Contents

1A Gather and organise information in a suitable format

Depending on the type of information you are collecting and the purpose of that information, you need to gather and organise the information in a suitable format to analyse, interpret and disseminate the information efficiently, and in accordance with organisational requirements.

Information types

Before you can analyse and present information, you first need to find the information. The type of information you are looking for depends on your organisation and its particular research requirement. Your role – especially its level and focus – may also influence the kind of information you need to collect.

Here are examples of the types of information required for different areas of an organisation.

Administrative support

Paula provides administrative support to a team of sales people. One of the sales people has asked her to gather contact details of her clients, and then assemble the information into a database so clients can be easily contacted with news of product updates.

Factory supervisor

Mick is the supervisor of a team that works on a section of a production line. He has been asked to prepare a schedule for management that will show how his team, who make steel furniture in a factory, will be able to meet the production schedule for the December–January period, when many people are keen to take holidays.

Here is an outline of three essential quality measures that need to be addressed when establishing the quality of the information.

Accuracy

Any information you use in your research needs to be precise, truly reflect what has actually happened and be generally accurate in what it says about a particular subject, event or issue.

Relevancy

Data needs to be directly related to the topic you are researching. Sometimes when researching an obscure issue or one that has not been given a great deal of attention by others, finding information can be difficult. Padding out a report with general information will not make the report better. For every item of data collected, ask yourself how and why it is relevant to your topic.

Reliability

Reliability is one of the biggest issues to consider as you collect information. Information can be presented to appear reliable but may not be supported by any solid data. Always get some background information on the data you assemble and determine whether it is reliable enough to base decisions upon.

Example: critical thinking

The study of history is an area where critical thinking is necessary every step of the way in order to make sense of the past. In many ways, it is similar to common business situations in which you may find yourself. For example, information sources need to be properly understood so the context in which they were created is taken into account when assessing them.

For instance, posters, old newspapers or newsreels dating from the early 1940s in Australia, encouraged women to work outside the home and join organisations such as the Women's Land Army. At first glance these may appear to be evidence of early efforts at gender equality in the workplace. However, it was actually because many men were away at war and labour was in short supply, so women were being encouraged to join the labour force.

Accepting information at face value may mean the true understanding of an issue is missed.

The gateways to the internet for research purposes are search engines. You can use search engines to locate online information, and everyone has their own preferences about which search engine gets them the best results, for example, Google (www.google.com.au) and About.com (www.about.com).

This information is already organised into categories and presented to you, so much of the research has already been done. This may save you time, but may also be restrictive on your own search needs, and means carefully analysing and assessing what is being presented.

Here is an outline around the use of search engines when conducting online information searches.

Using search engines

To search for data using a search engine, you need to type in keywords and phrases for the search program. Be specific with your keywords and phrases. You may have to try different combinations and spellings of words to get desired results. As with all information you collect, you have to evaluate the data by thinking critically about its value to your research aims and how current the site is.

Efficient online searches

Learn how to search efficiently for information on your topic. This might mean learning how to use the advanced search function on an internet search engine or using topic-specific or location-specific searches (for instance, for pages that are just Australian-based).

Think carefully about the search terms you are going to use. Some words or phrases may have dual meanings, others might be too specific, some may be too broad and bring back far too many results for you to properly search.

If one search brings up disappointing results, think of alternative words you could use.

Carefully assess any data you find online. Question the accuracy and reliability of any information you come across.

Remember to make a careful note of or bookmark the Uniform Resource Locator (URL) – an address that specifies the location of a file on the internet – so you can include it, where necessary, in any documentation you prepare later on.

Sources of online information

Online information can be accessed from a variety of sources including webpages, databases, electronic files, video conferencing, chat rooms, email messages, newsgroups and bulletin boards.

Wikipedia is one resource tool you can use to look up virtually anything you wish to know about. It is billed as the largest reference website on the internet and it is free of charge to use. The information is generally accurate – but be careful, because anyone can edit the information. Any information you gather from Wikipedia should be verified by another reliable source.

1F Update, modify, maintain and store information

Once you have collected the information, you may need to organise it into a form that is easier to use and understand. When updating or modifying information, it might prove useful to set up a version control process to ensure only the most recent document is being accessed.

