

FIT1049 2018 ePub

IT Professional Practice

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Chapter 1 Introduction to IT Professional Practice

Overview

In this chapter we will outline the professional skills and issues to be covered in this unit. We also discuss a number of important aspects relating to how you, as an employee, will work in the IT industry. This includes:

- What professional skills and issues will be covered in this unit
- A discussion of IT as a profession, and what it means for you to be an IT professional
- The IT roles you might expect to take on
- The different environments in which you are likely to work
- An overview of communication and communication models, including the job application process

Learning outcomes

At the end of this chapter you should:

- Be able to identify the skills and issues you may face as an IT employee
 - Have a better understanding of what IT is as a profession and what that means for you
 - Be aware of the different roles and environments in which you may work
-

1.1

IT Professional Practice Overview

Welcome to the Information Technology Professional Practice (ITPP) ePublication. This book covers various professional skills and will help you build awareness of contemporary issues for IT professionals.

Information Technology Professional Practice focuses on generalist skills that are critical to becoming a high quality professional. These are of significant importance to graduates, employees and employers. The benefits of this focus is aptly described by this comment from a professional practice student:

Developing Professional Skills

As a student you will develop and hone your professional skills, including awareness of the expectations which accompany working in professional environments. The information technology professional needs to be able to prepare for and adapt to the changing future. A strategic approach and fundamental skills prepare the professional of tomorrow. There are a number of aspects that are the focus of this chapter, particularly various forms of communication and professional issues. This includes understanding the conventions associated with various modes of communications, such as:

- Cover letters and Curriculum Vitae when seeking employment
- Report writing
- Meeting minutes
- Use of e-mail and other contemporary modes such as social media
- Developing skills and understanding to work effectively as part of a team, including how to effectively contribute in meetings

Through this chapter you will develop an understanding of what it means to work as an IT professional, including the range and nature of contemporary IT roles, both technical and business-focused.

Professional Skills and Issues

This publication covers a variety of professional skills and professional issues. Many of the topics are interrelated. Concepts introduced in one chapter can be directly related to or impacted by another topic.

Chapter 1 of the publication covers an introduction to the IT profession and communications.

Chapter 2 of the publication discusses various aspects of communication between individuals.

Chapter 3 presents foundational information about the research process, including critical skills such as referencing.

Chapter 4 considers oral communication in various forms and the fundamental elements of high quality presentations.

Chapter 5 looks at two structured communications forms (meetings and interviews), and considers how to make these successful.

Chapter 6 reflects on teamwork including team stages and structures.

Chapter 7 introduces the concept of ethics, how people make decisions, and how this can influence professional ethics.

Chapter 8 describes various forms of intellectual property and legal issues that are relevant to information technology professionals.

Chapter 9 examines traditional forms of written communication and the standards that are required by professionals.

Chapter 10 surveys the rapidly changing field of online modes of communication and encourages a strategic process for evaluating each method.

Chapter 11 reviews a current issues for information technology professionals such as security, whistleblowing and privacy. These are used as examples of issues that information technology professionals may face.

Chapter 12 extends the review of current issues to include discrimination, bullying, harassment and the emerging area of sustainability.

5 minute chapter versions

There are 5 minute versions of the weekly readings available on the FIT1049 Moodle site. Please refer to these 5 minute versions for a quick overview of the weekly topics.

1.2

Introduction to IT Professional Practice

This section discusses the roles and environments in which you as an information technology (IT) professional may work, whether IT can be properly termed a 'profession', and the attributes that employers are seeking in IT graduates.

Historical development of Information and Communications Technology

Humans have used various methods to communicate, process and store/retrieve information for thousands of years. Computing devices progressed from pre-mechanical (devices such as the abacus) to the mechanical computers of the late 19th and early 20th century, and then to the electronic computing devices of today.

We are currently living in what is commonly termed the 'information age'. This has been driven by the development of:

- Low-cost computing
- High speed communications networks
- Advances in information storage and retrieval

There are numerous positive benefits which result from information and communications technology (particularly increases in efficiency). However, there are also concerns that these efficiencies also have the side effect of reducing the number of jobs available in society, for example by automating manual labour. It is not clear whether this is adequately offset by the increased number of roles in IT.

Information Technology as a 'Profession'

At its most basic, a profession may be defined as a paid occupation which has involved a qualification and/or lengthy training.

However, many professions also have other attributes. Fullinwilder (1996, p73) suggests that professions have three defining characteristics:

- Performance of their profession for public good
- Specialised knowledge and training
- Others who are dependent/vulnerable

Another useful description is given by Larson (1978), who states that professions are characterised by various attributes:

- Professional association
- Institutionalised training and licensing
- Autonomy and colleague control
- Professional standards and ethical codes

Is Information Technology a Profession?

Definitions of 'profession' are often associated with roles traditionally thought of as professions, such as doctors, lawyers and engineers. In the 1950s, IT roles were quite limited, with most IT workers having trained as scientists, engineers or mathematicians. By contrast, it is only recently that IT has been able to refer to itself as a distinct profession, with IT-specific training and certification.

It is not clear that IT fulfils all of the criteria set out by Larson (1978) to qualify as a profession. Certainly, the professional codes of conduct in IT are less binding than those in medicine and law, where failure to adhere to professional standards can see practitioners certifications revoked. This will be discussed in detail when we cover ethics and professional codes of conduct.

Nonetheless, a suitable working definition of 'IT' as a profession is available.

Definition: "includes the creation, design, and testing of IT devices or network systems, as well as the application, configuration and support of IT devices and network systems" (National Research Council 2001, cited in Wardell et al. 2006: 39-40).

The Australian Computer Society (ACS) (2012 p. 9) defines the ICT profession and the roles as:

CBOK categories	SFIA Category	Description
Technology Building	Solution Development and Implementation	Specialised programming and engineering roles involved in building systems from the ground up. This stream accounted for a majority of ICT jobs in the 1980s and 1990s.
Technology Resources	Service Management – Strategy, Design	Organisational roles that provide and support the networked infrastructure underpinning technology building and implementation.
Service Management	Service Management – Transition, Operation	Roles concerned with the ongoing operation of ICT in an organisational context and the structuring of the interactions of ICT technical personnel with business customers and users.
Outcomes management	Business Change	Business technology roles that are critical in managing and implementing change across organisations. ICT roles integrated into business units attempting to leverage competitive advantage from packaged software implementations.
	Procurement and Management Support	Includes supply management, quality management, quality assurance and conformance.
	Strategy and Architecture	Strategic roles implementing organisational strategy by aligning business and ICT strategic planning.

Note: CBOK (Core Body of Knowledge) and SFIA (Skills Framework for the Information Age)

IT Professional Attributes

To understand what is expected from IT professionals, it is worthwhile examining what attributes employers are seeking in the IT graduates they recruit.

One study (Fernandez and Tedford, 2006) polled 68 employers on the specific skills that they would like to see in future employees. The employers ranked the importance of the different skills on a scale of 1-5, 5 being most important.

