2nd Edition

Analyse and present research information
BSBRES401A

Student Workbook
Student Workbook

BSBRES401A Analyse and present research information

2nd Edition 2010
Acknowledgment

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Writer: Steve Paltos

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Getting Started

What is this unit about?

Analyse and present research information is a unit that teaches you how to think about a research problem logically, methodically and present the results to another person in a clear, well thought out format.

In learning about analysing and presenting researching information, you will:

- use programs from the MS Office suite (Word, Excel, PowerPoint, Visio) to analyse and present information
- discuss the idea of research and how it is a skill that can be applied to all areas of your life as well as in a business context
- understand what a business objective is, develop smaller research objectives to help you solve the problem
- understand the four step process of research – gathering, organising, analysing and presenting information – and the components within each step
- create presentations, documents and graphics that effectively communicate the same idea in different mediums
- enhance your problem solving skills and develop basic research tools.

Assessment

There are three tasks for assessment:

1. Written test
2. Research report
3. Presentation.

Activities and homework

There will be many activities to help you understand the unit and put the theory of this guide into practice.

There will also be times where you will have to prepare for the following weeks session, through further reading activities or preparing for a task for the next session. Your facilitator will remind you at the end of each session.
Section 1 – Introduction

This section provides an overview of what research is and the steps involved in gathering research.

It gives you an understanding of the knowledge required to gather, organise and present information using available systems.

What is research?

If you ask five people what research is, you are likely to get five different answers.

Definition of research
Research is a carefully planned and performed investigation, searching for previously unknown facts.

Why and when do we research?
As you can tell from the above definition, research involves the investigation of a subject. It can be carefully planned and performed, as well as involve a variety of sources. Think of research as an investigation into a subject to find out more information about it. The fact is, you can research just about anything, and you most probably do, everyday of your life, without even realising it.

What do you do when you want to go to the movies? What do you do before you buy an MP3 player? What do you look at before you buy a new Plasma or LCD TV? What if you want to buy a new mobile phone? The answer is research.

When it comes to the movies, you might look at the reviews, check out who the actors are, what else they have been in, and ask your friends if they have seen it and what they thought.

What about a new MP3 player? The things you might want to know include:

- What is the size of the screen?
- Can you watch movies on it?
- How many gigabytes does it hold?
- What software comes with it?
- What is the brand?

And what about buying a new mobile phone? Surely you check out service provider plans to see if they sell it, perhaps go online to see how much it is compared to the price you saw, look at other mobile phones and even ask your friends what models they like.

All the above examples are research. What this unit helps you do is take that initial research a step further, and help you hone your research skills. This can mean better decisions and the ability to communicate them clearly with others. Research is a life skill that can apply to both personal and business pursuits.
The research process

The process for conducting research that we are following in this guide is linear. The process involves:

- gathering information
- organising information
- analysing information
- presenting information.

Learning activity: Seven steps of the research process

The following link from Cornell University provides additional information on the research process:

- <http://www.library.cornell.edu/olinuris/ref/research/skill1.htm>

What are the seven steps in the research process?

1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________
5. __________________________________________
6. __________________________________________
7. __________________________________________

Define the research tips and how they are of benefit to your research?

1. __________________________________________
2. __________________________________________
3. __________________________________________
Gathering information

Gathering information is crucial to any research project. This is when you start to ask yourself how you will get the information and where it will come from.

Information can come in many forms, depending on what you are going to research. It may include:

- computer databases (such as a library catalogue, customer records, subscription databases or even the internet)
- computer files (for example letters, memos and other documents)
- correspondence (faxes, memos, letters, email)
- financial figures
- forms (insurance, memberships)
- information on training needs
- invoices
- marketing reports / plans / budgets
- personal records (personal details, salary rates)
- sales records (monthly targets).

In relation to how you will get the information, here are some research methods and strategies that will be explored in the unit:

- individual research – online and non-electronic
- checking research provided by others
- gathering information from organisations
- interviews with colleagues
- focus groups
- online searching
- subscribing to databases
- data analysis.

Research sources

Practically anything or anyone can be considered a ‘source’ when it comes to research. The key is to know what sources would best suit your project subject. For example, if you were researching plasma TV’s, you wouldn’t go to a plant nursery or a fruit shop. Nor would you ask your grandparents.

You would more than likely search online for the product, ask friends or go to shops that sell them. Keeping this in mind, research sources are divided into two categories – primary and secondary research sources.
Primary research:
Is ‘first hand’ information you have collected yourself. It is original research on a subject that you have collected during an interview, questionnaire you created, or through an experiment you conducted. Examples of primary research sources include people, observing an event, files and records of professional associations.

Secondary research:
Is ‘second hand’ information that others have collected and published in a newspaper, online, books, journals or reports. For example, if you interviewed somebody, then wrote a book about it, you would have created a secondary source of information. If someone were to read your book, they would be conducting secondary research.

Research information and data
There can sometimes be confusion surrounding the terms ‘information’ and ‘data’. Here is the difference:

<table>
<thead>
<tr>
<th>Data:</th>
<th>Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is plain facts – numbers or words.</td>
<td>Is processed, organised, structured or presented data in a given context to make them useful.</td>
</tr>
</tbody>
</table>

For example, when you conduct primary research, such as an interview or conduct an experiment, you get data. Once you analyse that data, and put it into a report, table or graph, that then becomes information. Data by itself means nothing. It’s not until it is processed that it becomes useful information.

For the purpose of this unit, you will gather data and turn it into information, as well as gather information – data already processed, which can come in two forms – qualitative and quantitative data.

Qualitative and quantitative data
Although these terms may sound scary, the number one difference is that quantitative data relates to numbers, qualitative relates to words.

Organisational requirements
When you are conducting research, it is important that you follow organisational requirements. There are key provisions or relevant legislation that affect aspects of business operations, and these may include, but not limited to:

- anti-discrimination legislation
- ethical principles
- codes of practice
- privacy laws
- occupational Health and Safety (OHS) policies.
Organising information

Organising information relates to creating a structure, applying a methodology and categorising information.

For example:

Look at the aisles in a supermarket. Food is organised into categories such as breakfast cereals, coffee, tea, biscuits, and pet food, cleaning products. This is one form of organisation. You will apply this same type of organisation to your research. How you categorise the information depends on the objective of your research.

In the example there are three questions posed:

1. Do you own a mobile phone?
2. What is the brand of the phone?
3. Is it prepaid/on contract/or neither?

These questions provide the basis of how you will organise the data you have collected. You may categorise according to brand of phone, or the type of payment model (prepaid, contract) or simply ‘yes/no’.

The structure of your data and information relates specifically to the subject.

Other types of organisation this unit will explore are:

- file management
- knowledge management
- using and creating tables
- referencing
- structuring reports
- version control
- naming conventions.

Why do we organise information?

There are number of reasons why we organise data and information. We organise to:

- analyse and interpret data and information
- support business objectives
- save time and become more efficient
- understand a subject
- gap analysis – see what is missing.
What tools do we use to organise information?

In this unit, you will use the following software:

- Excel – to create tables, organise and analyse data and information, create graphs and charts
- Word – create a report
- PowerPoint – create presentations
- Visio – create diagrams.

Analysing information

Once you have gathered and organised your information, you are ready to start analysing it.

What is analysis?

1. Analysis is the process of breaking a complex topic or substance into smaller parts to gain a better understanding of it.¹
2. The action of taking something apart in order to study it.²
3. The process of splitting up an action, an event or an idea in order to understand how it works.³
4. Detailed examination or thorough study in order to understand.⁴

Why and when do we conduct analysis?

The best way to describe ‘why’ and ‘when’ we do analysis, can be linked to a burning need to know more about a subject, idea, problem or question. It is the need to ask ‘why?’ until you get an answer that satisfies your question about the subject you are analysing.

Tip: Analysis

Remember in school, when you would be asked to ‘show all your workings’ during an exam or an assignment? Did you ever ask yourself why they would do that?

It’s because they want to know that you have the right way of thinking about a problem. Of breaking a problem down into smaller parts that allows you to reach an answer you believe to be correct.

So regardless whether or not your answer was correct, if you showed the rigour and method to explain how you got to your solution, you could quite possibly get marks for showing that you have the knowledge and ability to analyse information, which is more often than not more important than coming up with the right answer!

¹ <http://en.wikipedia.org/wiki/Analysis>
² <http://en.wiktionary.org/wiki/analysis>
³ <http://www.waikato.ac.nz/film/handbook/glossary.html>
⁴ <http://nzdl.sadl.uleth.ca/cgi-bin/library>
Benefits of analysis

The benefit of being able to analyse information, is the ability to make better decisions. This can apply to life in general, to work, in relationships, negotiating, everything.

In the example of a mobile phone, think about how much more power you have when you have the ability to look at information like you may never have before, then use it to your best advantage.

It seems like an old saying, but it remains relevant today, that knowledge is power, and the ability to breakdown information to allow a greater understanding, broadens that knowledge.

How to analyse information in this unit?

For the purpose of this unit, the focus will be on the process of analysis and improving your ability to understand questions and break them down to gain greater insights. In learning this, you will:

- review previous research and documentation
- interview fellow learners
- learn how to effectively search online
- subscribe to RSS feeds online.

Presenting information

Although last in line, presenting research information is no less critical than gathering, organising or analysing information.

If you do not have the ability to present your information in a coherent, straightforward, logical manner, all your efforts may go to waste.

Poor presentation skills may go unnoticed in some situations, but in many cases, your employer may not be so lenient if you don’t have the skills to present research effectively.

You need to have some basic presentation skills so you can walk into any business and be able to create a graph, structure a document or talk about a topic in a logical fashion.

Tools of the trade

The following programs will be used to assist in presenting your report and oral presentation:

- Microsoft Word
- Microsoft PowerPoint
- Microsoft Excel
- Microsoft Visio
- Adobe Acrobat.

With a few skills, you can create some very professional looking documents with these tools.
<table>
<thead>
<tr>
<th>Learning activity: Test your understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before moving onto the next section, in your own words, you are to answer the following questions to check your understanding of the topics covered:</td>
</tr>
<tr>
<td>1. What is research?</td>
</tr>
<tr>
<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
</tr>
<tr>
<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
</tr>
<tr>
<td>2. What are four steps in the research process?</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>3. What is the difference between primary and secondary research?</td>
</tr>
<tr>
<td>_________________________________________________________________________________________________________________________________</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
</tr>
<tr>
<td>4. Why is analysing information important in research?</td>
</tr>
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<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
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<td>_________________________________________________________________________________________________________________________________</td>
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<tr>
<td>_________________________________________________________________________________________________________________________________</td>
</tr>
</tbody>
</table>
Section summary

You should now understand how to define what research is, and explain why and when research is conducted.

You should also have a clear understanding of the research process – gathering, organising, analysing and presenting, and how each of these four steps work together to assist in you in your researching.

Section checklist

Before you proceed to the next section, make sure that you are able to:

- define what research is
- develop an understanding of the research process
- develop an understanding of how to organise, analyse and present information.
Section 2 – Gathering Information

This section is about the first stage of the research process – gathering information.

It outlines how you gather information according to fulfil a business objective, using research objectives to frame the information you require.

Buying a mobile phone

When it comes to buying a mobile phone these days, we are often spoilt for choice. Different brands, different models, different sizes, different applications and various packages to match our individual needs, wants and uses of the handset. So how do you choose the right mobile phone?

The first thing you need to do is work out why you need a mobile phone? What features are the most important to you? How do you use it? When will you use it? Do you call the same people? Do you make lots of calls? Do you use your phone to surf the net? What time of day do you use your phone the most? Do you use the camera on your mobile phone? Do you use video? What size phone do you want? What is your budget? How long do you want your contract to go for? Are you on a contract? These questions are the research questions that will guide you in your research of the different packages from different providers, and the different phones they have on offer with each package.

To find the answer to the research questions, you have to work out how you will get the information? You might ask your friends what kind of phones they have, which providers they use, and what the costs are? You might go online and check out the latest phones for each brand, or better still, go to the service provider sites and start to examine their terms, conditions and charges.