Here is a brief overview of the benefits that can come from updating and modifying organisational information.

Updating

- If the information you need is of the same kind, yet changes or is superseded often, it can be a good idea to set up a computer file (such as a table or database) that makes it easy to access and update this data. Alternatively, you may need to download from the internet a report or piece of information on a regular basis.

Modifying

- Modifying information involves using an existing source of data and making changes to it. If this is something that needs to occur frequently, it is a good idea to set up a computer file or other tool so the information can be categorised, easily accessed and changed if and when it is necessary. Modifying information may also mean adding to existing files or creating new categories of data.

Maintaining

- Maintaining information means keeping it updated. While the type of data remains the same, for it to remain useful, the information needs to be maintained. This may simply mean changing information as required.

Storing

- Some data is not required on a regular basis and should be stored so that it is still available for legal purposes or when it is required. There are many ways to store data. The method you choose will depend on the data, the technology available to your organisation and the method and frequency with which it needs to be accessed.

2A Define research objectives

When you research a particular topic, it is important to have a clear understanding of your objectives before you start. Someone in your organisation may tell you what is required, and some workplaces may have particular ways to collect and analyse information. In other cases, you may have to decide what kind of information you need to collect and define your own objectives.

Objectives

During the course of your research, you may have to alter your objectives as you uncover new information or perhaps your organisation's needs change over time, resulting in different research requirements.

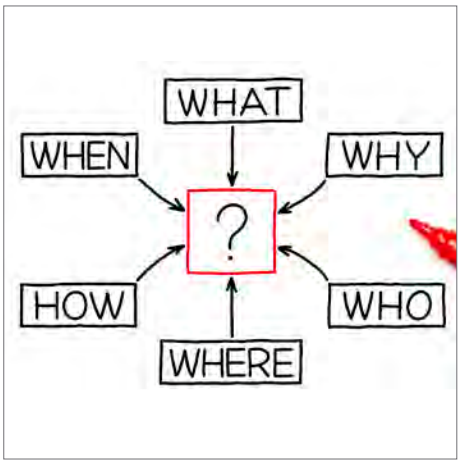
Here is an example of how to define objectives.

Define your research objectives
Make sure you clearly understand what you are trying to achieve.
Ensure your objectives are realistic and achievable.
Make sure you have discussed the objectives with your manager or other colleagues.
Ensure that your manager or other colleagues agrees with the objectives.
Ask yourself are the objectives consistent with your organisation's requirements for conducting research?

Hypothesis testing

When you undertake research, you are trying to answer a particular question or solve a problem. A hypothesis can be seen as a reasonable guess at the nature of the answer. For example, imagine your car breaks down. You need to investigate (research) the cause of the breakdown. You start to construct a series of reasonable guesses or theories such as:

- the car has run out of petrol
- the fan belt has broken
- the car has a flat tyre
- the radiator has overheated
- there is something wrong with the alternator.



Process maps

To map a process, you need to identify and record all the separate parts of the particular process, creating a map (or outline) that shows you how the process happens.

Process mapping is useful when you need to understand how or why something happens so you can change or improve the process. If you are familiar with the particular process, process mapping is relatively straightforward. By writing down each step that occurs, it is often easy to identify problems or issues.

Comparative analysis

Comparative analysis is the process of analysing separate items, situations or events and then comparing them with each other.

People do this all the time when they shop for food or clothes. They look at two bottles of fruit juice and compare them before making a decision about which one to buy. Are they the same size? Do they have the same ingredients? Is one sugar-free? Where are they made? What is the price?

In a business context, comparative analysis is just the same, except that you're evaluating different things – sales of products, staff morale in different departments, the success of last year's end-of-year client party compared to this year's, one management technique compared to others and so on.

What is important to remember when conducting a comparative analysis is, where possible, to compare the various options, events or pieces of data against one another in a consistent format. For instance, where the success of end-of-year parties are compared, stating that last year's was themed 'Winter Wonderland' and this year's had roast beef for the main course is of no relevance, as this information, although factual, is not helping you to actually compare the relative success of the two parties.