- The average rating for all **technical skills** was **3**
- The average ranking for **general skills** was **5**

Below is a prioritised list of attributes desired in new graduates compiled by Monash from discussions with employer representatives:

- Capacity to learn new skills
- Effective use of Information and Communication Technologies
- Capacity for enquiry and research
- Capacity to analyse and solve problems
- Capacity for co-operation and teamwork
- Ability to operate in an international and multicultural context
- Numeracy
- Interpersonal skills with colleagues and clients
- Oral communication skills
- Written communication skills

As we can see, the majority of skills listed are general, rather than technical, skills. Combined with the results from the survey above, there is a strong indication from employers that general skills are more highly valued than technical skills. This is a useful reflection as we attempt to hone and develop many of those general skills in this unit. These attributes are also integral for both understanding and undertaking employment-seeking communications, an extremely valuable skill for IT professionals, especially new graduates.

This is not to say that technical skills are not important. Indeed, technical proficiency is required to perform many IT professional roles. Rather, that it is worthwhile developing so called 'soft-skills' considering their high value to employers and their usefulness in becoming more effective professionals.

IT professional roles

As information and communication technology has progressed since the mid-to-late 20th century, more specialised skills have been required to operate computing devices and facilitate their processing of information. Traditionally IT workers came from a science, engineering or mathematics background. The legacy of these highly proficient technical backgrounds continues to be reflected in many of the roles available today.

The range of roles available in relation to IT has expanded considerably in recent decades. IT professionals work in a broad range of roles, from the more technical to the more business-focused.

Here are just a few of the roles IT professionals might take on:

- Database Administrator

- Usability Consultant
- User Experience Expert
- Business Analyst
- Web Designer
- Software Engineer Project
- Manager Programmer
- Systems Analyst
- Management Consultant
- Games Developer

The range of roles for IT professionals is continuously evolving. We suggest that you read broadly about the types of roles available in IT, to assist in seeking a role that you will find rewarding.

IT Professional Environments

Business today has employees working in a range of different environments. This is no different for IT professionals where there are many physical settings in which you may work. These include:

- **Individual offices** - where staff have their own personal office, making it easy to concentrate and remove interruptions (this is becoming less common as office space is at a premium).
- **Open plan offices** - where staff have individual cubicles, and commonly need to use other rooms for private meetings
- **Hot-desking** - where staff do not have pre-allocated spaces because they may work off site and come into the office for short periods of time.
- **Telecommuting** - where staff are able to work from home or other locations, commonly via a VPN or other network.

Professionals may be expected to work across the country or in other countries, or with virtual teams and individuals in other time zones. The ramifications of working in these settings can be reflected on in relation to other parts of IT, including interpersonal communication skills, mindfulness, teamwork, meetings and IT profession issues.

1.3

Communications - Basic Theory

In this section we touch briefly on how communication is structured and why this will help you communicate more effectively. Note: in the chapter on communication we will discuss intra- and inter-personal communication in more detail. This section also discusses communication in the context of job seeking and developing your CV.

Basic Communications Concepts

Communications may be considered in terms of four components:

Communication structure

Who is speaking?	To whom it is said?
	
How it is said (format, structure, tone)?	What is said (context purpose of the communication)?

Often, we tend to focus on what is said - the content of the communication. By expanding our focus to consider the other aspects more actively, we can become more effective communicators.

Formal Communications Models

Numerous commentators have devised different communication models. In this unit, we will not be relying on any particular model. Rather, by examining communication models, we hope to gain a better understanding of how to be effective communicators. We now examine different models with this in mind.

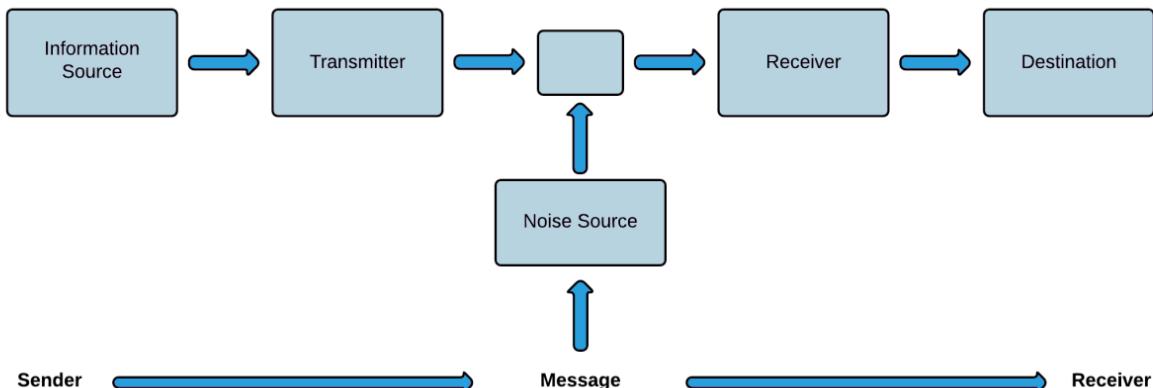
Lasswell's Communication Model

Harold Lasswell (1948) developed an influential communication model. Lasswell suggested that to understand or craft a communication, we should answer the following questions:

Who	What	Channel	Whom	Effect
Who?	Says what?	In what channel?	To whom?	With what effect?

The Shannon-Weaver Model

Claude Shannon and Warren Weaver (1963) published a mathematical communications model which is similar to Lasswell's model. The Shannon-Weaver model introduces the concept of 'noise'. It suggests that communication includes who is communicating, what their message is, how it is sent (e.g. email), and the noise or interference between what is sent and then what is received.



In the Shannon-Weaver model, the 'noise' which may disrupt the communication occurs in the channel (so it may be viewed as technical). However, we can also consider 'noise' as growing out of semantic issues or other communications issues.

Priestly's Paradox

Author John Boyton Priestly suggested that the more we elaborate our method of communication, the less we actually communicate. In an era where the vast majority of our communications are 'elaborated' by technological layers, are we communicating less effectively? Alternatively, is the trend toward short communications, such as SMS and instant messaging a reduction in the 'elaboration' of our communications, meaning we communicate more effectively?

It should also be noted that body language and facial expressions are also part of communication. Look at

the following photos and consider what you think has prompted these expressions.



Tips for ensuring effective communication for IT professionals

- Have and show empathy, and understand the perspective of the listener.
- Consider the receiver of your communication, IT is full of technical jargon, so not everyone will understand the IT terms and acronyms used.
- Avoid sounding superior. It is easy to sound superior if you are talking about something technical to someone who is not technical (don't 'show off').
- Face to face or direct communication can often resolve confusion or misunderstandings, particularly in the case of texts, chat or emails.
- End conversations by agreeing on the next steps. Agree on who will do what and when this will be done by.

Understanding these various communications models and concepts can assist us as we attempt to become more effective communicators.

1.4

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2

Chapter 2: Types of Communication

Overview

Chapter 2 focuses on communication. In this chapter we will cover:

- The difference between intra-personal communication and interpersonal communications
- What comprises intra-personal communication, including emotional intelligence and competency
- Interpersonal communications, which includes the key skills of assertiveness, listening, questioning and cross-cultural communication

Learning outcomes

Through this unit you will learn:

- Why having an understanding of communication skills and different communication forms is important.
 - How to more effectively employ the different communication styles.
 - How to improve your listening skills, and why this is so important in the workplace.
 - When and how to use different questioning methods.
 - What skills are needed to provide effective feedback.
-

2.1

Types of Communication

This section covers a wide range of different types of communication and what they mean in the workplace. More details of each will be found in subsequent sections.

