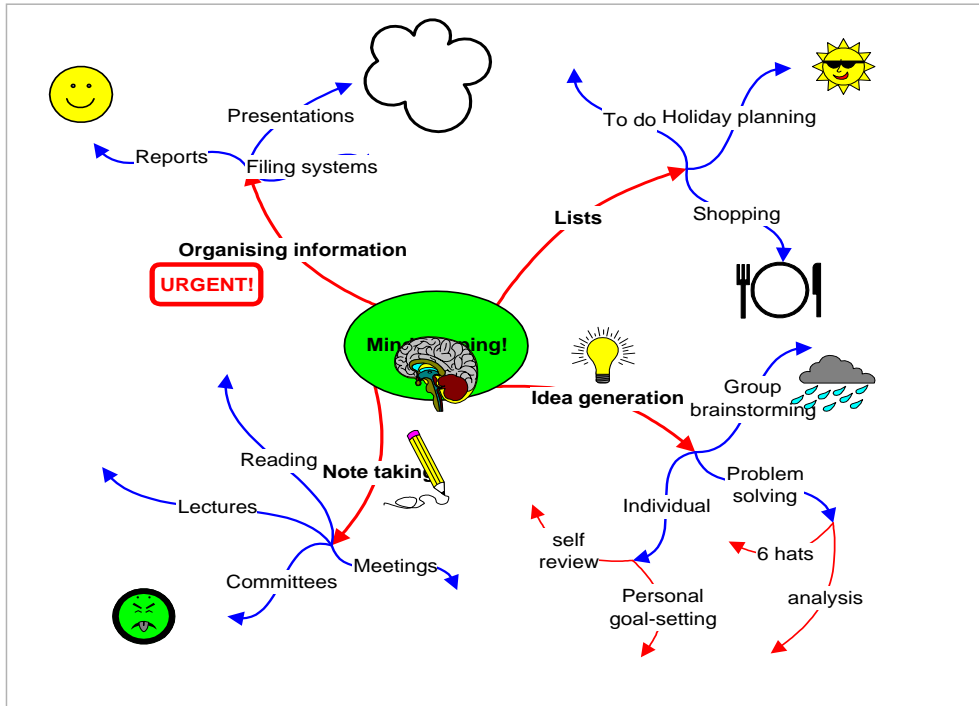
Post-it notes

In the case of all lengthy arguments, a useful technique is to formulate sections and put title and key points onto small Post-It notes. These can be laid out on a desk and shuffled around until you are confident that the argument flows logically.

It is much better to do this rather than simply start writing in the hope that you will automatically create a logical flow.

Mind mapping

Alternatively, mind mapping is a useful technique. Developed by Tony Buzan, it is a useful way to bring your conscious thinking into line with the organic way the brain actually works.



Here are some instructions for how to get started....

1. Take a sheet of flipchart paper. Turn it to landscape and lay it on a table.
2. In the centre draw the name of the topic you are mind mapping inside an 'icon' or simple picture that sums it up. For example, if you were mind mapping a 'new computer system' you might put it inside a stylised VDU.
3. Select key words and print them in upper case letters. Each word or image must be alone and on its own line radiating out from the central topic. Words that might spring to mind regarding the computer system could be 'applications', 'users', hardware', 'suppliers' etc.
4. In the centre the lines are thicker, organic and flowing becoming thinner as they radiate outwards. It is useful to use images, symbols, codes and dimension throughout your Mind Map – rather than just words.
5. Each line should then branch as associations appear to the main topic. So for applications, you might then see 'word-processing', 'order processing', 'stock control', etc.

6. Additional ideas may emerge that fit other branches – so add them accordingly.
7. Some ideas may fit more than one area of the map so you can make lateral connections too. This is why Mind Maps are also called ‘spider diagrams’.
8. Use colours and emphasis to show associations between related topics in your Mind Map. The map must be enjoyable to look at, muse over and easy to remember.