Example: define research objectives

Stacy works as a marketing coordinator for Stylish Footwear, whose sales of a new shoe style were very poor. The company had been expecting the style to be a good seller. Stacy was asked to research why sales of this item had been lower than expected. She used her knowledge of similar problems to develop a number of hypotheses as to why the style was not selling (such as customers not liking the colours; the style not being fashionable enough, and the style not fitting people's feet well). Her hypotheses helped her formulate a number of questions to ask sales staff and customers. It wasn't long before she discovered that the fit of the shoe wasn't good. Completing a situational analysis supported the trends in what women were wanting in shoe design. The data Stacy collected supported her to define her research objectives and eventually resulted in Stylish Footwear modifying the design.

Organisational criteria

You may also have to ensure information meets the expectations of your organisation. Different organisations may have different standards when it comes to the validity, quality and reliability of the information and sources depending on how material is to be used. You will have to find out what degree of analysis is required.

Use appropriate research strategies

There are many different ways to conduct research. Research strategies may include surveys, interviews, focus groups, data analysis, product sampling and documentation analysis and review.

Whatever methods or strategies you select to collect your data, make sure the method is appropriate for the research task and makes efficient use of the resources available.

Considerations to ensure a research method is appropriate can include:

- time spent
- type of data required
- expectations of others
- resources available
- overall research objectives.

Interviews

Interviews are a good way to question or discuss particular issues with people. You can obtain information in interviews that may be difficult to collect using other methods such as observation or by reading questionnaires or other documented accounts.

Always plan the questions you intend to ask and carefully think through how and why responses to each question will relate back to your original research topic or issue. Try to avoid asking leading questions (where interviewees are more likely to answer in a particular way) or closed questions (which are answered with a 'yes' or 'no' response) if you want in-depth, honest responses.

It can be useful to record interviews so you can write down in detail parts of or the entire conversation or discussion later without missing anything. However, voice recorders make some people nervous and less inclined to speak out.

You can also take notes. If you are taking notes, it can be a good idea to first prepare a template or answer sheet where the person's responses can be recorded beneath each question you plan to ask them.

Here is more information about online research.

Government websites

Federal government websites contain news about tendering opportunities, legislation and regulations, media releases and information about the government services. State and territory government websites contain information specific to each state and territory, such as small business advice. Local government websites describe guidelines about council services and regulations.

Travel information

Travel agents have websites and email newsletters that you can subscribe to learn about the latest special offers. Airlines, bus and car hire companies, hotel chains and individual hotels all have websites and email addresses. Airline tickets and hotel rooms are often cheaper if you purchase them online.

Market research data

Some market research companies investigate and publish periodic reports on particular subjects. Some offer subscription services to regular reports and data. They can save time when you need complex information quickly, but they charge for their services.

Publications

Many newspapers and magazines operate websites where current and past articles can be viewed and downloaded. You may be able to subscribe to email newsletters or pay to access certain published material.

Reference and technical information

There are various websites you can use to access reliable, factual information from sources such as dictionaries, encyclopaedias, books of quotes and thesauruses.

It's a good idea to discuss your research tasks with other people as they may know websites that may be useful to you.

... continued

* as part of a word	Will find all words with the first part of the word in them.	Entering **surf*** will return results for surf, surfing and surfer, among others.
"phrase"	The words or phrase between the quotation marks must be an exact match.	Entering **"Tasmanian cricket clubs"** will find only those sites with this phrase.
Combining operators		
+ and - or **AND NOT**	Finds sites with one word but not the other.	Entering **cricket +clubs -associations** or **cricket AND clubs NOT associations** finds websites that have the words cricket and clubs in them, but not cricket and associations.

Hyperlinks

A hypertext link (a clickable icon or highlighted word or phrase) allows you to navigate between different pages on a site. Links can also connect to pages on other websites. Sometimes, clicking on a link opens a new window in your browser, so you can easily look at several pages if you need to cross-reference between them. Other links direct your browser to another website. You can continue to navigate through the new site or use the back button on your browser to return to the original site. You need to identify the links and decide which ones will lead you to the information you require. Sometimes you will follow the wrong path and will need to go back and try again. Here is some guidance around navigating websites and using hyperlinks that can assist in a quicker and better way to search for information needed.

Navigate websites

Websites usually contain a number of pages that can be accessed through links from a home page. Every website is different and each search you conduct will have a different purpose and goal. Some sites have very simple home pages with a few links to further pages listed down one side or in the middle of the page. Other sites contain many more choices. Sites with many pages will often use a site map to help you navigate. This provides an overview of all the pages on the site.