This scenario explains the different elements of this section. A business objective, creating research objectives, developing research strategies and different research sources.

What skills will you need?

In order to gather information effectively, you must demonstrate an understanding of:

- business objectives
- research objectives
- research methods and strategies
- research sources
- credibility of sources
- referencing.
Business objectives

What is a business objective?

In the above scenario, your objective was to purchase a mobile phone. A business objective is the same thing, put in a business context. A business objective gives a clearly defined target, so you know specifically what you have to do to meet that objective.

An easy way to think about an objective is to remember the SMART principle: Goals and objectives must be Specific, Measurable, Achievable, Realistic, Time specific (SMART).

| Specific | States exactly what has to be achieved, and relates directly to the business and answer these questions.  
|----------|---------------------------------------------------------------------------------------------------|
|          | • Who? Who is involved?  
|          | • What? What do I want to accomplish?  
|          | • Where? Identify a location  
|          | • When? Establish a time frame  
|          | • Which? I requirements and constraints  
|          | • Why? Specific reasons, purpose or benefits of accomplishing the goal.  

For example, Telstra may have had an objective to provide ‘3G coverage’ to all of Australia by 2010.

<table>
<thead>
<tr>
<th>Measurable</th>
<th>The business objective must have a value against the objective to know when it can be accomplished. In the above example, the measure was to have ‘3G coverage by 2010’. If it was not achieved by that date, then Telstra have not met the objective.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Achievable</th>
<th>All people involved in the business must agree upon the business objective. For example, if only half of the Telstra business thought the objective is attainable, it will most likely not be successful.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Realistic</th>
<th>Realistic means to set a target that can be reached. If Telstra wanted to send a man on the moon by next week, that would be seen as unrealistic.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Time specific</th>
<th>There must be enough time to be able to achieve the objective.</th>
</tr>
</thead>
</table>
Learning activity: Business objectives

What could be a possible consequence to a business if they do not have a clear business objective?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Examples of business objectives

Business objectives relate to all areas of a business and help to define who they are, what they do, how successful they are and where they are going. With this in mind, it makes sense to set SMART business objectives to all areas, including business planning, financial performance, marketing and customer service. The examples below list business objectives across each of these areas:

<table>
<thead>
<tr>
<th>Area of Business</th>
<th>Business objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business planning</td>
<td>We aim to increase its market share of mobile phone users from 50 to 55% by the end of 2011.</td>
</tr>
<tr>
<td>Financial performance</td>
<td>We aim to increase profits from our Internet services by 20% by the end of 2010.</td>
</tr>
<tr>
<td>Marketing</td>
<td>We want a 25% increase in the amount of the 25-35 year old mobile phone users in Melbourne, by the end of June 2011.</td>
</tr>
<tr>
<td>Customer service</td>
<td>We wish to reduce the number of customer complaints by 10%, by the end of 2011.</td>
</tr>
</tbody>
</table>
### Learning activity: What is the objective all this?

Richard Branson started Virgin in his university days, as a record mail-order business in 1970. In his books he often stated that it was done to have fun and make some money. Since then, Virgin has grown to be one of the world’s greatest brands, with over 360 companies now carrying the Virgin name. Not bad for a record mail-order start up company!

Your task is to find an organisation that interests you and use the internet to find out:

- **Organisation name**

  ____________________________________________________________________
  ____________________________________________________________________

- **How they started?**

  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________

- **Who started the business?**

  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________

- **What were there business objectives then?**

  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________

- **What are the business objectives now?**

  ____________________________________________________________________
  ____________________________________________________________________
  ____________________________________________________________________
Research objectives

What is a research objective?

Research objectives stem from the overarching business objective. They are the smaller ‘chunks’ of information or data you use to guide your research.

Referring to the next diagram, research objectives dictate the strategy and methods used to source the information and data.

---

Scenario: Mobile phones

In relation to the exercise described by your facilitator, the business objective is to buy a mobile phone. The research objectives are all the factors that contribute to the process of buying a mobile phone, which can include:

- the weight of the phone
- the battery life
- display size
- button size
- brand of phone
- size of phone
- talk time/stand by time.
These research objectives will guide you in your search for information that relate to each one, so you can then decide what strategy or method you will use to attain the right information to help you achieve the business objective.

### Research methods and strategy

Research methods and strategy define the ‘how’ of research. How will you research the subject? How will you answer the research objective? What will you do to get the information or data you require?

Refer to the following table to understand the different types of research strategies you can use:

<table>
<thead>
<tr>
<th>Research strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus groups</td>
<td>A focus group is when a small group of people are brought together to discuss a topic, product or advertising, under the guidance of one interviewer.</td>
</tr>
<tr>
<td>Observation</td>
<td>Watch an event and try to interpret what you see objectively.</td>
</tr>
<tr>
<td>Interview</td>
<td>An interview is a meeting or conversation where one person asks questions of another to get material for a topic.</td>
</tr>
</tbody>
</table>
Research strategy | Description
--- | ---
Online searching | Online searching involves using the Internet to obtain information about companies, people, products, or any topic that you require further information. Avenues to perform online search include:
- Google
- Wikipedia
- newspapers
- library catalogue.

Non electronic materials | Non-electronic materials include any resources that are not found online. This includes traditional media such as newspapers, journals and the library catalogue.

Literature review | For the purpose of this unit, a literature review is the comprehensive survey of publications in a specific field of study or related to a particular line of research.

It is important to keep in mind that there is no rule for how many methods or strategies you use to complete your research. As long as the research method delivers the answers for your research objective, and ultimately the business objective, it is irrelevant. However the decision to use one method or another depends on the type of resource.

For more information: Searching

Check out this link for some guidance around searching for information:
- [http://www.open.ac.uk/safari/php_pages/s06t01p010000.php](http://www.open.ac.uk/safari/php_pages/s06t01p010000.php)
- [http://managementhelp.org/research/research.htm](http://managementhelp.org/research/research.htm).

Why is it important to thoroughly plan your research? What could be the possible repercussions if it you didn’t plan?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Learning activity: Welcome to the start of Zoo Tel!

Congratulations! You have become the newest competitor in the telecommunications industry.

With your new vision and tenacious attitude, you have the resources and contacts to make it happen with Zoo Telecommunications.

Your primary business objective is:
- to become the number one supplier of mobile broadband units to university students in Melbourne.

The next step is the research about how to do it.

1. What are some of the research objectives you might develop to guide your research?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

2. What research strategies might you use for each objective?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

3. Who will be your competitors?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Research sources

Researchers often refer to research resources being primary or secondary. If you think back to the introductory session, we defined a primary source is when you gather the information through a ‘first hand’ experience. Along with the secondary source is being any information that was previously gathered first hand, but then published, such as online, in a book, a journal, handbook, guide or dictionary.
To make things clearer let’s use the previous table to align the types of research strategy with the research source:

<table>
<thead>
<tr>
<th>Research strategy</th>
<th>Primary source</th>
<th>Secondary source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus groups</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Observation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Interview</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Online searching</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Non electronic materials</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Literature review</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Focus groups**

**What is a focus group?**

A focus group is a form of qualitative research in which a group of people are asked about their attitude towards a product, service, concept, advertisement, idea, or packaging. Questions are asked in an interactive group setting where participants are free to talk with other group members.¹

**What is the purpose of the focus group?**

Like all research methods, the ultimate aim of the focus group is to attain knowledge of a topic. What the focus group allows you to get is the insight into that knowledge – why does someone think the way they do?

**How to conduct a focus group?**

There are many ways to structure a focus group, however they all have the same common theme in which you need to:

1. Identify the purpose of the session
2. Invite people to participate in the session
3. Develop a range of questions to ask your participants
4. Plan the session, and how it will run, select the location
5. Facilitate the session
6. Collate the results, analyse them and report on the results and
7. Turn them into action points.

¹ [http://en.wikipedia.org/wiki/Focus_group].
If you would like further information on how to structure a focus group, refer to the following links:

- <http://managementhelp.org/evaluatn/focusgrp.htm>

<table>
<thead>
<tr>
<th>Benefits of focus groups</th>
<th>Problems of focus groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture individual’s inputs as thought and intended – ‘verbatim’</td>
<td>Difficult to control discussion.</td>
</tr>
<tr>
<td>Provide a level playing field where everyone has an opportunity to contribute their ideas and suggestions</td>
<td>Dominant personalities can derail the discussion.</td>
</tr>
<tr>
<td>Provide anonymity when required</td>
<td>Hard to analyse.</td>
</tr>
<tr>
<td>Open up meetings for discussion by getting issues out in a non-threatening way</td>
<td>Large amounts of data.</td>
</tr>
<tr>
<td>Improve time efficiency.</td>
<td>Moderator can skew results.</td>
</tr>
<tr>
<td>Identifies first-hand what people want</td>
<td>Not representative of whole population.</td>
</tr>
</tbody>
</table>

**Observation**

**What is observational research?**

Observational research is used in qualitative research projects. A researcher will observe consumers while they carry out regular activities in a setting they feel comfortable in.

For example, a researcher may study the way in which a respondent makes their way around a supermarket to gain an understanding of the optimum areas for product placement and the best way to design the shop floor.

**What is the purpose of observational research?**

The primary goal of this type of research is to describe behaviour fully and as accurately as possible, with or without intervention. The person that is conducting the research often does not introduce themselves as the researcher to the participating, in the aim that the participants’ behaviour is not modified.
Learning activity: Observation techniques

Refer to the following link regarding different types of observation techniques:

Identifying the three approaches to observational research, in your own opinion, which approach do you feel would get the most out of your participants? Explain your reasoning as to why.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

What are the benefits of observational research?

<table>
<thead>
<tr>
<th>Benefits of observational research</th>
<th>without intervention</th>
<th>with intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethics – is unethical to change the behaviour without being able to change the environment</td>
<td>ethics – is unethical to change the behaviour without being able to change the environment</td>
<td>ethics – is unethical to change the behaviour without being able to change the environment</td>
</tr>
<tr>
<td>ability to generalise results to real life situations.</td>
<td>ability to generalise results to real life situations.</td>
<td>ability to generalise results to real life situations.</td>
</tr>
<tr>
<td>ability to get results of situations not normally attained in the natural environment</td>
<td>ability to get results of situations not normally attained in the natural environment</td>
<td>ability to get results of situations not normally attained in the natural environment</td>
</tr>
<tr>
<td>getting information not otherwise accessible</td>
<td>getting information not otherwise accessible</td>
<td>getting information not otherwise accessible</td>
</tr>
<tr>
<td>participation gives a unique perspective.</td>
<td>participation gives a unique perspective.</td>
<td>participation gives a unique perspective.</td>
</tr>
</tbody>
</table>

What are the problems of observational research?

<table>
<thead>
<tr>
<th>Problems of observational research</th>
<th>include:</th>
<th>time consuming – you have to wait for the behaviour to occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>the experimenter is there – so bias to the experiment can occur</td>
<td>the experimenter is there – so bias to the experiment can occur</td>
<td>the experimenter is there – so bias to the experiment can occur</td>
</tr>
<tr>
<td>potentially subjective interpretation of events.</td>
<td>potentially subjective interpretation of events.</td>
<td>potentially subjective interpretation of events.</td>
</tr>
</tbody>
</table>
What are some examples of observational research?

Observational research could be conducted for the following studies:

- what hand do people use their mobile phone?
- clothing trends
- computer keyboard techniques
- texting on a mobile
- iPod behaviour
- smoking in public places.

Learning activity: Observational research

What are three other studies that could be conducted via observational research?

1. ________________________________________________________________

2. ________________________________________________________________

3. ________________________________________________________________

Interview

What is an interview?

An interview is a formal conversation usually held between two (or sometimes even more) people, where one person (the interviewer) will ask the other person (the interviewee) questions to elicit information about a specific topic.