What is Communication?

There are numerous ways of understanding communication. Here are some useful definitions of communication.

Definitions: "The process by which people exchange information or express their thoughts and feelings."

"The way people express themselves so that other people can understand."

Source: [Longman Online English Dictionary Definition](http://www.ldoceonline.com/dictionary/communication) (<http://www.ldoceonline.com/dictionary/communication>)

Communication in organisations

As professionals, we will commonly operate within organisations. This will involve expressing ourselves and understanding others, including within our own teams internally, across the organisation internally and externally to clients or vendors or perhaps in a media or public relations capacity.

Types of Communications

There are various types of communication we may utilise as professionals. Broadly these are:

- written
- verbal, which includes both speaking and listening
- nonverbal, where someone might take meaning from your facial expressions or body language

What we are covering in this section are the following types of communication:



This list of communication types is broadly ordered in scope from narrowest (within ourselves) to broadest (communicating outward to the entire world, i.e. through the media). In the next section we look at intra-personal and interpersonal communication.

Team based communication (covered in Chapter 6) is how we communicate to those in a team we are working with, ensuring we can effectively collaborate and co-operate. Organisational communication (covered in Chapter 9) in our context relates to how we communicate with those in the workplace on work related matters. Public/media relations is covered in Chapter 4 where we discuss oral communication.

Each of these types of communication may also contain an element of intercultural communications.

We can be more effective communicators by paying attention to the type of communications we are engaged in, and understanding and applying relevant skills for those types of communications. In contrast, when these skills are not applied effectively, miscommunication may result.

2.2

Intra-personal Communications

Intra-personal communication is important because it deals with how we think, which of course influences how we then communicate. Emotional intelligence and competency are a component of this.

Intra-personal communication relates to the internal expressions and understandings that occur within ourselves and others.

Definition: "processes that help, but sometimes also distort or block, communication messages within an individual" (Eunson, 2012, p. 284).

Emotional Intelligence and Competency

Salovey and Mayer (1990) proposed the concept of emotional intelligence. This concept is based on an individual's capability to recognise and utilise emotion to interact and communicate more effectively.

Definition: "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." (Salovey and Mayer, 1990).

There is now significant research into whether emotional intelligence may be measured, and whether it is innate, or may be improved. By paying attention to the different aspects of emotional competency, we may improve our ability to understand ourselves and communicate effectively with others.

Emotional competency has been described as:

Definition: "personal and social skills that lead to superior performance in the world of work" (Gowing, 2001, p.85).

By using our emotional intelligence and competency to better understand our internal mental state, and by integrating our understanding of our audience's mental state in our interactions, we can be more effective communicators.

Emotional competence divided into aspects of personal and social competence

Personal competence: how we manage ourselves:

- Self-awareness: knowing one's internal states, impulses and resources
- Self-regulation: managing one's internal states, impulses and resources
- Motivation: emotional tendencies that guide or facilitate achievement of goals

Social competence: how we manage relationship with others:

- Empathy: awareness of others' feelings, needs and concerns
- Social skills: adeptness at inducing desirable responses in others

(Eunson, 2012, Fig. 9.1)

2.3

Interpersonal Communications

Interpersonal communication focuses on the essential skills needed for effective communication. These are covered in detail in the following sections.

Interpersonal communication can be described as the process of sending and receiving information between two or more individuals.

Definition: "processes that help, but sometimes distort or block, the communication of messages between individuals" (Eunson, 2012, p. 284)

In FIT1049, we will be focusing on four essential communications skills:

- Assertiveness
- Listening
- Questioning
- Feedback

2.3.1 Assertiveness Skills

Assertiveness can be described as obtaining our desired outcomes from others without contravening their rights (Eunson, 2012). Communicating with appropriate assertiveness enables us to be effective in:

- Giving and receiving compliments
- Making requests. E.g. for favours or assistance, initiating and maintaining conversations, etc.
- Standing up for your legitimate rights
- Refusing requests
- Expressing personal opinions, including disagreement
- Expressing justified annoyance, displeasure and anger

Assertiveness techniques

Eunson (2012, p297-300), provides a number of specific techniques we can practice to be more assertive and communicate more effectively.

Say "No"

There are many reasons it may be difficult to say no to someone. For example, there may be a power imbalance where the other person is more senior, or you may find it difficult to tell a colleague 'no' if they have put a lot of effort into something. Explaining to someone that you cannot satisfy or fulfil their request can be delicate. It is important to try and avoid being condescending. Rather, speak with a clear, firm voice, politely and without strain. Also, follow up your negative response with an explanation, so that your audience understands why you are responding that way. Often it is useful to offer an alternative.

A good mantra to follow is 'Come with a solution, not a problem.'

Dismiss/Redirect Conversation

Another technique we can use is the technique of dismiss and redirect, in order to get a conversation back on track. If someone is focussing on something we think is unimportant, we can explain that (the dismissal), and then suggest what we should be focussing on (the redirection) (Eunson, 2012).

Example: Lin has been asked to prepare a report on the user requirements for an update to the document management system. The conversation might go like this:

Lin: Could you tell me about any new functionality you would like to see in the document management system?

User: There are so many issues, I don't know where to start. We have problems with printing, it is difficult to find documents and management always wants things yesterday.

Lin: I acknowledge your broader concerns, but at this time we need to focus just on this aspect of the system [Dismiss]. These broader issues could be raised with management for consideration in the future [Redirect].

Questioning to Prompt Awareness

Also, by asking certain questions, we can bring a matter to someone's attention. This is a way of challenging their thinking, so we ought to consider how they will feel about being challenged before using this technique.

"Have you noticed that whenever you talk to your subordinates, they are fearful of you? **[Questioning to prompt awareness]** If you observe their body language next time, you will find that they behave like small children being scolded by their parents" (Eunson, 2012)

Fogging

'Fogging' is a technique whereby we calmly acknowledge criticism. Sometimes this criticism will be justified, other times not. Either way, by acknowledging the criticism rather than becoming defensive, we take the force out of the criticism. This means that "when others then lash out, instead of connecting with something solid, they find it is like punching fog" (Eunson, 2012, p.298)

Example: Lin faces a user who is very angry because his printer keeps failing. The conversation might go like this:

User: *Why can't you tech people ever fix things properly? This problem has happened so many times. I keep calling, someone comes and does something, then the next day the printer fails again.*

Lin: *I am sorry this keeps happening. It would be very frustrating ,and I apologise that we have not been able to fix it for you. **[Fogging]***

Forcing a Choice

Sometimes, we may have been asked to complete a task when we have already been assigned other tasks. It may be necessary to clarify what objective should be prioritised.

Example

Lin is currently undertaking a major review of the document management system and is talking to the users about what they want. Each conversation takes time, and at the conclusion she must write a report for management with recommendations. Her boss Kamil then asks her to do an audit of equipment in her area and establish what needs to be replaced. How should she respond? Below is an example of what she might be able to say.