Many websites allow you to search for information within that site using a search box displayed on the home page. Some online databases require you to follow a number of steps and move through multiple pages before you can enter keywords and do a search. Others have a search option as a link.

Statistical analysis

Statistical analysis is a way of understanding data and obtaining insights into what people think about particular issues related to your research. Statistics help us understand data in a more meaningful way than using raw information, and allow us to compare information that may not be presented in comparable formats when in a raw state. Statistical representation of data also allows us to see the information in perspective, especially when dealing with large numbers.

The discipline of statistics is a complicated topic and one that statisticians can spend years learning about. Most statistical methods used in a business context are known as inferential statistics, which involves using a sample to infer results that are likely to be obtained from a larger group (population).

Here are examples of commonly used statistical analysis tools.

Analysis tools
• Variance – measures how far a set of numbers is spread out. • Mean, median and mode – mean is the average; median is the middle and mode is the value that occurs most commonly. • Probability – measures the likelihood that something will occur. • Testing hypotheses – formal procedure used to either accept or reject the hypothesis. • Correlation – how two sets of data are linked. • Regression analysis – estimating the relationship between variables.

Demonstrate statistics

There are many methods of presenting statistics, but simple percentages are probably more familiar to most people than raw data. The following present simple percentages and the raw data they derive from.

Simple percentages

- 92 per cent of all survey respondents agreed that changes to the government's environment policy were overdue.
- Just 8.6 per cent of cases required further follow-up.
- We have seen a 56 per cent improvement in average call answer times since this time last month.

Raw data

- Of the 1,072 people surveyed, a total of 987 thought the government's environment policy needed to be changed urgently.
- Follow-up was required in just 8,752 out of a total 101,599 cases.
- Last month the average call answer time was 15.2 minutes while this month it was 8.6 minutes.

Example: develop conclusions

Ralph was working hard on a report and recommendations on family-friendly work policies for the board in time for their next meeting. Based on the information he had gathered and analysed, and the feedback he had received from his peers and manager, he felt that the recommendations he was going to make would support the project's initial goals and reasons for doing the research, as well as address concerns and issues the board may envisage.

He had based all of his recommendations on results indicated by the data. To demonstrate this, he linked each recommendation to data and employee opinion so it was clear that recommendations and policies were made as a direct result of information obtained during the study.

For example, the review of existing research, staff survey results and interviews all suggested that having time available to care for sick children or aged parents, in addition to four weeks paid annual leave per year would be highly valued by employees.

One of Ralph's recommendations was to implement a flexible leave system where everyone was entitled to two weeks unpaid leave per annum, on their manager's approval. This recommendation was linked to the findings of his research, which resulted positively on staff satisfaction levels.

Practice task 11

Read the case study and then answer the questions that follow.

Case study

The results of a community research project found that 70 per cent of males over the age of 70, who were living in small units and flats, had a higher incidence of social isolation. The majority of men stated that they missed working in their sheds now that they lived in a smaller residence. Partners of the men who were also part of the study, said their male partner would sit for long periods of the day whereas they had once worked in their sheds in the backyard and often had friends come over to socialise in the shed as well.

1. What is the main issue highlighted by the project?

2. Write a recommendation for the project.

Structure and format of the information

How you present your information and recommendations will be influenced by how you structure and format your report. Some things to consider when developing the structure and format of your report follow.

The structure and format of a report can be influenced by:

- the type of information
- the level of complexity of the information and recommendations
- the way it needs to be shared among stakeholders
- preferences of the manager, person or group who commissioned the research
- standards of the organisation
- experience of the person undertaking the research
- other factors external to the organisation such as government tender presentation requirements.

Prepare the report

When deciding how to present your information, consider the following points.

Document type	Report, memo, email message, poster, appendix.
Formatting	Headings, fonts, links and templates.
Content	Summaries, comments, copies of actual text.
Language	Different language for different audiences.
Tone	Formal or informal.
Checking	Proofreading, producing drafts, asking for feedback.
Printing	Type and size of paper, number of copies required.
Distribution	Forwarding copies by hand, email, post or in meetings.
Filing	Filing paper or electronic copies or both.