Interviews are specifically designed so that both parties can get detailed information on the given subject.
How to conduct an interview

There are many different ways to conduct an interview, one effective way of conducting an interview involves the following actions:

1. **Write notes to prepare for the interview**: think about what you already know and what you need to find out

2. **Communicate with the interviewee**: let them know why you would like to interview them so that they have time to prepare. If you are going to record the interview, make sure you let them know that this is your intention.

3. **Conduct the interview**: Listen carefully to the responses you are getting from your interviewee. It is ok to ask impromptu questions during your interview, if a topic is discussed that was not in your original notes.

4. **Conclude the interview**: clarify any unanswered questions and thank the interviewee for their time. Let them know what you will be doing with the information after the interview. It is also a good idea to follow up at a later date with an email thanking them again for their time.

5. **Type your notes**: this should be done soon after the interview so that the information is still fresh in your mind. Once you have added these notes with the other material, you should start to have a document that can be presented.

<table>
<thead>
<tr>
<th>What are the benefits of interviews?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview is a great research method because:</td>
</tr>
<tr>
<td>It’s more personal than other methods, so you can develop a rapport with the interviewee and get more detailed information.</td>
</tr>
<tr>
<td>You have the opportunity to ask more detailed questions.</td>
</tr>
<tr>
<td>Interviewee opinions and comments are easily expressed rather than completing a survey.</td>
</tr>
<tr>
<td>Build relationship with interviewee for further consultation if required.</td>
</tr>
<tr>
<td>It’s more personal than other methods, so you can develop a rapport with the interviewee and get more detailed information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What are the problems of interviews?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews can be a poor method of research if you are not prepared. Depending on what you are trying to achieve from the interview, you should have a list of ideas or topics you want to cover and make sure your questions focus on answering each one.</td>
</tr>
</tbody>
</table>
Learning activity: Interview skills

Not all of us can be a professional reporter with interviewing skills. Interviewing may look easy and is everywhere we look – on the news, radio and various chat shows. Everyone is asking questions.

But the real skill is knowing what questions to ask to get the answers you need. The only way to do this is to research your topic, know the questions you want answered and structure your questions before the interview.

Do the following tasks.

1. Find a product you are interested in – a mobile phone, iPod etc.
2. Research other products in the same genre.
3. Write down the questions you want answered.
4. Go to a shop, or call a place that sells the product and ask the questions.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Online searching – keywords and Boolean operators

This unit focuses on two areas of online searching – using search engines (Google in this unit) and online databases – both of which require the use of keywords and Boolean operators.

What are keywords?

A keyword is a significant word or phrase in the title, subject headings, contents or document text, found in an online database or website, and used as a search term to retrieve all records containing it.

Most businesses will create a set of words that they wish to be found by, often focussing on their main products and focus of their website.

For example: Special Flowers is a florist shop sells gift baskets that contain flowers, chocolates and scented candles that can be delivered on the same day if ordered before 12.30 pm. They may decide to have keywords such as gifts, baskets, fast delivery, flowers and so on.

<table>
<thead>
<tr>
<th>Learning activity: Zoo Tel! Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>You have just completed the Zoo Tel! website and are now in the process of developing your keywords so that your website can be found on the internet. What are the first six keywords that you are going to have associate to your listing? You can research other companies on the internet to get an understanding of what your competitors are currently using.</td>
</tr>
<tr>
<td>1. ________________________________________________________________</td>
</tr>
<tr>
<td>2. ________________________________________________________________</td>
</tr>
<tr>
<td>3. ________________________________________________________________</td>
</tr>
<tr>
<td>4. ________________________________________________________________</td>
</tr>
<tr>
<td>5. ________________________________________________________________</td>
</tr>
<tr>
<td>6. ________________________________________________________________</td>
</tr>
</tbody>
</table>

You can research other companies on the internet to get an understanding of what your competitors are currently using.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
What are Boolean operators?

Boolean operators allow you to combine words and phrases using the words AND, OR, NOT to limit, widen or define your search. Look at the following table for meanings of Boolean operators:

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND (†)</td>
<td>Use ‘AND’ when you want a result with more than one term. This limits the number of results, as the search will only return results that contain these two terms</td>
<td>• Bacon AND eggs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Swimming AND goggles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Motorcycle AND Leather</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hamburger AND Chips</td>
</tr>
<tr>
<td>OR</td>
<td>Use ‘OR’ to get a result with either of the terms. This increases the results, as the search will return results that contain either of the phrases</td>
<td>• Bacon OR eggs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Swimming OR goggles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Motorcycle OR Leather</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hamburger OR Chips</td>
</tr>
<tr>
<td>NOT (−)</td>
<td>Use ‘NOT’ when you want to omit a certain result from your search. This will mean fewer results.</td>
<td>• Bacon NOT Pigs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fish NOT sport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hamburger NOT recipes</td>
</tr>
</tbody>
</table>

Learning activity: Boolean Searching

Watch the following YouTube video clip to gain further information regarding Boolean Searching:

- [http://www.youtube.com/watch?v=i1LpTbzSKd0&feature=related](http://www.youtube.com/watch?v=i1LpTbzSKd0&feature=related)

From the information contained in the clip, explain the search results that would appear and how this type of search would benefit your results:

- ‘(woman OR women) AND basketball’
Online searching

What is the purpose of online searching?
Online searching is used to look for secondary information on the Internet that you may not necessarily find in the library or first hand. It is arguably the best resource you will have to access information any time of day, quickly and cheaply.

What are the benefits of online searching?
The benefits of using online searching as a research method are that they are:

- Cheap and quick
- Accessible
- Provide vast amounts of information
- Open all the time
- Free – not including the cost of connecting to the Internet
- Easy to use

What are the problems of online searching?
Problems with using online searching as a research method:

- Lots of erroneous information on the internet
- Can be laborious if not specific with the reasons for the search
- Sources may not be credible.

Learning activity: Test your online searching skills

Put your searching abilities to the test. Here’s a challenge to see how good your searching skills are. For each of the following questions, you have three searches available to use on Google to find the answer. Refine your search skills to make sure every search counts!

1. How many times has China won the team Gymnastics event at the Olympic Games?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
2. What did Ericsson (the phone company) do before mobile phones?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

3. How many telecommunications companies are there in Australia?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Online searching using databases

What are online databases?
An online database is a collection of information that is available to be accessed and searched from a computer. Online databases make it easy to find pieces of information using a central access point. Examples of online databases include:

- library catalogues
- collection of authoritative websites
- information about a specific industry
- information about a range of literature genres.

How to use online search for databases?
Whether you are searching library catalogues, search engines such as Google or online databases, the principles are the same. The difference is that developers of these tools use different terminology to describe the same functions that others are using.

For example, a ‘search’ button could be the same as a ‘find’ button. Or the search text box might be a drop down box. The trick is finding out how they are different, and that only comes from playing with the tools on the database or using the Help function.

For the purpose of this unit, we will look at general features and principles to apply to any database you use with online searching.
Here are some questions to ask yourself when you come to use an unfamiliar database:

- Is there online help available?
- Can you do a ‘simple’ search?
- Can you look at information in short and long formats?
- Can you search for phrases?
- Can you do an advanced search?

**Example: Framing your business objective into a search**

Let’s say you want to find out the health effects of smoking in teenagers aged between 16 and 19 in Australia. You wouldn’t write this specifically into a search area of a database, but you might use keywords and Boolean phrases to help you with your search.

Here are the steps to develop your business objective into a search term:

1. So your original objective may have looked something like this:
   a. ‘I want to find out about the health effects of smoking in teenagers aged between 16 and 19 in Australia’

2. Using Boolean phrases it may look something like:
   b. “Health effects” AND Smoking AND Teenagers AND Australia’.

3. If these don’t work together, use separate terms and build upwards, for example:
   c. ‘Smoking AND teenagers; Smoking AND health; Smoking AND Australia.’

4. If no luck, just use the most important key word and build from there, such as:
   d. ‘smoking’.

**Benefits of online databases**

Online databases can provide order for a collection of information from a wide range of sources that allows you to find it easily:

- cut search times
- provide greater spread of information on a subject
- provides storage of information
- always accessible.
Learning activity: Database tutorial

Use the following database to hone your skills searching for material. Follow the instructions in the left pane to get an idea of what it’s like to use an online database.

Database tutorial link
- <http://www.open.ac.uk/safari/php_pages/articlefirst/>

Non-electronic materials

What is non-electronic searching?
Non-electronic sources of information include printed material such as journals, books, newspapers, diaries, magazines and anything else that contains information. Predominantly the library catalogue will be your main search tool for these non-electronic materials.

How to search for non-electronic materials?
For the purpose of this unit, the focus of searching for these non-electronic materials will be using a library catalogue.
Above is the standard layout for a library catalogue search system. Basically you can go the short way or the long way to searching for material. It just depends on how much information you have to start with before you search.

The more you know, the more specific you can be. If you want to search:

- for a title, select Title search
- for an author, select Author search
- for subject, select Subject
- if you want to be more specific, select Advanced

Each has their own set of functions within the search.

For the following example, we will look at the Quick Search function. The Quick Search allows you to select the Keyword, Phrase or Exact Match of your search subject, across all areas of the library catalogue.

**Elements of Quick Search catalogue**

<table>
<thead>
<tr>
<th>Element</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keywords</td>
<td>Use this if you know a single word and want to search for it anywhere in the catalogue.</td>
</tr>
<tr>
<td>Phrase</td>
<td>Use this if you have a string of words that you wish to find anywhere in the catalogue.</td>
</tr>
<tr>
<td>Exact Match</td>
<td>Use this if you have a string of words that you want to find in sequence in any material on the catalogue.</td>
</tr>
<tr>
<td>Options</td>
<td>Select How many records per page you wish to view.</td>
</tr>
<tr>
<td>Sort By</td>
<td>You can sort by title, publication date or by author.</td>
</tr>
</tbody>
</table>

**Using the Quick Search catalogue**

Let’s say we want to find information on classical music. Do the following.
1. Type in ‘classical music’ in the search area and press OK.

Results page appears with all materials that relate to classical music in the catalogue.

There are 65 records with ‘classical music’ as a keyword.

From this point you want to only look at book results, as the quick search covers all material from CDs to CD-ROMs, newspapers, journals and books.

2. Refer to the four grey boxes at the top of the page and select ‘Refine Set’.

To refine a set of results, you can select to omit or add results based on Language, Location, Collection or Material.

If we only want to see classical music non-fiction works in English at Malvern, select English as the language, Malvern as the location, Non-fiction for the Collection and All Materials.
3. The results are now down to 18 non-fiction titles at the Malvern library.

This process can continue until you find the material you require.

Keep refining your search until you find what you want.

<table>
<thead>
<tr>
<th>Location</th>
<th>Collection</th>
<th>Call Number</th>
<th>Status/Desc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malvern</td>
<td>Non-fiction</td>
<td>780.3 SAD</td>
<td>Available</td>
</tr>
</tbody>
</table>

1. The Billboard encyclopedia of **classical music** / general editor, Stanley Sadie; foreword by Vladimir Ashkenazy.
   Sadie, Stanley
   458 p. : ill. ; 26 cm.

2. The Billboard illustrated encyclopedia of **classical music** / general editor Stanley Sadie; foreword by Vladimir Ashkenazy.
   Sadie, Stanley
   384 p. : ill. (chiefly col.) ; 28 cm.

**Benefits of non-electronic materials**

<table>
<thead>
<tr>
<th>Using the library catalogue allows you to:</th>
<th>search for material that you might not always find online</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>use the library catalogue computer system without the need for a computer</td>
</tr>
<tr>
<td></td>
<td>search for a wide range of published material in a variety of formats</td>
</tr>
<tr>
<td></td>
<td>find official material from a reputable source</td>
</tr>
<tr>
<td></td>
<td>get assistance from library staff rather than blindly search the internet</td>
</tr>
</tbody>
</table>

**Problems with using non-electronic materials**

Using the library catalogue can be time consuming when searching for material in different physical locations and compared to internet sources, may be out of date.

**Literature review**

**What is a literature review?**

A literature review is the review of current printed and electronic material of a specific topic. A good formal review lists the critical aspects of the documents, references them, and strings the ideas together in a logical sequence.