Kamil: *We have an issue with outdated equipment in your area. We need to do a major audit to establish what should be written off and replaced. I would like you to do this and I need it completed by the end of month.*

Lin: *I understand there are numerous issues with the equipment in our area and some of it is no longer working. There are issues with the database of equipment so it will take time to identify everything. I am currently working on the report on the document management system which is taking all my time. Please tell me which task is the most important and I will focus on that one **[Forcing a choice]***

Broken Record

Sometimes, our audience may not receive our message clearly the first time. When this happens we can use the 'broken record' technique. This involves clearly and calmly repeating (over and over again, if necessary) our message, without getting frustrated or distracted (Eunsons, 2012, p.299).

Ask For Specifics

Sometimes, we may face harsh criticism which isn't really very helpful. Instead of becoming frustrated or angry, it is more worthwhile to see if we can discern any useful, constructive feedback, by asking for specific explanations. The other person will either be able to provide that feedback (which can be constructive) or their lack of specific explanations will defuse their criticism.

Example

Lin has just returned from a difficult request from one of the staff, Jim. The staff member was angry because a request to fix his computer had been logged two days earlier but no one had come to see what the problem was. The staff member complained to Lin's boss.

Kamil: *What on earth did you think you were doing, this was unacceptable.*

Lin: *Can you tell me specifically what was unacceptable? [Ask for specifics]*

Workable compromise

When others become frustrated, try to find a way to compromise so that they may be satisfied. This process of compromise is also integral to effective teamwork.

Example: Lin having asked her boss what was unacceptable, the conversation continued.

Kamil: *The delay in getting back to Jim was unacceptable, he should have been a top priority.*

Lin: *Yes, I agree. I did try and contact him earlier but he was not at his desk, and I should have tried again yesterday. I will make sure he is a priority in the future. [Workable compromise]*

Threat

Sometimes, we may feel that it is appropriate to make others aware of the consequences of their actions. However while threats can be useful, this assertiveness technique should be used carefully, as the other party is likely to resent being threatened. It is best to use threats as a last resort and ensure that you are able to carry out any threats you make. Preferably, when using the 'threat' technique, also offer a 'carrot' to go with the 'stick'. This gives the other person positive options (Eunson, 2012, p.300).

2.3.2 Listening Skills

Listening is one of the most important communication skills for any professional, as it can allow:

- Understanding the full detail of a situation
- Opportunity to learn and develop
- Let others work through and resolve their own issues
- Makes others more likely to listen to us

Listening and Power Dynamics

Listening abilities in communication can vary with power and gender dynamics. For example, high-status individuals are more likely to interrupt low-status people, than vice-versa. Also, previous research (Atwater, 1991) demonstrated that men were more likely to interrupt women, than vice-versa. These tendencies are worth keeping in mind as we audit our listening skills.

Non-verbal Communication as a Listening Technique

Non-verbal cues such as facial expressions and body language are important aspects of both interpreting others' communications. This involves:

- Listening to their words
- Observing their non-verbal behaviour
- Evaluating whether the content of their communication (the words) match the behaviour

Listening Responsiveness

Non-verbal cues can also make our own communications more effective - while listening. We do this by giving the person we are listening to non-verbal feedback, to demonstrate our attentiveness. Following are some good examples of effective 'listening responsiveness' techniques are (Eunson, 2012, p.315):

- Nodding our heads
- An attentive, upright, slightly forward-leaning posture
- Orienting our body towards the speaker
- Using our facial features, including: Raising our eyebrows Smiling (or frowning)
- Making direct eye contact
- Mirroring the facial expression of the speaker
- Making appropriate "friendly grunts" ("uh-huh", "mmm-hmm")

Effective Listening Barriers

In order to listen effectively, we have to engage ourselves with listening to the speaker - even when they may be boring. We can also use clarification questions, as discussed in questioning skills. Eunson (2012, pp.318-319) suggests a number of barriers to effective listening, including:

- Changing the subject
- Not paying attention by daydreaming or becoming distracted

- Focusing on the facts being communicated without paying attention to the thoughts or feelings of the speaker
- Attempting to 'mind read' by over-thinking/interpreting the speaker's words
- Letting our judgement interfere with receiving the message, for example by stereotyping or fixating on issues on which we have strong opinions
- Rehearsing our response when we should be listening

Active Listening Techniques

Active listening is a communication skill using minimal verbal responses to spur the speaker to articulate and clarify their meaning (Eunson, 2012). In many respects this is a two stage process, of listening to the speaker and then seeking feedback from the speaker to ensure that we have understood properly. This process involves (Eunson, 2012, p.319):

- Clarifying the speaker's meaning
 - Checking the accuracy of what the speaker has said
 - Summarising back to the speaker what they have said
 - Acknowledge what the speaker has said, without making any kind of commitment
 - 'Open a door', prompting the speaker to continue
-

2.3.3 Questioning Skills

Being able to seek useful responses with effective questioning techniques is a valuable professional skill. As speakers (or as listeners), we need to know the different types of questions we can ask and match them to the situation and the people we are communicating with.

Eunson (2012) suggests a number of different questioning types, including:

- **Direct probe** - a direct, perhaps blunt question, without the subtlety often involved in seeking information
- **Open** - a question with a broad scope of response - rather than just 'yes' or 'no'. These tend to start with: who; what; when; where; how? These questions allow responders to tell their story
- **Closed** - questions seeking a limited response, most often 'yes' or 'no', to confirm specific information
- **Objective criteria** - questions which focus on the objective facts, to defuse any contentious situations
- **Testing** - when we already know the answer, but are testing the responders knowledge or skills.
Softening up - these questions allow us to 'soften up' our audience by building rapport or flattering. Often we will already know the answer to these questions
- **Hypothetical** - 'what if' questions allow exploring options without binding the parties involved
Reflective - a reflective question reflects the other person's feelings back to them, giving them feedback that these feelings are acknowledged
- **Leading** - more than a closed question, a leading question suggests the response - in this regard it is extremely limited as it only seeks the response we wish to hear.

Questioning types: Examples

- **Direct probe**
 - **Open**
 - **Closed**
 - **Objective criteria**
 - **Testing**
 - **Softening up**
 - **Hypothetical**
 - **Reflective**
 - **Leading**
- “What still needs to be done to fix the network?”
 - “How much more time do you think is needed to fix the network?”
 - “Will the network be fixed by 4pm?”
 - “Are there any major problems that we need to address because of the network issues?”
 - “Do you think there is a problem with the server?”
 - “I am sure you have the technical skills to fix the network but can you tell me more about the issues?”
 - “If the network is not fixed by tomorrow what will we need to do to keep the business running?”
 - “I can see you are stressed, is there someone else who can help?”
 - “You will be finished shortly won’t you?”

Using Open and Closed Questions in Information Seeking

It is worthwhile reading through all the different questioning techniques and examples provided by Eunson (2012, p.322-323). It is important to use the right question for the right circumstance. For example, as a leading question suggests the answer, it can be restrictive as we may not have an opportunity to hear the full response people want to give, and they can feel manipulated in some circumstances.

'Closed' and 'open' questions provide another good example. Questions may exist on a spectrum from open to closed, which is useful for example for information seeking, both for this unit (research and interviews) in seeking information from colleagues, clients and partners in our professional careers.

Open questions are useful when we meet someone for the first time or we are working through an issue for the first time, open questions can help us to break the ice and build rapport. Open questions are particularly useful because their open nature allows for broad and expansive responses, making them very effective. Open questions can help ensure we don't miss important aspects by becoming too closed too quickly - however they will not be as appropriate when seeking a specific, direct response.