Report development

Recommendations can be presented in a number of forms, the main two being written reports and oral presentations. This process of report development can be made easier if you ask yourself some questions at the start.

4

Primary research report

Refers to the research and data collection someone does themselves (as the primary researcher). The report presents data, draws conclusions and explains how you came to your conclusions (your methodology).

5

Technical specifications

Are used to describe new products. The types of information in such a report could include product construction, materials, functions, features, operation, price, costs, performance and market potential. This type of report usually contains less writing and more tables, graphs and figures than other reports.

6

Proposal

A proposal suggests that certain activities should take place; for example, you may write a proposal to a government body requesting funds to undertake particular research. Proposals can contain parts of other report types; for example, feasibility, and technical background.

7

Business prospectus or plan

Used as part of regular planning activities. People write them to help them think through issues before they start their business or for a plan to attract investors. Business plans usually describe the business, target market, competition, projected income, day-to-day operation and expected output.

8

Organisational policies and procedures

Policies and procedures describe the guidelines, rules and regulations of the organisation and the expected behaviour of staff. Policies and procedures are similar to instructions.

9

Correspondence in letter format

In a detailed letter or letter report, information is presented in the same format as a standard business letter with the addition of a subject line that sets out the focus of the letter information.

Draft your written report

Decide on the format for presenting your information that will suit your purpose and audience. It is advisable to use headings if a number of points or areas of information will be presented in the report or correspondence. Some short reports may be prepared in point form to maximise impact.

Here are some points to keep in mind when writing the main text of a workplace report.

Things to remember when writing your report
• Be consistent in format and writing style • Recognise time limitations • State the main purpose clearly • Emphasise the most important information • Write in plain English • Ensure the conclusions or recommendations are based on the information you have provided • Use the style and format required by the organisation where appropriate.

Report format

If your findings are to be presented as a written report, you will need to choose a presentation format that will convey your findings effectively and is appropriate for your audience, the type of information you are sharing and the resources you have available to you. You need to be aware of the particular requirements of your organisation and the standards expected.

A standard report has the following five key sections:

- Title page.
- Introduction that defines the purpose.
- Main body that sets out and discusses key findings.
- Conclusion that summarises main points.
- Recommendations, if appropriate.

Memos and emails

If your information is brief, your report could be written as a memorandum or email. Most memo or email reports are short, usually one to three pages in length. Information should be presented as concisely as possible.

Here is an example of what needs to be included in a memo or email report.

Elements to be included in memo and email reports
• The name of the receiver • The name of the sender • The date • The subject • The main body of the report • The conclusions and recommendations

Here are some handy hints for making successful oral presentations.

Hints for making successful oral presentations

1. **Structure of presentation**
   Kept it brief (no more than one hour without a break).
2. **Resources**
   Can be enhanced by using visual aids; for example, slides, whiteboard, handouts.
3. **Right pitch**
   Retain the audience's interest.
4. **Practised**
   Be well prepared and rehearsed.
5. **Time for clarification**
   Allow time for group discussion.
6. **Relevancy**
   Be relevant and keep to the point.

Verbal presentations

Know your audience and structure the presentation in a logical, clearly defined manner. Make effective use of eye contact. Use anecdotes and humour only when appropriate.

Most speakers also make use of written material and graphics to accompany and highlight aspects of their information. This might include tables and graphs, handouts, summary booklets, quizzes, cartoons and relevant quotes.

Practise your presentation to ensure your timing is accurate. Pay attention to the tone and inflection of your voice, so listeners concentrate on what you are saying and not how you are saying it.

Audience

The audience to whom you will be targeting your report will greatly influence the way research findings are distributed. As well as personal preference, other factors, including the number of people who make up the audience, their interest or stake in the project and their role in the organisation, will all influence the selected mode of communicating research findings.

You may find that different groups require different types of reports or presentations – sometimes to communicate the same results and recommendations. For example, board members might expect a formally presented written and oral presentation delivered at their next meeting, yet managers might just need a brief oral overview of the project and its findings. Different audiences may require different approaches, language and levels of formality to make the information relevant and of interest to them.

Time lines

Time lines can have a considerable effect on the way research findings are distributed, and should influence the decisions you make on how to best present the findings. When distributing research findings, it can be helpful to ask the following questions.