For the purpose of this unit, a literature review is the search for material on a specific topic to answer a set business objective.
How do you conduct a literature review?

There are some basic questions to ask before starting a literature review.

- why you are doing it?
- What is the purpose?
- In the business sense,
- what is the business objective to your research?

There are formal ways to conduct a literature review, but sometimes in the workplace, there are no medals or ‘grades’ for doing good work. The recognition is in the amount of material you have reviewed, your ability to address the business objective at hand and making sure you have a good understanding of a topic to comment.

By becoming a subject matter expert in the area you are researching, in your place of business, people will come to you for answers regarding this topic.

---

**Learning activity: Literature reviews**

Refer to the following information regarding literature reviews:

What are the main reasons why you would do a literature review?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

---

**The benefits of a literature review**

The most important benefit of a literature review is that it can help you keep up to date on the issues surrounding the subject. In business, this is important, as you always have to match your competitors and ‘keep you finger on the pulse’ of the industry you work within.

By conducting a literature review, you:

- increase your knowledge on a subject area
- become valuable to the business as a source of information
- have the ability to make informed decisions
- have the insight to compete against your competitors.
What are some problems of a literature review?

You need to know where to start, when to finish and how far to dig. You can easily get too wrapped up in the paperwork and lose focus.

Remember to check if you have done enough – always look at the objective of your literature review. Keep checking that, and you can’t go wrong.

### Example: Literature reviews

Literature reviews tend to exist in academic and scientific areas. However as mentioned before, this unit is focussing on the business application of literature reviews. The following link can give you an idea of what one may look like:


### Quality of information

As you know, there is a large amount of information available to you in the media, especially when researching online. Therefore it is important to have a healthy dose of scepticism when reading information from secondary sources.

Below are some general questions to ask yourself once you have identified a source you think you might like to use in your work. The first table refers to non-electronic media, the second, to online searching.

If the source passes the test, then you may have found a good piece of information that will help you answer those questions for your project.

### Learning activity: Quality

Use the following links for more information regarding the evaluation and quality of source material:

- [http://www.library.cornell.edu/olinuris/ref/research/webcrit.html](http://www.library.cornell.edu/olinuris/ref/research/webcrit.html)
- [http://www.library.cornell.edu/olinuris/ref/research/skill26.htm](http://www.library.cornell.edu/olinuris/ref/research/skill26.htm)

What are the main points that you should always check to ensure that the material you are sourcing is relevant?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Publication
These are some things to look for when reviewing the quality of a publication.

<table>
<thead>
<tr>
<th>Author</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• What else has the author written?</td>
<td></td>
</tr>
<tr>
<td>• What are their credentials?</td>
<td></td>
</tr>
<tr>
<td>• What is their background?</td>
<td></td>
</tr>
<tr>
<td>• Are they members of a known organisation?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Edition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• What is the edition of the source?</td>
<td></td>
</tr>
<tr>
<td>• Has it been revised, do you have the latest version?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of publication</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• As above, do you have the latest version?</td>
<td></td>
</tr>
<tr>
<td>• Is this publication still relevant?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectivity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is the information supported by evidence?</td>
<td></td>
</tr>
<tr>
<td>• Is it fact or opinion? Sometimes this is hard to work out. If you have any doubts, look into the fact in more detail.</td>
<td></td>
</tr>
<tr>
<td>• Does the information sound similar to other things you have read, or is it different?</td>
<td></td>
</tr>
</tbody>
</table>

Web page
These are some things to look for when reviewing the quality of a website.

<table>
<thead>
<tr>
<th>Accuracy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is there a contact email of the author of the website?</td>
<td></td>
</tr>
<tr>
<td>• Is there a reference?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectivity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is it a genuine or is it selling you something?</td>
<td></td>
</tr>
<tr>
<td>• Is the language emotive or straight and to the point?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authority</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• What are the credentials of the author?</td>
<td></td>
</tr>
<tr>
<td>• If it’s an article, where else has it been published?</td>
<td></td>
</tr>
<tr>
<td>• Is the information from a reputable website?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currency</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Do the links work?</td>
<td></td>
</tr>
<tr>
<td>• When was it published?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Access</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Do you have to pay to get the whole article?</td>
<td></td>
</tr>
<tr>
<td>• Is there advertising on the page?</td>
<td></td>
</tr>
</tbody>
</table>
Referencing information

Conducting research often requires you to read a lot of information and compile this information into a report ready for presentation. You are able to utilise ideas expressed by other people to reinforce your argument to your audience.

All information you acquire during your research must be referenced. This means that all sources should be named with specific details that would allow anyone else to go and look for that same source.

The Harvard Referencing system is the most commonly used referencing system and consists of two distinct parts:

1. **In-text citations**
   
   This is used when you have expressed someone else’s ideas within the body of your report and is often referred to as a citation. This can be used in the form of a quote, paraphrasing, or even copying (such as an image).

   It is important that when you going to present an idea within the body of your text that you include the following:
   
   a. name of the author/s
   b. year of publication
   c. page number/s.

   For example:
   
   a. Research provides greater insight to the business objectives (Jefferson 1999).
   b. Jefferson (1999, pg15) states that research provides greater insight to the business objectives.

2. **The reference list**
   
   Every citation that is used throughout the report must have a full reference list at the end of the report. It is important that the list contains all of the details required in a bibliography.

   It is important to note, that the reference list is not a bibliography, as the reference list only contains the citations within the text. A bibliography requires you to cite all books read, cited or not.

   The reference list contains:
   
   a. The title ‘Reference List’
   b. A list that is arranged alphabetically by the authors name
   c. One single list of books, journal articles and any other sources of information cited.

   For example:
   
Section summary

You should now have a clear understanding of what is required to gather information in relation to researching a specific topic and have an understanding of how a business’ objectives overarches the research objectives and how they work towards the one goal.

You should also have a clear understanding of the different types of research methods and how to decide which one will be the most beneficial for your research topic, along with how to search online and offline, using non-electronic materials to gather further information plus how to determine the quality of both mediums and how to reference this information so that you avoid any plagiarism infringements.

Further reading

- <http://saulcarliner.home.att.net/id/interview.htm>
- <http://www.google.com/support/websearch/bin/answer.py?answer=136861>
- <http://www.weblinksresearch.com/logisn>

<http://www.unc.edu/depts/wcweb/handouts/literature_review.html>


Section checklist

Before you proceed to the next section, make sure that you are able to understand:

☑ business objectives
☑ research objectives
☑ research methods and strategies
☑ research sources
☑ credibility of sources
☑ reference your information sources using a known referencing methodology.
Section 3 – Organising Information

This section is about how you organise the information you gather when you do your research, using different applications and techniques for different types of information, such as qualitative and quantitative data.

Scenario: Organising information when buying a mobile phone

So once you’ve had a think about what you might like to see in a mobile handset and the package that sounds right, how do you go about organising all the information? You may have spent some time searching Nokia, Ericsson or Motorola sites, checking out the features of phones. This would have been combined with checking out Optus, Telstra, Vodafone, 3 mobile and any other service providers’ website. Perhaps even a visit to the store to speak with an assistant, get more material, and more importantly, pick up the phone and see what it feels like.

But the question remains, how do you organise this information to make an educated, well thought out decision?

To organise the information, you have to start thinking about how you might analyse it, because the two go hand-in-hand. Ask yourself: what is the best way you think you could look at the information and make your decision? Look at the type of information you have – there is bound to be a lot of numbers and literature. These include: costs of phone calls, text messages, Internet usage, phone rent, off peak, peak times, duration of battery life, and the list goes on.

Will you use a table with headings to place the data? Will you use a graph or chart that creates a visual representation, rather than a list of facts and figures?

How you organise information depends on what you are trying to answer, or in respect to this unit, what your business and research objectives are. So, for example: Let’s say you want a Nokia mobile phone, and have a budget of $50 per month. What information do you need, and how would you organise it to analyse and make the decision? Perhaps create a list of Nokia handsets available. Then list the different plans each service provider has. Then break it down to plans under $50 per month.

Think about what tools you need to organise the information that will help you attain the answer you need, considering all the available relevant information you have gathered.

What skills will you need?

After completing this section, you will need to understand how to:

- organise your information to meet research objectives
- organise qualitative and quantitative data
- use Excel, Word, Visio and Adobe Acrobat.
An important point to remember

In all the following three sections, it is important to remember that the software being used is merely the tools of your trade. They will not think for you. On the other hand, don’t freak out if you can’t work out how to use a software tool straight away.

The most important thing at this stage is having the ability to conceptualise what it is you’re trying to do. If you have the concept right, put it down on paper, or use a software program you are familiar with already.

We all come from different levels of experience when using these tools. Once they are learned, you never forget. But you must first have the idea that is the most important thing to remember.

Organising your information to meet your research objectives

Chunking information

‘Chunking’ is about organising, grouping, or sorting information into areas that have similar characteristics to each other.

Think about websites for a moment. If you have ever looked for somewhere to rent, you have more than likely checked out a real estate website. What is the first thing that you usually enter to get a list of potential places?

It might be what you can afford, it might be the suburb, or even the number of bedrooms or whether it’s an apartment or a house. Whatever it is, that information will come up in the list, and they will all share the same characteristic you have chosen to search.

Another example is eBay. When you are looking for something on eBay, you are asked about:

- what category?
- what genre?
- what location?
- what price?

The list is almost endless. Let’s take clothes as an example. You are looking for a jacket. You type jacket. Is it men’s? Women’s? Vintage? Is it a sports jacket? eBay will try to narrow it down for you until you find what you want. But the big key here is that you need to know what you want.

You need to know your purpose before you can start organising information.
Learning activity: Organising your phone bill

Have a look at your mobile phone bill. Think about the different elements of the phone bill and how you might organise it to make more sense of what you are getting charged for and how you might reduce it next time.

Organise the information to provide a breakdown on the types of calls made from your phone.

1. Which were the top three mobile phone numbers you called?

   ____________________________________________________________________

   ____________________________________________________________________

   ____________________________________________________________________

2. How many texts did you send to these numbers?

   ____________________________________________________________________

   ____________________________________________________________________

   ____________________________________________________________________

3. How would you break up the bill to best illustrate your phone usage?

   ____________________________________________________________________

   ____________________________________________________________________

   ____________________________________________________________________

   ____________________________________________________________________

Qualitative and quantitative data

There are two types of data in research – qualitative and quantitative.

**Qualitative data** is any data that is textual, not numerical. For example, responses in an interview, information from focus groups or an image sent as part of an observation experiment.

**Quantitative data** is data that is numerical, for example – statistics from a football game, diving scores, battery life on mobiles, age, shoe size etc.

Both types of data are traditionally used by different software applications. For example, quantitative data will often be used in Excel, a spreadsheet program that allows you to analyse the numbers using mathematical equations. This can be as simple as 1+1=2, to the complex requiring exotic formulas.

To analyse qualitative data, Word is often used as it is dealing with textual information, images and anything that does not contain numbers.
However this is not a hard and fast rule. It is possible to combine both types of data into one software application. It is a matter of understanding the limitations of the software you are using and the outcome you are hoping to achieve.

The most important thing to keep in mind here is organising your information to meet your research objectives.

<table>
<thead>
<tr>
<th>Learning activity: Qualitative vs. quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which type of data research would you use if you were going to analyse the following main features of a mobile phone:</td>
</tr>
<tr>
<td>Cost of phone calls</td>
</tr>
<tr>
<td>Battery life</td>
</tr>
<tr>
<td>Responses to questions regarding network carriers</td>
</tr>
</tbody>
</table>

Refer to the following link:
- [http://wilderdom.com/research/QualitativeVersusQuantitativeResearch.html](http://wilderdom.com/research/QualitativeVersusQuantitativeResearch.html)

What are the advantages and differences of qualitative and quantitative data:

**Advantages:**

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

**Differences:**

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Organising quantitative data

The importance of the research objective is reflected in the above scenario. At the risk of sounding like a broken record, always ask yourself:

- ‘Why am I doing this research?’