Open questions are particularly useful in the early stages of information gathering, using phrasing which spurs a broad, discursive response: Who? What? When? Where? How?

Closed questions, at the other end of the spectrum, have a limited range of responses, often limited to 'yes' and 'no' - though they may allow a range of responses, it is a limited range. The key distinction from

open questions is that closed questions are less likely to spur a broad discussion. Closed questions can be useful for establishing facts, getting commitments or choices from people and sometimes they help us to achieve closure or precision. However, keep in mind that closed questions can be a little bit too blunt to help build rapport with others and that when seeking information, moving to closed questions too quickly may result in missing out on important information.

2.3.4 Feedback Skills

Effective feedback gives the recipient advice, support or constructive criticism. However, when feedback is used or viewed as a punishment, it is not likely to be productive (Eunson, 2012, p.323-324).

Accordingly, it is important that we manage our tone when delivering feedback and try to maintain a positive perspective when receiving feedback.

Effective feedback includes both positive and negative aspects. In order for feedback to be constructive, it ought to be (Eunson, 2012, p.324):

- Fair
- Accurate
- Specific
- Formally structured
- Solution oriented
- Focused on behaviour, not personality

In contrast, when feedback lacks these attributes, it is destructive and not likely to lead to improvement. Effective feedback is assertive and clear, without being aggressive or manipulative (Eunson, 2012, p.327).

The Ideal Ratio of Positive-to-Negative Feedback

In professional (and personal) life, both positive and negative feedback is integral to working productively with others and achieving required outcomes and improvements. Interestingly, research suggests that the ratio of positive-to-negative comments has a significant influence on productivity and effectiveness (Losada & Heaphy, 2004). According to the research, the highest performing teams experienced a ratio of positive-to-negative comments on average of 5.6:1, while poorly performing teams averaged a ratio of 0.36:1 (Losada & Heaphy, 2004).

This is worthwhile remembering and applying in our professional capacity - in order to fulfill this '5:1' ratio, making a habit of giving our colleagues positive feedback helps to build the positive side of the ratio, so that we are able to provide negative feedback when required without it having a negative effect on productivity and effectiveness.

2.4

Intercultural Communications

Intercultural communications refers to the process of sending and receiving unambiguous and clear communications between individuals from different cultures.

Definition: "Culture refers to the relatively specialized lifestyle of a group of people - consisting of their values, beliefs, artifacts, ways of behaving, and ways of communicating" (Devito, 2012, p. 36)

Culture is not Race or Religion

Definition: "Intercultural communication is defined as situated communication between individuals or groups of different linguistic and cultural origins." LANQUA

Culture should be considered broadly in this regard, it does not refer simply to an individual or group's race or religion. While people from the same race or religion may have been brought up with similar values and hold similar opinions, this is often not the case. Often, within particular cultural groups there may be a broad range of values and opinions - relying on stereotyping or even prejudice is likely to be unhelpful to achieving positive interactions and effective communications.

Techniques for Improving Cross-Cultural Communications

There are a number of techniques we can use to optimise our communication with individuals from a different culture, including:

- Preparing ourselves, by researching and trying to understand the culture of the individual(s) we are communicating with
- Reduce uncertainty by engaging in effective communication techniques:
 - Active Listening, perception checking, being specific, seeking feedback
- Recognise differences
 - Between yourself and those culturally different
 - Within a culturally distinct group
 - In meaning
- Adjust your communication based on differences in culture
- Recognise culture shock - when an individual finds the surrounding unsettling, and use empathy and patience to communicate effectively

2.5

References and additional resources

References

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- Salovey, P. & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, vol. 9, pp. 185-211.

Additional resources

- Arent, R (2016) *An Introduction to Intercultural Communication*
<https://www.press.umich.edu/pdf/9780472033577-ch1.pdf> (Accessed May 2016)

Youtube clips

This video provides some useful tips for being assertive and being able to say 'no' to people:
<http://www.youtube.com/watch?v=SZynhvBShqU>

Listening skills and non-verbal <http://www.youtube.com/watch?v=ihuGFUrzD30>

Conversation with examples of attending and active listening
<http://www.youtube.com/watch?v=pxQ2xk1s8bU>

5:1 ratio of positive to negative feedback <https://www.youtube.com/watch?v=9ArAbqy8Lfs>

3

Chapter 3 Research Skills

Overview

In this chapter we will be covering

- The four stages of research
- Where to find information and attribute it to the right source
- How to organise your research
- Presenting the results of your research
- Appropriate citation and referencing

Learning outcomes

From this chapter you will:

- understand what is and is not research
 - learn how to begin information searching
 - learn how to find and cite information you find
 - recognise where information can be found
 - learn how to present information effectively
 - understand the differences between quoting, paraphrasing and plagiarism
-

3.1

Research and finding information

What is Research?

In this section we discuss what research is and the different styles of research that exist. Finding information, particularly when you are studying, is an important skill. We will also cover where to start once you think you have found some relevant information.

Definition: Research can be defined as actively finding information new to the researcher(s).

Research may be conducted for a variety of purposes. In this unit, we will focus on research associated with preparing and presenting a report.

Four Main Stages of Research

Research can be viewed as a process with four main stages.

Collection	Seeking information and acquiring data for our research
Analysis	Filtering and transforming data into information. This involves looking at what we have, discarding what is not useful or valuable and turning anything valuable we have found into something useful for our research.
Synthesis	Processing information to understand connections. This is the stage where we look at all the information we have and work out how the different pieces connect with one another, and begin to look at the bigger picture formed by what we have found.
Insight	Achieving deep understanding of our research and how it connects with other knowledge, not only in our field but potentially in other fields as well.

Research styles

Research is more than just finding information, even if it entails finding information in a variety of ways. Research is a very particular form of information seeking which is usually premised on answering a

question or testing a hypothesis. In order to be successful, research may involve answering a series of sub-questions in addition to the main question. A key task at the beginning of any research is to try and establish what we want to answer.

Below is a list of three different approaches researchers may take when seeking answers to their research questions. When researchers report their research in published papers, their findings usually are based on one or more of these three approaches.

<p>1. Theoretical research where a researcher may propose a theory about a matter</p>	<p><i>Example:</i> In Vivek's search for information he finds a paper discussing the role of cognition. No data has been gathered the author discusses other studies and draws conclusions from them</p>
<p>2. Quantitative research where a researcher conducts research and collects data which is numerical in nature. This data may come from an experiment, a survey or testing a computer program.</p>	<p><i>Example:</i> Another paper Vivek finds is an experiment where users are asked to evaluate an interface in a lab. All the users perform the same tasks at the same time. The researchers (the paper's authors) collect the data at the end of the experiment and they use statistical software to analyse the data and draw conclusions.</p>
<p>3. Qualitative research where a researcher conducts research and collects data which is non numerical. Data such as interviews and observations.</p>	<p><i>Example:</i> Vivek finds a paper where users of a system are observed in their interactions. After they have completed the task set by the researchers they are interviewed. The data from the interview is then analysed and combined with the observations the researchers are able to draw conclusions.</p>

Finding Information

Apart from any primary research we may conduct ourselves, information can be found in a variety of places.