Questions to ask regarding distribution time lines
• How urgently does the audience need the information delivered to them? • Are you working to a deadline? • How critical is the fast delivery of information? • How much time will you be allowed to make your presentation? • How much time will your audience have to listen to your presentation and read about your research findings?

Resources available

Sometimes, research projects are given a budget with which to work, which may include a component for the distribution of findings. This may cover the cost of having printed and bound reports prepared, travelling to deliver oral presentations or using technology such as videoconferencing.

It is important to find out early in the process the expectations and needs in terms of distribution of the findings, as well as whether any budget has been allocated to cover the costs of creating and delivering impressive reports and presentations.

Online

Sharing information online; for example, on a website or intranet site, is a great way to make information available to a large number of people but remember once information is available online, you have almost no control over who can access it. Confidential reports and other information should be kept password-protected if possible or distributed via other means.

Fax

Sending a report or other information by fax is a good solution if you need to send time-critical information to people that is available only in hardcopy and cannot be scanned, or if recipients do not have access to email.

Post

If the report you need to send does not have to be urgently delivered, if it is too large to send by email or contains information that cannot be easily sent or read electronically, then surface mail might be appropriate. Some people prefer hardcopy to reading on screens.

Courier

Delivering information by courier offers the same benefits as the postal system; however, it is faster and therefore suitable for time-critical items.

Internal mail

Large organisations may have an internal mail service that enables you to deliver documents at no cost and often very quickly. Many organisations with offices in different cities have a regular overnight courier service.

Print

Sharing information in print; for example, in a newsletter or journal article, means that a wide number of people have access to the data or findings. Many organisations have newsletters that employees and others can access. Brief information that is of general interest is best suited to being distributed in this way.

Customer satisfaction questionnaires

Asking others what they think of the research findings in a structured way can produce constructive feedback on your research, and ensures the feedback you get is rounded, broad and useful in that it provides feedback in the areas you want or need it.

Here is an example of benefits and disadvantages of customer satisfaction questionnaires.

Benefits	Disadvantages
• Feedback will focus on areas that you have targeted. • Feedback will be rounded if a wide range of people are consulted and if questions are broad. • Feedback can be used in the future to assist yourself and others to conduct more effective research projects.	• Will take time, effort and possibly money. • Will require further analysis once feedback is gathered.

Audit documentation or reports

An audit is an examination of records to check their accuracy and is not limited to financial information. An audit can be conducted on any topic, including research papers, reports and other documentation that is produced because of a research project.

Audits involve detailed checking of information to make sure the results that are published or reported reflect what actually happened, so an auditor will want to see detailed, primary and secondary source information, and the research findings to make sure that they match up.

Here are some examples of benefits and disadvantages of using audit reports as a source of feedback.

Benefits

- An audit is likely to be detailed and in-depth.
- A successful audit will add credibility to your project and report.

Disadvantages

- The person auditing the results of the project may need to know a lot about the process and the topic researched if they are to verify the accuracy of the results.
- Copies of all source documentation need to be kept on hand if the audit is to take place. This may include survey results, transcripts of interviews, notes and journal articles.

Here are some examples of benefits and disadvantages of this type of feedback.

Benefits

- The feedback can reveal all sorts of issues, so care needs to be taken to find and address the real cause of the problem.
- Improvements can be identified if the feedback is recorded and tracked over time.

Disadvantages

- Customer feedback can take time to analyse and evaluate.
- Sufficient data needs to be collected in order for trends to be analysed and tracked over time.

Financial information and indicators

In many organisations, success is measured in financial terms. Therefore, if your report and its recommendations suggest changes be made to a process or other aspect of the organisation, it is possible the effects of this change could also be measured in financial terms.

For instance, a report may suggest that changes be made in the way that goods are packaged, and could advise that using a different provider of packaging materials should result in savings in the cost of purchasing packaging materials. If this recommendation is put in place and the effects of it measured, then the financial data that tracks costs should reflect a corresponding reduction in costs.

Here is an example of a benefit and disadvantage of using financial indicators as a source of feedback or information.

Benefit

If the data is linked to issues identified in the research findings then direct correlation between issues, recommendations and results may be seen.

Disadvantage

Financial indicators may not be available or relevant enough to be directly linked to aspects of your report.