This is what allows you to organise your data and focus your analysis. Using the mobile phone here are some options for organising your data:

<table>
<thead>
<tr>
<th>Research objective</th>
<th>Quantitative organisation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory card</td>
<td>Create table that lists units by amount of space available for music – for example in Excel, have columns titled with 4, 8, 16, etc. gig and the phone brand and model down the rows.</td>
</tr>
<tr>
<td>Lightweight</td>
<td>Create a table that lists the weight across the columns and the units down the rows.</td>
</tr>
<tr>
<td>Large screen</td>
<td>Create a table that lists the size of screen across the columns and the units down the rows.</td>
</tr>
</tbody>
</table>

The previous list might start to be transformed once you start to refine your selections. So your organisation might start to look something like the table below. You might like to add another column that has commentary from different reviews and people you have spoken to.

<table>
<thead>
<tr>
<th>Model</th>
<th>Hard drive space</th>
<th>Weight</th>
<th>Size of screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nokia N95</td>
<td>1 gigabyte</td>
<td>250g</td>
<td>10 inches</td>
</tr>
<tr>
<td>iPhone</td>
<td>1.5 gigabytes</td>
<td>200g</td>
<td>15 inches</td>
</tr>
</tbody>
</table>

Organising qualitative data

Once you have conducted your interviews, focus groups, surveys or even observation, think about how you could best organise the material to analyse the data. Using the mobile phone as an example, here are some options to help you organise the data:
<table>
<thead>
<tr>
<th>Research objective</th>
<th>Qualitative organisation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory card</td>
<td>Perhaps organise the questions that relate to this feature down the rows, and organise the units in question along the top. This will allow you to add the commentary to each cell.</td>
</tr>
<tr>
<td>Lightweight</td>
<td>Same as above, but use the lightweight questions along the rows.</td>
</tr>
<tr>
<td>Large screen</td>
<td>Same as above, but use the screen size questions along the rows.</td>
</tr>
</tbody>
</table>

The table may look like this:

<table>
<thead>
<tr>
<th>Questions regarding hard drive size</th>
<th>Nokia N95</th>
<th>iPhone</th>
<th>Additional comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which unit do you prefer?</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Which units have the biggest hard drive?</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Are there any limitations?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Case study: MP3 and mobile all in one**

Danny awoke one day to find that his MP3 player won’t start up. The battery is pretty old, and costs more than the player. The same goes for his prepaid phone. Sick of recharging all the time, he decides to make a new purchase and buy a phone that can handle his music, as well as keep him connected to the world.

He’s always been loyal to Ericsson when it comes to mobile phones, but he’s ready to make the change and try something new.

He jumps online and goes to <http://www.cnet.com.au> and <http://www.amazon.com> to see what phones are around that have the features he wants – internet connection, phone and MP3 player.

He quickly finds that there are many phones that have these functions and that he will start having to dig deeper to work out what phone will suit him.

Danny makes a list of the features that are important:

- storage space for music
- battery life
- size
- interface.
Danny then draws a table that lists these headings and the mobile phones. This is how he organises the information about the features of each phone. He can add more or less headings as he continues, but these four factors guide his buying decision. Once he finds the right mobile phone, he can start looking for the best deal.

## Learning activity: Help Danny out

Help Danny find the right plan for his mobile phone. He has decided he wants an 8GB iPhone, but is not sure of what package he wants to get.

He is looking for possibly a bundled package, a 24-month contract and under $50 per month (calls and text inclusive). Have a look to see which service providers have deals for the iPhone and the variables for each package.

Follow Danny’s lead and create a table to organise the information.

Think about what Danny requires:
- $50 a month, calls and text included
- iPhone, 8GB
- 24-month contract.

What headings will you use?

<table>
<thead>
<tr>
<th><strong>What headings will you use?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$50 a month, calls and text included</strong></td>
</tr>
<tr>
<td><strong>iPhone, 8GB</strong></td>
</tr>
<tr>
<td><strong>24-month contract.</strong></td>
</tr>
</tbody>
</table>

Which providers have the iPhone as an available handset?

<table>
<thead>
<tr>
<th><strong>Which providers have the iPhone as an available handset?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Which providers have the iPhone as an available handset?</strong></td>
</tr>
<tr>
<td><strong>Which providers have the iPhone as an available handset?</strong></td>
</tr>
<tr>
<td><strong>Which providers have the iPhone as an available handset?</strong></td>
</tr>
</tbody>
</table>

Are there any terms and conditions that should be noted?

<table>
<thead>
<tr>
<th><strong>Are there any terms and conditions that should be noted?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Are there any terms and conditions that should be noted?</strong></td>
</tr>
<tr>
<td><strong>Are there any terms and conditions that should be noted?</strong></td>
</tr>
<tr>
<td><strong>Are there any terms and conditions that should be noted?</strong></td>
</tr>
</tbody>
</table>
Software

To analyse qualitative data, Microsoft Word is often used as it is dealing with textual information, images and anything that does not contain numbers. However this is not a hard and fast rule. It is possible to combine both types of data into one software application. It is a matter of understanding the limitations of the software you are using and the outcome you are hoping to achieve.

Using Excel

What is Excel?

Excel is an electronic spreadsheet that can be used for storing, organising and manipulating quantitative data (numbers), and sometimes text.

When you look at the Excel screen you can see a table or a grid. On the left hand side, running horizontally, are numbers. These represent ‘rows’.

Running vertically, across the top of the table are letters. These are called ‘columns’.

Where a column and row intersect, is called a ‘cell’. A cell is where you input data.

As you could probably imagine, there are thousands of cells, so to make it easier to find, each cell is referred to as a coordinate, combining the vertical letters and horizontal numbers. This is called a cell reference (A3, B2, C5 etc.)

Keeping this in mind, refer to the table below for other terms that might come handy:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workbook</td>
<td>A workbook is a spreadsheet file that contains three pages or worksheets. The term spreadsheet is often used to refer to a workbook, when in fact, a spreadsheet refers to the computer program, such as Excel. So, strictly speaking, when you open the Excel spreadsheet program it loads an empty workbook file consisting of three blank worksheets for you to use.</td>
</tr>
<tr>
<td>Cell range</td>
<td>A range is a group or block of cells in a worksheet that have been selected or highlighted. When cells have been selected they are surrounded by a thick black outline or border.</td>
</tr>
<tr>
<td>Data type</td>
<td>Cells can be filled by typing numbers or text, or by using a formula to calculate the value to be displayed in the cell.</td>
</tr>
<tr>
<td>Tab</td>
<td>Tabs appear at the bottom of the Worksheet and have the title ‘SHEET 1’, ‘SHEET 2’ and ‘SHEET 3’. You can change the names, add, delete and move these tabs in any order.</td>
</tr>
</tbody>
</table>
Demonstration: Tour of MS Excel 2007

To view the animation on ‘Tour of Excel 2007’, go to the IBSA Channel on YouTube and search the videos.

- [http://www.youtube.com/user/IBSACHannel]

Learning activity: Create a simple spreadsheet

1. Open Excel and open a new blank worksheet.
2. Enter these headings in Row 1 of your worksheet:
   a. Telstra, Optus, Vodafone
3. Enter this information in cells A2, B2 and C2:
   a. 6, 5, 2
4. Enter this information in cells A3, B3 and C3:
   a. 1, 10, 1
5. Enter this information in cells A4, B4 and C4:
   a. 10, 4, 0

Refer to the Appendix to see if your worksheet matches the supplied correct example.

How to use tabs to organise information

There are three worksheets in the workbook file, which are represented by tabs at the bottom of the page. Tabs are a great way to organise information in your Workbook.

Example: Using tabs

Working as a freelance contractor for many years, Gerard has many clients that give him different types of work. To help organise it all, he would use Excel worksheets as a filing system, with each different tab representing a different business.

That way, he could go to a tab, see the work that he had completed for them, and keep reminding himself on what the last project was, how it went, and any other comments he made regarding the company.

You too can use Excel tabs to help you break up your information. It could be for days of the week, months of the year, mobile phone brands or mobile service providers. It’s just another way to help break up gathered information, and start to chunk them into relevant piles that make sense to you.
Think about last week and your homework. How might tabs help you organise information you collected? Do you need to use separate worksheets? If so, what are the titles of these tabs? How will you use this information in the future?

**Learning activity: Worksheet Tabs**

Returning to the Excel spreadsheet that you just created, you are now required to change the sheet names to the following:

- January
- February
- March.

Refer to the Appendix to see if your worksheet matches supplied correct example.

Leave your spreadsheet open, do not close this document.

**Using Word**

**What is Word?**

Word is a word processing application that allows you to produce written documents.

**The five Cs – Clear, Concise, Complete, Correct and Consistent**

Now I would guess that you have used Word before: For school assignments, writing novels, lists or for organising yourself. But have you ever thought about ‘how’ you write your documents in Word?

This section talks about what you should keep in mind when writing a report for this subject. They are basic principles that can be applied for everything you produce in the workplace.

You may have seen them in one form or another, but this is our version that we call the Five Cs of writing.

<table>
<thead>
<tr>
<th><strong>Clear</strong></th>
<th>Avoid jargon and use plain, simple English.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concise</strong></td>
<td>Keep to the point. Say what you have to say using precise language.</td>
</tr>
<tr>
<td><strong>Complete</strong></td>
<td>Make sure you give the whole story, all the facts you need to make your writing work</td>
</tr>
<tr>
<td><strong>Correct</strong></td>
<td>Ensure all your content is factually correct.</td>
</tr>
<tr>
<td><strong>Consistent</strong></td>
<td>Ensure all elements of your writing looks and feels the same. This means, the tone, the story and the actual style of the font and headings. Make it look professional.</td>
</tr>
</tbody>
</table>
How to organise information in Word

You can organise information in Word using sequential, hierarchical or topic based structures, as outlined in the following table:

<table>
<thead>
<tr>
<th>Structure</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| Sequential structures | - simple to complex  
|                  | - old to new                                           |
|                  | - sequential                                           |
|                  | - time based.                                         |
| Hierarchical     | - order of importance                                 |
|                  | - broadest topic to most detailed.                    |
| Topic based      | - type                                                |
|                  | - cause and effect                                    |
|                  | - comparisons or themes.                              |

Creating structure to your document

Unlike Excel, you don’t have to start with a rigid table or grid. Of course you can create tables if you want, but you won’t have the same ability to manipulate data and perform complex statistical analysis.

Word is predominantly just about that – words. But that doesn’t mean you can’t bring style and structure to your masterpiece. There are ways of making your work adhere to the principles of the five Cs.

Simple structure

A simple structure may be using just one level of Headings, plus the content, for each section.

**Example: Simple Structure**

<table>
<thead>
<tr>
<th>Gardening at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
</tr>
<tr>
<td>Chapter 2</td>
</tr>
<tr>
<td>Chapter 3</td>
</tr>
<tr>
<td>Chapter 4</td>
</tr>
<tr>
<td>Chapter 5</td>
</tr>
<tr>
<td>Chapter 6</td>
</tr>
<tr>
<td>Chapter 7</td>
</tr>
</tbody>
</table>

Glossary

Index
Complex structure

A more complex structure could involve multiple headings, drilling down to more detailed information for each section.

Example: Complex structure

<table>
<thead>
<tr>
<th>Gardening at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1</td>
</tr>
<tr>
<td>Chapter 1</td>
</tr>
<tr>
<td>Chapter 2</td>
</tr>
<tr>
<td>Chapter 3</td>
</tr>
<tr>
<td>Part 2</td>
</tr>
<tr>
<td>Chapter 4</td>
</tr>
<tr>
<td>Chapter 5</td>
</tr>
<tr>
<td>Part 3</td>
</tr>
<tr>
<td>Chapter 6</td>
</tr>
<tr>
<td>Chapter 7</td>
</tr>
</tbody>
</table>

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Index

Learning activity: Buying a mobile phone

Now you have an idea of what a good structure looks like, start thinking about the process of buying a mobile phone.

What are the different elements you have to consider?