Library shelves

Catalogues

The internet

Metacrawlers

Serious Web Crawler
One click to search the web with all the engines

Electronic databases

Library shelves

Not all information is available electronically. For example, some books are available only in hard copy. Older journals and newspapers may also be hard copy. Many primary sources such as archived business records or parliamentary papers may also be unavailable in electronic form.

Catalogues

Catalogues store information about a library's holdings. A classification system is used so information can be easily found in the catalogue. You may be able to search the catalogue by author, year, journal or subject. Note that sometimes it is still useful to browse the shelves of books yourself.

Electronic Databases

An electronic database is a system of organising a collection of information stored in the library. It supports a wide range of searching techniques. All information retrieved will be electronic. The Monash University Library has extensive databases of books, articles and other resources, which can be searched by topic, author or publication date (among other criteria). These databases will prove particularly useful for you when working on assignments.

When conducting searches, search operators can help you maximise the number of useful sources and minimise the number of irrelevant sources in your search results. Using a '+' between two words or phrases instructs the database to search for both of them together. '+' acts as an AND operator, and will only return results containing both of your search terms. Using '-' acts as a NOT operator, and will exclude any results that include the term placed after the '-'.

Use of ‘+’ for searching two words not together

The screenshot shows a search bar with the query "all(interface + design)". Below the search bar are two checked checkboxes: "Full text" and "Peer reviewed". A red arrow points from the text "To search for the full document, and a reliable source you will need to check these boxes" to the "Full text" and "Peer reviewed" checkboxes.

Alternative use ‘and’ for searching

Advanced Search

The screenshot shows the "Advanced Search" interface with the query "interface" in the first field and "design" in the second field, separated by an "AND" operator. A red arrow points from the text "It is possible to combine ‘+’ and ‘and’ for searching" to the "AND" operator.

To search for the full document, and a reliable source you will need to check these boxes

It is possible to combine ‘+’ and ‘and’ for searching

The screenshot shows a search bar with the query "all(interface + design) AND all(users)". Below the search bar are two checked checkboxes: "Full text" and "Peer reviewed". A red arrow points from the text "It is possible to combine ‘+’ and ‘and’ for searching" to the search bar.

Use of ‘-’ to exclude a term or use ‘not’

Advanced Search

The screenshot shows the "Advanced Search" interface with the query "interface + design" in the first field and "NOT web" in the second field, separated by an "OR" operator. A red arrow points from the text "Important to specify where in the document the words/phrases need to be" to the "Abstract - AB*" dropdown menu.

Important to specify where in the document the words/phrases need to be

It is also important when searching a database from the Monash University library that you specify where the terms should appear. If you search for terms or keywords 'anywhere', they could appear just once in the whole document.

If you want to see the whole document and not just the summary (abstract) you need to select full text as per the example above.

Putting the phrase in double quotation marks, such as "interface design," will allow you to search for an exact string match for that text.

The screenshot shows a ProQuest search results page. At the top, there is a search bar containing the query "ab(interface design) NOT ab(web)". A blue arrow points from the text "ab(interface design)" to the search bar. Below the search bar, there are two checkboxes: "Full text" and "Peer reviewed". To the right of the search bar is a "Modify search" link. Underneath the search bar, there are several navigation links: "Related searches", "User interface", "User interface AND Design", "User interface AND Systems design", and "View all >". Below these links, it says "237 Results" and "0 eRARY e-books". On the left side, there is a sidebar with filtering options: "Relevance" (selected), "Narrow results", "Full text", "Peer reviewed", "Source type" (with "Scholarly Journals (216)" and "Trade Journals (21)" listed), and "Publication date" (with "1985 - 2015 (years)" listed). The main results area shows three items:

- 1** mPneumonia: Development of an Innovative mHealth Application for Diagnosing and Treating Childhood Illnesses in Low-Resource Settings: e0139625
Ginsburg, Amy Sarah; Delarosa, Jaclyn; Brunette, Waylon; Levari, Shahar; Sundt, Mitch; et al. *PLoS One* 10:10 (Oct 2015).
Abstract/Details Full text Full text - PDF (1 MB)
- 2** Predicting the Effect of Mutations on Protein-Protein Binding Interactions through Structure-Based Inter...
Briener, Jeffrey R.; Zhang, Yang. *PLoS Computational Biology* 11:10 (Oct 2015).
Abstract/Details Full text Full text - PDF (4 MB)
- 3** La satisfacción de uso de los dispositivos e-reader en una muestra de estudiantes universitarios españ...
devices among Spanish university students

Quotation marks ensure the whole phrase is found, not the two individual words separately.

The Internet

There is a vast range of information at our fingertips on the internet, but how much of it is useful? Websites should be assessed on the following criteria:

- When was the site last updated? If the site was last edited many years ago, there is a good chance some/all of the content is obsolete or incorrect.
- Who created the site? What are their credentials? A site created by a professional or an expert in the related field will be more credible than one created by the average layperson or someone holding a particular bias.
- What is the purpose of the site? Some sites exist purely to provide information. However, be aware that some sites are essentially just advertisements and exist only to sell a service or product; therefore, there is a chance they could be biased

Spiders and Metacrawlers

A spider is an automated process which conducts a simple search, while a metacrawler displays results from multiple search engines.

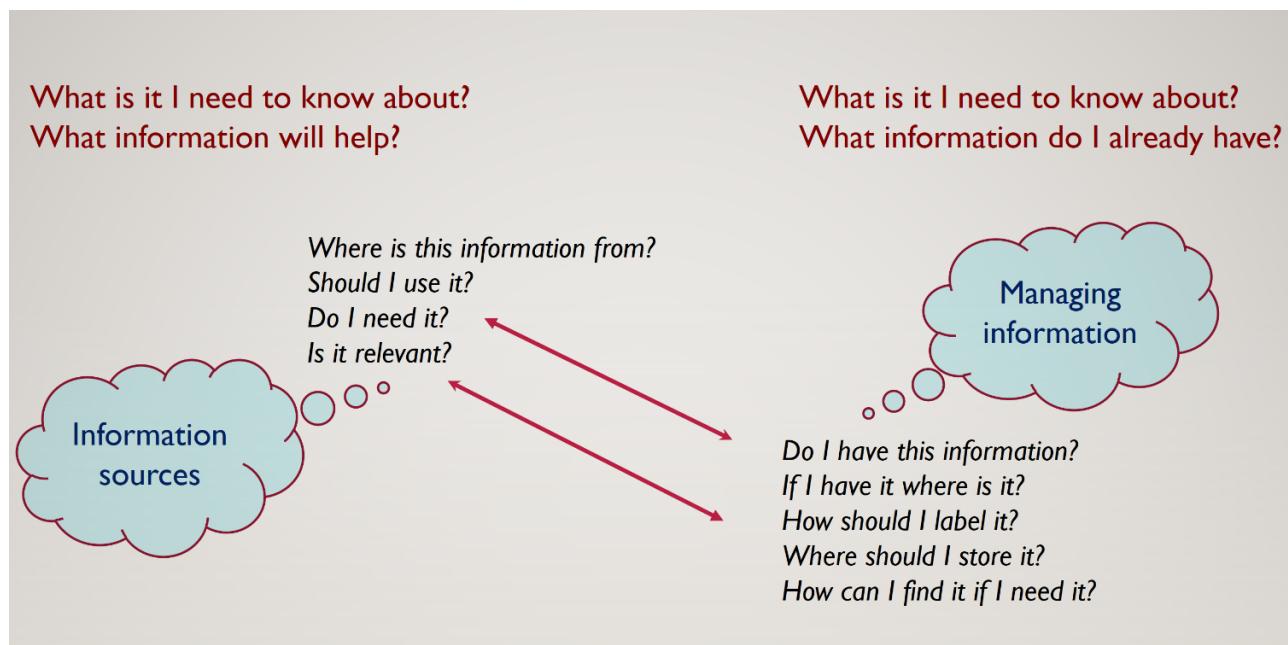
Where to Start

When we seek information, much of our process depends on the context. For example:

- What is our purpose in collecting information?
- What (if anything) do we already know about the topic?
- What (if any) constraints are we facing? E.g. Time, medium, access

Gwizdka (2006) suggests that when we identify a piece of information we must also answer questions for ourselves, such as: Is this information relevant? What is it useful for? Do I need to keep it? We must then consider when we have enough information. We must also consider if a new information source provides new information or a new idea, or if it covers information we already have in another source.

We need to consider two areas: finding/identifying information, and then how to manage what we want to keep so we can find it again.



Research can seem like a daunting process, but it can be made easier by following a few basic steps:

- **Conduct literature search/survey:** When conducting research on a particular topic, it is important to know what other people have already written on that topic, or what other work has been done in that field. This will help you to ensure that your research comes up with something new, and is not covering old ground and what is already known.
- **Start with secondary and tertiary research:** Often when we start our research, we may know little or nothing about the topic. Primary data sources (where the data came from first) will often have a very narrow focus. This means it is easier for us to start by looking at secondary and tertiary sources to give us a good overview of existing work on the topic. From there we can delve deeper into particular sources of primary data that are most relevant to our research.
- **Assess their reported sources and verify their content:** Once we have our secondary and tertiary sources, we need to look at the primary sources they have referenced in order to determine their credibility

The next section, 'Sources and Attributes of Information', will explain types of resources and how resources can be assessed in more detail.

3.2

Sources and Attributes of Information

We next explore different types of information and the value of each. It is important to know about different sources of information when searching, for example in your assignments. The various attributes of information sources are also discussed.

Sources of Information

Information can come in a variety of formats. It could be text, visual or multimedia, and it may be in hard copy or soft copy (digital). Information sources can be one of three types:

<p>1. Primary data</p> <p>Definition: Primary data can be considered “data that lie closest to the source truth”. (Leedy, 1997 p. 101) That is the original data that was collected and analysed by the researcher/s.</p>	<p>Some examples of primary data sources include experimental data, meeting records, questionnaires and interviews, diaries or archives.</p> <p>Primary data may be published in the form of research articles in refereed journals, conference papers, reports or “monographs”.</p>
<p>2. Secondary data</p> <p>Definition: Secondary data is the “reanalysis or previously collected survey or other data that were originally gathered by others” (Neuman, 2003 p. 322)</p>	<p>Some examples of secondary sources are sources that cite or quote primary sources or interpret these sources. A secondary source may be an account or review of a primary source for example a set of interviews.</p> <p>Secondary data may be published in the form of review articles in journals, journalistic news stories or textbooks.</p>
<p>3. Tertiary data</p> <p>Definition: Tertiary data is where a researcher brings together data from both primary and secondary sources. Encyclopaedias are considered tertiary data sources.</p>	<p>Examples of tertiary data include citation or quotations of primary and secondary sources, interpretations or accounts of primary and secondary material.</p> <p>Tertiary data may be published as encyclopaedias, almanacs, year books, text books, dictionaries, manuals, databases and abstracts.</p>

Attributes of Information

When evaluating the suitability of information, it is useful to consider a number of attributes to determine whether a source is suitable for use. This is not an exhaustive list, but it is a good place to start. It will be especially useful when researching for your written assignments this semester.

Currency

Currency refers to how up-to-date the information is. It should be as relevant and recent as possible. It

does not necessarily refer to how recently that individual source was published, but ideally you should use the most up-to-date sources you can find on the required topic, particularly in the area of IT.

Accuracy

Accuracy refers to whether the information is correct. However, it is important to note that this is not always a binary distinction. Sometimes it is easy to tell whether information is correct or not but often there will be shades of grey that require us to make an assessment or judgement of the information. Checking multiple sources can be one useful way of ascertaining a source's accuracy.

Authority

Authority consists of a number of factors, such as who the author of the source is, where the information was published, and what sources were used to support the information. Ideally, a source should be written by an author who is an expert in the subject matter and/or published by a reputable or well-known publisher, and it should be supported by other credible sources.

Accessibility

Accessibility refers to how easy it is to find a resource or understand the information inside it. For example, if a source of information is hidden by a paywall or is written in a foreign language or in highly technical language, this makes it less accessible.

Stability

Stability refers to how likely the information is to remain the same. Some information is volatile and is updated or changed almost constantly. Information may also be considered less stable if it is published on a site that is altered frequently, as it may be altered or deleted.

3.3

Organising and working with information

Organising Information

Depending on where information is stored, it may be organised in different ways. It is important to keep this in mind when searching for information to make sure we find what we need.

The Dewey decimal classification system is used by libraries to classify published material. It organises the material into subject classes. This system is used by around 85% of the world's libraries.

Another type of classification system is the one used by the Library of Congress, where each subject is allocated to a letter of the alphabet.

Working with Information

When we gather information for our research, we need to organise what we have found, and then evaluate what we have found.

- How will we sort our various resources?
- How will we ensure that we can access these resources when we need them?
- What kind of notes do we need to take?
- How will we find our resources when we need them?

Consider how you will name and store your resources. You will need a naming convention to help you find the resource later.

Folder/subfolder system on topic

File naming convention: In this example it is author name, topic and year

Name	Date modified	Type
HCI	12/05/2016 12:51 PM	File folder
Usability UCD	12/05/2016 12:51 PM	File folder
Web	12/05/2016 12:51 PM	File folder
web quality	12/05/2016 12:51 PM	File folder
adidas hci tech interruptions what this means 10	10/03/2011 10:23 AM	Adobe Acrobat Docu...
alter emergent user behaviour hci lit review 10	10/03/2011 10:20 AM	Adobe Acrobat Docu...
clemmensen hci psychol 06	18/08/2006 1:31 PM	Adobe Acrobat Docu...
clemmensen_usermodel_HCIpract_04	19/12/2005 5:48 PM	Adobe Acrobat Docu...
durlach_hci change blind 04	28/02/2006 1:35 PM	Adobe Acrobat Docu...
gillian usability science 01	20/09/2006 11:24 AM	Adobe Acrobat Docu...
Hite university websites 10	3/11/2015 3:16 PM	Adobe Acrobat Docu...
johson discuss usability testing 07	3/06/2009 11:04 AM	Adobe Acrobat Docu...

Evaluating what we have found

- What do each of the sources have to offer?
- What are the strengths and weaknesses of each? (see "Sources and Attributes of Information")
- What picture emerges when we compare our sources?
- What new leads for sources (if any) have we found from those we have already gathered? Are we able to answer our research question(s)?
- Do we need to revise our research question(s)? Do any gaps remain in our picture?