Think about the different stages of research:

- Where you might have to look?
- What you are looking for?
- What needs to be done for you to reach the end goal of making a purchase?

You are to now select a structure (simple or complex) and create a Word document that outlines each step of your process that you will take to buy a mobile phone.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Using headings in Word

Keeping in mind the idea of chunking information, think about how you would translate that into your word document. You could use a table to create a physical structure that separates text from each other, and makes it easier to read, but what we are talking about here is a logical structure of your ideas – using Headings and subheadings to differentiate the larger chunks from the smaller.

You may not have ever realised, but the Style/Table of contents boxes in your Word menu allows you to start to organise your information as you would on paper. Think of it as the chapters of a textbook.

This approach helps you to understand what information should go where and forms the basis for the structure of your document. It also makes it easier for you to create table of contents when you have finished writing your document.

<table>
<thead>
<tr>
<th>Learning activity: Creating a table of contents in MS-Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>For examples and instructions on how to make your own headings and create a table of contents, go here:</td>
</tr>
<tr>
<td>- <a href="http://www.microsoft.com/Education/HowToTableofContents.aspx">http://www.microsoft.com/Education/HowToTableofContents.aspx</a></td>
</tr>
<tr>
<td>Open the Word document you created in the previous learning activity (buying a mobile phone) and create a table of contents with the information contained in that document.</td>
</tr>
</tbody>
</table>

Applying heading levels to a complex structure

Now that you have an idea of a structure of a document, you can see how using headings in Word can help you organise your information in a consistent way.

<table>
<thead>
<tr>
<th>Example: Gardening at home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headings</td>
</tr>
<tr>
<td>(H1) Part 1</td>
</tr>
<tr>
<td>(H2) Chapter 1</td>
</tr>
<tr>
<td>(H2) Chapter 2</td>
</tr>
<tr>
<td>(H2) Chapter 3</td>
</tr>
<tr>
<td>(H1) Part 2</td>
</tr>
<tr>
<td>(H2) Chapter 4</td>
</tr>
<tr>
<td>(H2) Chapter 5</td>
</tr>
<tr>
<td>(H1) Part 3</td>
</tr>
<tr>
<td>(H2) Chapter 6</td>
</tr>
<tr>
<td>(H2) Chapter 7</td>
</tr>
<tr>
<td>Glossary</td>
</tr>
<tr>
<td>Index</td>
</tr>
</tbody>
</table>
Using Visio

What is Visio?
Visio is diagramming software that allows you to create flow charts and block diagrams. These include process maps, family trees and organisation hierarchies.

For more information: Visio

For information about Visio, go to:

To find out how to create process maps and flow charts go to:

How can Visio help you?
Visio is a great way to help you chunk information visually. It can depict the ‘end to end’ process of your research, map out the chunks of information you need to cover, and assist you to communicate your research to the audience.

Using Adobe Acrobat

What is Adobe Acrobat?
Adobe Acrobat is a computer software package that allows you to convert documents into a format called PDF – Portable Document Format. The PDF is independent of the application software used to create it. So this means it can be viewed and sent to any computer platform, with the content remaining unaffected.

Just about everybody has the free version ‘Acrobat Reader’ on their computer. If you are not sure, when you open a PDF document, your computer will ask if you want to download the software to view it. If you are still not sure, visit their website to find out more about the application.

How can it help you?
PDF’s are a great way to send your work to others and be assured that nothing will change. Sometimes when you send Word, Excel or Power Point files via email, or open on a computer other than your own, it can have different formatting, lose images or not open at all. A PDF allows you to be confident that no matter who you send it to, on Mac or PC, old or new computers, it will open.

File management

A file management system is a way to organise your Word and Excel documents (known also as files) that you create. Think of it like this:

The old school way of organising documents before computers, was to use a filing cabinet, no doubt, you would have seen one of these in action.
Your document would be placed in a larger section that contained similar files. This may have been by date, by letter, topic or area of interest. The virtual method we are talking about here, is exactly the same, just using a computer.

Just like you chunk information within your documents, your documents have to be chunked into larger files for storage, so they can be easily found, edited, updated and managed, not just by you, but the people who need access to the files in your work environment.

For more information: File management

Check out this PowerPoint presentation for more information about file management:

- [http://www.slideshare.net/marotti/file-management-ppt](http://www.slideshare.net/marotti/file-management-ppt)

Case study: File management

Working in the new sales department at his local sports store, Jim was asked to think about how the store could sell more cricket, soccer and footy merchandise to the people in the local area. After doing some thinking, he realised that it was too hard to just wait for the customers to walk into the shop off the street. He would need to do some research.

So he got online and started searching for different sporting clubs in the area. Soon he had a huge list of cricket clubs, soccer teams, gyms, sports centres, schools, and sports departments that all could be potential clients.

There was so much information, he had to think about how he was going to organise it to make it easier to keep track of who he had found, when he had contacted them, what sports equipment they might like, the contacts at the places, the phone numbers, emails and addresses.

So he created an Excel worksheet to contain all the information he required in one location. He created a separate workbook for every type of sport, then gave each store a separate worksheet with the contact details. He then saved that workbook into a folder. Each time he updated the information; he saved a new version of the workbook and saved it in the folder.

By the end of the month, Jim had a file management system in place that contained folders for each sport, and different versions of the document. This meant that whenever Jim or any other colleague wanted to find information about a client, everyone knew where to look, to access the information.

Saving files

There are three things you have to remember when saving, updating and managing files in your system:

1. Naming Conventions
2. Version Control
3. Backing up files.
Naming conventions/file structure

Just as when you chunk your information and structure your document or worksheet, you have to do the same with your filing system.

When you create a document in Word or a workbook in Excel, it’s important to give it a name that has meaning. Calling your files ‘my work’ is only going to cause problems down the track. What happens when you create another document – ‘my work 2’? This is bound to get confusing. So some things to keep in mind, are giving the file a date, a meaningful name and date.

Just as important is to keep special characters such as $#@^& out of file names, because they can cause issues when trying to open. If you do need to space what you are saving the file as, use an underscore _ to separate words.

For example, if you are writing about mobile service providers on the 25th March 2009, and it’s your first draft, why not call it: Service_providers_250309.

Version control

Version control is taking naming conventions to the next level. When you create your document for the first time, and you believe you may make changes down the track, why not use V0.1 to signify that it is the first version. Then when you update the file later on you can call it V0.2, V0.3, V0.4 and so on.

For example, your previous file on service providers will look like:

- Service_providers_250309_V0.1
- Service_providers_250309_V0.2
- Service_providers_250309_V0.3

When you have completed the final version upgrade the version to V1.0. Any changes from here then become V1.1, V1.2, V1.3 and so on.

Learning activity: Saving a document

It is important that you save your documents according to organisational requirements so that they can be retrieved at a later date.

Returning to the excel document you created earlier, you are to save this document to your local hard drive with the following details:

- Mobile_Carriers_2010_v01.
Section summary

You should now understand how to chunk your information down into manageable sections to make it easier to organise your data, and define the difference between qualitative and quantitative data.

You should also be able to take your information and present this in the most appropriate software, such as Excel, Word, Visio and Adobe Acrobat, along with knowing how to save this data in correspondence with organisational requirements.

Further Reading


Section checklist

Before you proceed to the next section, make sure that you are able to:

- ✓ organise your information to meet research objectives
- ✓ develop an understanding of the differences between qualitative and quantitative data, and how you might organise both
- ✓ have a basic understanding of Excel, Word, Visio and Adobe Acrobat and use it to organise information
- ✓ effectively manage files, saving and naming them appropriately.
Section 4 – Analysing Information

This section is about recapping on the gathering and organising processes, then determining the types of data analysis required to answer the business objective.

Scenario: Analysing mobile phone usage

Let’s say you have spent the time collating information on mobile phones and you are now looking at service providers to see which one best suits your lifestyle. Are you on the right plan for your usage? Could you be saving money on another plan? Are you still in contract, or can you change or buy a new phone?

With these questions in mind, grab your mobile phone bill and start to look at your usage. You could do it for one month, but ideally you would like to look at the last three months to get an idea of how you use your phone. Think of these questions:

- How many calls do you make in a month?
- When do you make them?
- How many text messages do you send?
- Do you use the Internet on your phone? If so how much are you charged?
- What are the trends?
- What percentage of time do you spend in peak and off peak?

These questions can become your research framework. Your phone bill can tell you these answers, it’s just about how you analyse the information. You could create a table to outline this data under headings, then create a pie chart to illustrate the percentage of peak and off peak times, a line graph to show the difference in calls made over the months or a bar graph to compare how many text messages you sent.

As long as the analysis answers your research questions, you can use any method you think is appropriate.

What skills will you need?

After completing this section, you will understand how to use:

- ✔ the importance of business and research objectives
- ✔ how to gather information
- ✔ organising the information you have collected
- ✔ what data analysis you should do?
✓ the methods of data analysis:
  o examining your research objectives
  o assessing quality of information
  o assessing quality of research
  o basic analysis of quantitative data
  o basic analysis of qualitative data.

✓ interpreting results and drawing conclusions

✓ using graphics to analyse data and use charts, in particular, pie charts, bar charts and line charts.

Unit recap – the story so far

Before we go any further and enter into the analysis section, let’s recap:

The importance of business and research objectives
You understand the need for an objective before you start any sort of research. It doesn’t matter whether it’s setting out to buy music, a new phone or a new pair of shoes.

Or whether it’s a business objective, like finding new customers for a sports store, finding mobile phone plans for your business or looking to buy a property.

You need an objective to keep you focused, and drill down to more specific research objectives that guide your research efforts.

This means when it gets to this analysis stage, you can focus on why you are doing the research and what outcomes you want to achieve

How you gather information
There are different ways to gather information to start researching your business and research objectives.

You can conduct primary research, which involves you collecting the data yourself through interviews, focus groups or observations.

Or look at secondary research methods, including literature reviews of relevant texts, online searching and subscribing to databases.

There are no right or wrong methods, it is about picking the right method that will get you the answers you need to meet your objectives.

Organising the information you have collected
After you have done the work of getting the information, you have to start thinking about organising it in Excel workbooks and structuring reports in Word.

You also would have started to think about a file management system to keep all your information accessible and available for analysis.

Remember that naming conventions and version control are important for you to keep track of your research progress, as well as a referencing your sources.

Don’t forget the Five Cs – Correct, Concise, Clear, Consistent and Complete.
Understanding the research – what does it all mean?

So now you have your objective sorted, your research done, and have organised it in your own way so you know where everything is. Now comes the fun part of trying to make sense of it all.

Depending on what you are researching now is the time to start answering your objective. Questions to ask yourself are:

- What kind of analysis does my objective require?
- What questions do you need answered?
- Do you have a lot of numerical data or textual data?
- Do you need to conduct primary or secondary research? For example, are interviews necessary?
- What previous research and documentation do you need to review?
- How to effectively search online?

Learning activity: Analysis of research

Review the following website:


What is the basic analysis of qualitative and quantitative research results? How are they important for your research?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
Data analysis

To recap, quantitative data is dealing with numbers, qualitative is dealing with all information that is not numbers. Now that you have collected your information from a number of worthy, and no doubt, reputable sources, you have to work out how to make sense of it all.

In many respects, gathering the data is the hardest part. Most of your thinking would have been devoted to where to find the information that will help you interpret and convert the data into meaningful information that will help you make some decisions and even draw conclusions.

What analysis should you do?

Asking this question is the same as asking what colour shoes should you wear tomorrow? The type of analysis you need to perform rests solely on your research objectives.

To use the mobile phone as an example, you would want to consider the following analysis for these objectives:

<table>
<thead>
<tr>
<th>Research objective</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phone with the largest memory card and light weight</td>
<td>• What is the average weight of players?</td>
</tr>
<tr>
<td></td>
<td>• How do they rank?</td>
</tr>
<tr>
<td></td>
<td>• Do different memory cards weigh more or less?</td>
</tr>
<tr>
<td></td>
<td>• What units have the best combination of both?</td>
</tr>
<tr>
<td>Best price</td>
<td>• Who stocks Mobile phones?</td>
</tr>
<tr>
<td></td>
<td>• Interview the staff.</td>
</tr>
<tr>
<td></td>
<td>• Check out review sites and rank the unit.</td>
</tr>
<tr>
<td>Largest screen</td>
<td>• Note the specs of each phone and the screen size.</td>
</tr>
<tr>
<td></td>
<td>• Compare each and rank from largest to smallest.</td>
</tr>
</tbody>
</table>

Methods of data analysis

For the purpose of this unit, data analysis will be kept at a relatively high level. As you may or may not know, data analysis can get very detailed, complex and technical.

This unit is not intended to be an advanced research and evaluation method course. It aims to give you the broad, basic skills to be able to complete research and analytical tasks with a level of knowledge that you can build on with further reading or studies.

The process of data analysis we will examine for this unit includes:

- examining your research objectives
- assessing quality of information
• assessing quality of research
• basic analysis of quantitative data
• basic analysis of qualitative data
• interpreting results.

Experiencing your research objectives

Always revisit your reasons for research. Keeping in mind the example of buying a mobile phone and how you might organise the information in that scenario, apply that process to help you achieve your desired outcomes with analysis.

In that scenario, the person wanted to buy a mobile phone. They wanted at least a music player built in, lightweight, and with a large display. Once all the information was collated and organised, they got to this point of analysis. Here they would have to decide what objective takes priority.

What does the qualitative research say (reviews of the product, comments from sales people)? Does the quantitative data reflect the qualitative data?

This is where your analysis and research objective determine your interpretation.

<table>
<thead>
<tr>
<th>Learning activity: Test your online searching skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put your searching abilities to the test. Here’s a challenge to see how good your searching skills are. For each of the following questions, you have three searches to use in Google to find the answer. Refine your search skills to make sure every search counts.</td>
</tr>
<tr>
<td>1. How many times has China won the team gymnastics event at the summer Olympic Games?</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>2. What did Ericsson do before entering the telecommunications business?</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
<tr>
<td>__________________________________________________________________________</td>
</tr>
</tbody>
</table>
3. How many telecommunications companies are there in Australia?
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Basic analysis of quantitative data

This section looks at the possible quantitative methods of analysis you may use when in the business place. Although quantitative research methods can typically involve statistics, this section is to give you the basic idea of what is meant by quantitative data and the subsequent analysis you might perform.

Put simply, quantitative data analysis is the presenting and interpreting of numerical data.

This section looks at how you work with numbers to answer your business and research objectives. So there is no in-depth breakdown of statistics, or complex methods, rather suggestions on the types of things you may need to answer when dealing with data.

Analysing numbers

In your research concerning mobile phones, there are bound to be a lot of numbers in the collected data. This may include:

- call and text rates
- duration of calls
- phone numbers
- number of calls
- number of texts.

With this information, you need to work out how you can use it to answer your research objectives. Of course, the gathering of this information in the first place is to answer your objectives, but now that you have it, how do you actually use it?

Refer to the table below for suggestions. You might use the above data sets to produce meaningful outcomes. The list is by no means exhaustive, and is just an indication of the types of measurements you can make using numeric quantitative data:

<table>
<thead>
<tr>
<th>Type of data</th>
<th>How to use it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call and text rates</td>
<td>• Chart call and text rates on a bar graph for each service provider.</td>
</tr>
<tr>
<td></td>
<td>• Chart call and text rates to determine who has the better peak and off peak times.</td>
</tr>
<tr>
<td>Type of data</td>
<td>How to use it</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Duration of calls</td>
<td>• When do you make the longest calls?</td>
</tr>
<tr>
<td></td>
<td>• What is the average amount of time you make on a call?</td>
</tr>
<tr>
<td>Phone numbers</td>
<td>• What phone numbers are called the most frequently?</td>
</tr>
<tr>
<td></td>
<td>• What numbers are called most frequently in peak and off peak times?</td>
</tr>
<tr>
<td></td>
<td>• What percentage of total calls is message retrieval?</td>
</tr>
<tr>
<td>Number of calls</td>
<td>• What time of day do you make the most calls?</td>
</tr>
<tr>
<td></td>
<td>• What trends can you identify?</td>
</tr>
<tr>
<td></td>
<td>• What is the percentage of calls made to mobile, land line, message retrieval?</td>
</tr>
<tr>
<td>Number of text</td>
<td>• How many text messages over the last three months?</td>
</tr>
<tr>
<td>messages</td>
<td>• What is the average amount per month?</td>
</tr>
<tr>
<td></td>
<td>• What is the percentage compared to calls?</td>
</tr>
<tr>
<td></td>
<td>• When do you make the most text messages – peak or off-peak times?</td>
</tr>
</tbody>
</table>

### Learning activity: Your mobile phone usage

Keeping in mind the introductory scenario, have you ever looked at your mobile phone bill and almost fainted because of the cost? This might have something to do with being on the wrong plan for your lifestyle.

Get a copy of the last three months of your phone bill (If you don’t have hard copies, you may have to go online and check with your provider). Open the bill and study the breakdown of costs.

Think about how you might organise and analyse the data to find out the answer to the following questions.

1. Which month did you make the most calls?

__________________________________________________________________

Which month did you make the least amount of texts?

__________________________________________________________________

2. What is the percentage difference between peak and off peak calls in the three-month period?

__________________________________________________________________
Note: Before you start to do any sort of analysis on your data, make sure you have saved a copy of the data separate from the working version. This allows you to not have a meltdown if you make a mistake. Just copy the file and store it somewhere safe.

Basic analysis of qualitative data

This section looks at the possible qualitative methods of analysis you may use when in the business place. Put simply, qualitative research involves textual analysis. It examines all research that is not based in numeric (quantitative data).

Two of the main, basic forms of analysis, is the use of focus groups and interviews, and the subsequent responses.

In a more advanced stage, the language would be ‘coded’ to translate the textual into numeric in order to measure the results. However, this is not covered in this section.

Analysing text

This section focuses on how to structure any research you may have gathered to support your business and research objectives. In relation to the continuing theme of this unit, let’s look at the mobile phone scenario and how textual analysis may be used.

As we know, there is a lot of quantitative data when it comes to analysing mobile phones. There is the call duration, phone numbers etc., but think about the textual information such as:

- interview responses from sales staff, other phone users
- focus group responses
- terms and conditions of service providers
- phone features
- phone reviews.

How do you think you might analyse the responses? As with numeric data, you have gathered this because you have identified your business objectives and outlined the research questions, but now you have this information, how do you propose to break it down?

Here are some suggestions for how you might organise and analyse the text. It is by no means exhaustive and provides just a guide for textual analysis:

<table>
<thead>
<tr>
<th>Type of textual information</th>
<th>How to use it</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview responses</td>
<td>• Create categories for each response. This may relate to phone features or the plan of the service provider.</td>
</tr>
<tr>
<td>Focus group responses</td>
<td>• Create categories and look for associations and trends with these responses and other interviews.</td>
</tr>
</tbody>
</table>
### Learning activity: Mobile phone reviews

Keeping with the theme of mobile phones, go to:

Pick five phones that have been reviewed.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Think about the following:
- How would you categorise the content of the review?
- Are there any trends between the models?
- Which phone performed the best and why?

Create a table to best explain your analysis.
Drawing conclusions

When you have analysed the information, you will no doubt start to draw conclusions, or begin to interpret the information in relation to your research objective or goal.

When starting to do this, create a table that lists the research objectives, the methods you used and the data analysis. This will help you to clarify each objective and determine whether you need to complete more research.

The table may look something like this:

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Research methods</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phone with the best memory card and lightest weight</td>
<td>Focus groups</td>
<td>50% in the group said...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.</td>
</tr>
<tr>
<td>Survey</td>
<td></td>
<td>25% of those surveyed...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.</td>
</tr>
<tr>
<td>Document review</td>
<td></td>
<td>The literature review uncovered the following facts:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c.</td>
</tr>
</tbody>
</table>

Using graphics to analyse data

What is a chart?
A chart or graph is a diagram that makes information easier to understand, by showing how two or more sets of data are related.

There are three common types of charts – pie, bar and line charts.

What is a pie chart and when do you use it?
A pie chart is a circle divided into segments. It’s used to show percentages and fractions of a whole. A pie chart does not show changes over time. It compares segments of a whole.

Look at the examples on the following page.
Learning activity: Create a pie chart in Excel

Refer to the table below and create a Pie chart to illustrate the percentages of Cap plan sales for each service provider. Then answer the following questions:

1. What Provider has the overall greatest amount of cap plans?

2. What percentage does the $75 cap make for each service provider?

3. What percentage of total sales does the $50 cap make for each provider?

<table>
<thead>
<tr>
<th></th>
<th>Telstra</th>
<th>Optus</th>
<th>Vodafone</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30 Cap</td>
<td>25</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>$50 Cap</td>
<td>45</td>
<td>57</td>
<td>20</td>
</tr>
<tr>
<td>$75 Cap</td>
<td>35</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>$100 Cap</td>
<td>15</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>
What is a bar chart and when do you use it?

A bar chart or bar graph is a way of showing information by the lengths of a set of bars. The bars are drawn horizontally or vertically. A bar chart is used to show comparisons and trends.

Look at the following examples.
Learning activity: Create a bar chart in Excel

When looking at numbers in a table or on a sheet of paper, you sometimes can’t see a clear picture of what is happening. That’s why it’s good to look at the information presented in a different way.

Look at the table below.

This represents the total number of mobile phone units sold in Melbourne in 1993. Create a bar chart and find out:

- Which brand had the more successful sales in the year?

- For each brand, determine what month produces the best sales in comparison to the other brands.

- Are there any trends you can ascertain from the chart?

<table>
<thead>
<tr>
<th>Brand</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nokia</td>
<td>220</td>
<td>210</td>
<td>340</td>
<td>450</td>
<td>470</td>
<td>480</td>
<td>320</td>
<td>310</td>
<td>280</td>
<td>270</td>
<td>320</td>
<td>230</td>
</tr>
<tr>
<td>Sony</td>
<td>330</td>
<td>320</td>
<td>300</td>
<td>290</td>
<td>290</td>
<td>290</td>
<td>300</td>
<td>350</td>
<td>400</td>
<td>420</td>
<td>350</td>
<td>330</td>
</tr>
<tr>
<td>NEC</td>
<td>120</td>
<td>180</td>
<td>290</td>
<td>200</td>
<td>349</td>
<td>480</td>
<td>380</td>
<td>330</td>
<td>320</td>
<td>180</td>
<td>150</td>
<td>130</td>
</tr>
</tbody>
</table>

What is a line chart and when you use it?

A line chart is very closely related to the bar chart. You would use a line graph when you want to be able to more clearly see the rate of change (slope) between individual data points.

It is called a Line Graph, because a line joins each dot to work out the amount of change. There can be multiple lines for multiple sets of data on the one graph. For example, multiple years, months, cereal brands, mobile phone usage etc.
Look at the examples below:

**Stock price line chart**

**Rise of prices over years**
Learning activity: Create a chart

Utilising the data you used to create a simple spreadsheet in Session 3, you are now required to create the following charts:

- column
- pie
- scatter graph.

Which graph best represents the data in your spreadsheet? Why?
Section summary

You should now understand how to take the data that you have attained from your research and analyse it for its relevance and draw conclusions and interpret the information in relation to your overall research goal or objective.

You should also be able to take the information and convert it into a graphical representation.

Further reading


Section summary

You should now display an understanding of:

✔ the importance of business and research objectives

✔ how to gather information

✔ organising the information you have collected

✔ what data analysis you should do?

✔ the methods of data analysis:
  - examining your research objectives
  - assessing quality of information
  - assessing quality of research
  - basic analysis of quantitative data
  - basic analysis of qualitative data.

✔ interpreting results and drawing conclusions

✔ using graphics to analyse data and use charts, in particular, pie charts, bar charts and line charts.
Section 5 – Presenting Information

This section is about the preparation and execution of the research report, and an introduction into PowerPoint.

Scenario: Mobile phones for the fleet – presenting to the boss

To date, we have been using the example of buying a mobile phone. Predominantly this has focused on the individual buying a mobile phone. Gathering, organising and analysing the information is a great way to make an informed choice when making a purchase of any goods or service. It’s not likely in your private world, outside of work, that you would need to present the information. However, in the corporate world you would have to make a case to get funding to make a purchase.

Let’s just say you are looking to buy a large quantity of mobile phones for your office. You have gone through the process of internally working out what the requirements of the employees are, and then set about the research. You’ve gathered information on mobile phone models and the service plans, organised the information to make sense of it, then analysed it all via pie charts, bar charts and tables.

The aim is to now get the boss to make a decision on phones to get and on what plan. So you have to submit the information in a written research report, and then present it to the three owners. To do this you have to translate the research report into a PowerPoint presentation. This requires you to distil the information and think about how you will translate the written report into a colourful, clear and engaging presentation.

What skills will you need?

After completing this section, you will display an understanding of:

- create a research report
- use PowerPoint to create a presentation
- use PowerPoint to structure a report
- obtain feedback and comments on the suitability of your findings.

Research reports

As mentioned in the above scenario, in business, when you take on a piece of research, it is more than likely that you will have to show the results to a superior. This will usually come in two forms:

- written research report
- PowerPoint presentation.
This is because, not everyone has the time, to sit down and read a report from front to back. Senior managers want to have the person conducting the research to explain things to them, as the researcher you are the one who has done the hard work and has the most knowledge.

The senior managers will more than likely be relying on your analysis and gathered information to make the correct decision. Of course they will ask questions and perform their own analysis when they look at the information, but they need a starting point, and that usually comes in the form of a presentation, usually delivered via PowerPoint at the end of the research.

**Who does research reports?**

Research reports are completed by organisations in the public and private sectors. They can be based on practical work, research by reading or study of an organisation. Market research companies sell their research for thousands of dollars, while universities and other educational bodies may do it to apply for more funding to continue further research and gain critical scholarly acclaim.

In business, a research report may relate to a financial perspective – companies looking at their competitors, analysing their strengths and weaknesses to get the upper hand; looking at companies on the stock exchange and researching their capabilities prior to making an investment. Another reason may relate to a business looking to expand in the industry, and be looking for a niche that no other business has filled.

**How do you write a research report?**

There are three distinct stages of constructing a research report. These are:

1. **Preparing.**
2. **Collecting and organising.**
3. **Planning.**

**Preparing**

You must identify the reason you are doing the research – the purpose or aim of the research question. Without this, you will lose focus on the task and become distracted when searching for the information you need.

Also, know your audience. Who are you writing for? This determines the amount of background information you will have to go into when writing the report.

**Collecting and organising information**

As you now know, there are two sources of information when it comes to research, primary and secondary research. Make sure you have a combination of these when you complete your report, to get a balanced perspective.

Organise the information in a logical structure, and always, ALWAYS reference the material to bolster the credibility of your work.

**Planning**

Before jumping into the writing of the report, sketch out a detailed outline or work plan. The information must flow logically, with each of the main points supported by examples and more details. Generally start with the most important information first, then move on to the least important.
Learning activity: Analysing the research reports

You have been employed by the new Telstra research arm to start developing a template for the team. You are tasked with looking at the following links to see what research report layout you like and then answer the preceding questions. Take note of the language, structure and layout.

- Industry research:  

- Education research:  
  <http://www.rand.org/pubs/online/education/index.html>

- Market research:  

1. Consider how the report is outlined and argument approached.
   __________________________________________________________
   __________________________________________________________
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   __________________________________________________________
   __________________________________________________________

2. How would you describe the language?
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   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
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3. How would you improve each report?
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Research report structure

As you can tell from the above links, research reports can take on many different styles, however the basic components remain the same. The table below is the basic structure of a research report we will use.

<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Title page</td>
<td>A page of a report that bears the full title of the research study, name of the client, the researcher's name and organisation, and the date.</td>
</tr>
<tr>
<td>2 Table of contents</td>
<td>A list of the topics covered in the book as arranged by chapter and/or section, including the corresponding page numbers.</td>
</tr>
<tr>
<td>3 Executive summary</td>
<td>A non-technical summary statement designed to provide a quick overview of the full-length report on which it is based. It usually contains a condensed version of the whole report in one page, so if someone just wanted to get the ‘gist’ they would read this.</td>
</tr>
<tr>
<td>4 Introduction</td>
<td>The introduction eases the reader into the report. It contains the history, purpose and context of the research report, and is the information that is essential to understanding the situation or problem.</td>
</tr>
<tr>
<td>5 Overall goals</td>
<td>The overall goals are the things that a person is trying to achieve through the research. It is the desired end point of a project – The answer to the question; the support of a hypothesis; the determination of the success of the project.</td>
</tr>
<tr>
<td>6 Methodology</td>
<td>A methodology is the approach you take to collect data for your research. It’s the methods and procedures you use to reach your purpose and overall goals. For example, you may have used focus groups, online research and interviews to get the data to analyse to make your assumptions.</td>
</tr>
<tr>
<td>7 Findings and conclusions</td>
<td>Findings and conclusions are the results of the analysis you conduct. What do you derive from research? What does it all mean? What product will you buy and why?</td>
</tr>
<tr>
<td>8 Discussions</td>
<td>The discussion section contains your interpretations and evaluation of the results. It can refer to other similar research projects and literature.</td>
</tr>
</tbody>
</table>
### Section 8 – Recommendations

Recommendations list the actions you will take, deriving from the conclusions and interpretations you have made. For example, if you decided that all mobile phones with Vodafone do not have the features you are looking for, but Optus does, then you recommend that Optus is the service provider you will choose.

### Section 9 – Appendices

List all the references and material you have collected to complete the research.

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### For more information: Structuring reports

Here is a useful link to think about when structuring your report:

- [http://www.psychology.ilstu.edu/jccutti/psych231/SP01/Week11.htm](http://www.psychology.ilstu.edu/jccutti/psych231/SP01/Week11.htm)

### Writing tips

Take note of the following when it comes to writing the report:

- Create the report from your plan.
- Always redraft and edit your work – get rid of unnecessary information.
- Write in a professional, but friendly tone.
- Keep sentences short and punchy.
- Use simple language.
- No technical or business jargon.
- Remember spell check doesn’t pick up every error so proof-read your work.

### Mistakes to avoid

Some may be obvious, others a surprise, but try to avoid the following when constructing your report:

- No report design is perfect.
- Always plan. Plan, plan, plan! This cannot be stressed enough. Without planning, you are headed for trouble.
- Really try to include some interviews in your report. They offer a first hand view of the situation and add a human factor to the problem.
- Always provide the sources and research results in your appendices, without them; the report is a work of fiction.
• Always get somebody to read your report before you finish. A fresh pair of eyes will always pick up mistakes that you have missed. Plus, like it or not, you will find out if it is compelling reading or a bore.

• Make your report interesting! If you are nodding off two pages in, what will your business colleagues, or assessors think?

Using PowerPoint

What is PowerPoint?
PowerPoint is a Microsoft product that allows you to create slide shows that include text, graphics, animations, charts and video.

How to create a presentation in PowerPoint?
It is important before you create your presentation that you have all of your information ready.

1. Select the template background, often businesses will have a standard template background that you are to use.

2. Select the format for your slides, for example if you want to have the text at the top of the slide and an image at the bottom.

3. Type in your information; add in any images, charts graphs on each slide.

4. Add in any animation to enhance the appearance of your presentation

5. Play the presentation by pressing F5

How can PowerPoint help you?
PowerPoint is a powerful piece of software that allows you to transform your written documents, charts, tables and thoughts, all into one slide show. You can use this to present information on a projector screen, create handouts and talk to it when presenting your work to a group of fellow learners or workers.

It encompasses elements of Word, Excel and other graphic programs to help you convey your message using a variety of forms of communication.

Presenting the PowerPoint presentation
Creating an effective presentation is only one part of the story. To make a presentation in PowerPoint truly memorable for the right reasons, you have to know how to present the information to the audience in a fun, engaging manner.

Here’s a checklist for things to remember when presenting:

1. You are the main feature, NOT the PowerPoint slides.

2. Never read off the slides. The audience can read your research report, they want to hear what you have to say about your research.

3. Add as many pictures and graphics as possible, without being silly. It’s an old saying, but a picture really can say a thousand words.

4. Remember to keep slides simple. Overcrowding a slide is a sure way to annoy and lose people.

5. Most importantly, talk like you are talking to a friend. Try and be relaxed, and you will be great!
The structure of a report in a PowerPoint presentation

Believe it or not, the structure of a research project is the same as your written report. However, the important thing to keep in mind is that people are not ‘reading’ slides. They are listening to you ‘present them’. This means you have to get creative with how you present the same information in the report, in the slide presentation.

There are a million places to look for ‘tips to create better PowerPoint presentations’ online. So keep these important points in mind from someone who has been doing presentations for a long time, before you look for more information:

- Always have a title slide.
- Remember you are presenting information on a digital screen. Make sure you choose your font size and colours wisely. People want to be able to see what is on the screen!
- Less is more. Don’t overcrowd each slide. A slide is for presenting the high level information. You are there to go into detail. It’s power ‘point’ not power ‘read’.
- Don’t go crazy on transitions and animations. That can get annoying. Be interesting, but don’t be tacky.
- Keep clip art to a minimum.
- Use the PowerPoint wizard. Some mock the wizard, but it isn’t called the wizard for nothing! It can help
- Go easy on the music. Unless it is a presentation about music, it can get annoying.
- Use the notes section. You can see it, but those you are presenting to can’t. It’s a great tool to use as a prompt.
- Everyone has their own tips online. Eventually you will find someone who says what you want to hear. Use common sense.
Learning activity: the Power of PowerPoint

Refer to the previous learning activity and the research reports you selected. Pick one of them and think about how you might present that report in a PowerPoint presentation.

If you were the researcher, and you were about to present the report at a seminar in front of your colleagues and friends, what would you want it to look like? What is the best way to present the same information, using fewer words, but retaining the message?

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Feedback

Receiving feedback from others, particularly stakeholders, is a key element in the design and development process. Below are some tips you could follow that will ensure you get the most from receiving feedback.

The key point to make is that there is no point in asking others to give you feedback unless you are prepared to be open-minded to the comments which may differ from your own beliefs.

- Be explicit. Make it clear what kind of feedback you are seeking. If necessary indicate what kinds you do not want to receive.
- Be aware. Notice your own reactions, both intellectual and emotional. Particularly notice any reactions of rejection or censorship on your part. Some people find it useful to partially dissociate or distance themselves in this situation and act as if they were witnessing feedback being given to someone else.
- Be silent. Refrain from making a response. Do not even begin to frame a response in your own mind until you have listened carefully to what has been said and have considered the implications. Do not be distracted by the need to explain: if you really need to give an explanation do it later after the feedback session.
- Welcome Constructive Feedback – Your powers of self-perception only go so far. People around you notice things, both good and bad, which you do not and you might learn from their input.
- Do not justify your position – Telling the person why their feedback is wrong will not work. Ever. Arguing, justifying your position or denial are all powerful negative emotions, making the conversation more challenging than it need be.
- Accept feedback at face value although the feedback might feel like a personal insult, challenging your whole identity, keep some perspective. The feedback relates to specific instances, in one part of your life AND now you know about it, you have the opportunity to do something about it.
- Evaluate feedback before responding feedback often tells you more about the person saying it than it does about you.

Learning activity: Feedback

What can feedback be used for in an organisation?
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How do organisations commonly collect feedback?

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Section summary

You should now be able to create a research report and present your information effectively to your audience and gather feedback and comments on the suitability of your findings.

Further reading

Section checklist

You should now understand how to:

☑ create a research report
☑ use PowerPoint to create a presentation
☑ use PowerPoint to structure a report
☑ obtain feedback and comments on the suitability of your findings.
Appendices

Appendix 1 – Sample spreadsheets

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