- If so, do we need to look for more sources?
 - And/or do we need to review our existing sources?
-

3.4 Presenting information

Finding, collecting and storing information is the first step. Next, it must be organised and presented in the format required. Sometimes we need to write something such as an assignment or a report, other times you will be presenting your information.

Presenting Information

Once we have organised and evaluated our research, we need to present our findings. We do this to share our discoveries with others, and to present and explain what we have found. We can present our information in a variety of formats, from text to visual or multimedia depending on the context. In business contexts, your work may need to be presented as a report, a presentation or a simple summary.

Reports

Whatever form our report takes, it should include the following:

- In business it will start with an executive summary which highlights the key findings/actions required
- A clear statement of what we set out to do and/or find.
- Definition of any key terms with the necessary background.
- Explanation of what we have found.
- Clarification of any difficulties or challenges that arose along the way.
- What the findings mean in the context.
- Identification of possible future lines of enquiry/actions.

Presentation

Before presenting our information, we have to ask ourselves the following questions:

- Who is the audience?
- What is the purpose of the presentation?
- What (if any) preferences do they have in terms of media?
- What (if anything) do they already know about the topic?
- What (if any) constraints must be considered? (e.g. time, medium, access)

Note: Presentations are covered in more detail in Chapter 4.

3.5 Citing and Referencing

Unless we have a list of references and a clear indication of where each of the references came from, readers will not be able to follow up on the information cited and confirm its accuracy. In this section, we look at how to prepare a reference list and how to cite references in your text.

Reference Lists and Bibliographies

When conducting research for a piece of work, it is important to note where you got your information from. This way, if the reader decides they want to find out more after reading your work, they can look up the sources you cited.

A reference list or a biography goes at the end of your document, or at the end of specific sections/chapters within your document. Note that reference lists and bibliographies are not the same thing.

- **Bibliography:** This provides a list of works that are relevant to your topic, but you may not have referred to directly. This not only includes books, but also other sources such as videos, websites and articles.
- **Reference list:** This includes works that you specifically refer to (whether through paraphrasing or direct quotes) in your work. This also includes all types of works where you have referred to them directly.

Referencing Systems

Referencing systems are used to refer the reader to further information elsewhere without disturbing the flow of the text. Leedy (1997 p. 291) suggests there are three main reasons for providing references:

1. To show there is support for your idea
2. Provide details of any author/source you may quote
3. Ensure someone else can find the same material

For example, your boss might ask you to assess the value of moving the company's data to a cloud service provider. In reporting to him on this, you would conduct some research on the positives and negatives of the decision. These should not be your opinion, but based on solid evidence or research. You might also include a quote from one of your sources of information to support your argument. In this case the full reference will need to be provided.

Most institutions will have a preferred system they expect people to use. Others may allow people to use whichever system they wish, as long as they use it consistently. There are two aspects to referencing:

1. The in-text citation where the author and year are provided.
2. The reference list where the full details of the reference can be found. The principle is that someone reading the paper/report can easily find the source of the information. Whenever you cite a source in the main text, all referencing styles require you to include the full publication details of the source in the reference list. The full publication details should include the page numbers, unless you are referencing a book.

In the academic world, there are a number of different reference methods. The one you are required to use in this unit is APA (American Psychological Association) 6th edition.

Next we discuss the three most common referencing styles used. There are similarities between them all, particularly with respect to how the references are formatted in the reference section. There are, however, subtle differences. More details on this later.

Note there are many more than these three as can be seen from the Monash University website <http://guides.lib.monash.edu/citing-referencing/recommended#s-lg-box-wrapper-5191448>.

APA 6th edition

Many of the common referencing methods have similarities with the APA style. The APA 6 style is author name followed by the year and in many cases the page number. Page numbers must always be provided when citing a book even if you are not quoting any text.

Below is an example of the use of APA 6 in-text citations.

This is an example of how the references for the above section of text would appear in the reference section using APA 6. References are organised in alphabetical order by authors' surname.

APA EXAMPLE

References

Earthy, J., Jones, B., & Bevan, N. (2001). The improvement of human-centred processes---facing the challenge and reaping the benefit of ISO 13407. *International Journal of Human-Computer Studies*, 55, 553--585. ¶

Gould, J., & Lewis, C. (1985). Designing for usability: key principles and what designers think. *Communications of the ACM*, 28(3), 300-311. ¶

Ominsky, M., Stern, K., & Rudd, J. (2002). User-Centred Design at IBM Consulting. *International Journal of Human-Computer Interaction*, 14(3&4), 349--368. ¶

Rasmussen, L. (2007). From human-centred to human-context centred approach: looking back over 'the hills', what has been gained and lost? *AI & Society*, 21, 471-495. ¶

Ritchie, J., & List, J. (1996). System Design Practice, Emerging Development Acceleration Strategies, and the Role of User-Centered Design. In M. Rudisill, C. Lewis, P. Polson, & T. McKay (Eds.), *Human-Computer Interface Design* (pp. 338-366). San Francisco: Morgan Kaufmann. ¶

Rogers, Y., Sharp, H., & Preece, J. (2012). *Interaction Design---beyond human-computer interaction* (3rd ed.). United Kingdom: John Wiley and Sons. ¶

Paper from a journal

Book

Some examples of in-text citations in this style are provided below, but for more information, visit [Monash University Library's APA citing and referencing guide](http://guides.lib.monash.edu/citing-referencing/apa) (<http://guides.lib.monash.edu/citing-referencing/apa>)

Harvard System

The Harvard system also uses author-date; the author's surname and the year of publication after the referenced material. The Harvard style is used most commonly in Australia and the United Kingdom. The source's full details are included in the reference list or bibliography.

HARVARD EXAMPLE

Rogers et al. (2012) pp. 327) notes that the UCD principles proposed by Gould and Lewis (1985) are more of a philosophy than a design technique. There is no one universally accepted approach to UCD; most approaches however share common characteristics. This is not surprising as any design approach involving users can be difficult to implement and manage (Ritchie and List, 1996; Earthy et al., 2001). Based on ISO 13407 (Earthy et al., 2001) suggests the activities in UCD include planning the human centred design process, identifying the user/organisational requirements, specifying the context of use, producing and evaluating the designs. The UCD approach taken by IBM as described by (Ominsky et al., 2002) apart from focusing on users and frequent evaluations also includes designing with a multi-disciplinary team and watching what competitors do.

Note: similar to APA but all authors not listed, replaced with 'et al.'

References

- EARTHY, J., JONES, B. & BEVAN, N. 2001. The improvement of human centred processes -- facing the challenge and reaping the benefit of ISO 13407. *International Journal of Human-Computer Studies*, 55, 553--585.¶
- GOULD, J. & LEWIS, C. 1985. Designing for usability: key principles and what designers think. *Communications of the ACM*, 28, 300-311.¶
- OMINSKY, M., STERN, K. & RUDD, J. 2002. User-Centred Design at IBM Consulting. *International Journal of human computer interaction*, 14, 349--368.¶
- RASMUSSEN, L. 2007. From human-centred to human-context-centred approach: looking back over 'the hills', what has been gained and lost? *AI & Society*, 21, 471-495.¶
- RITCHIE, J. & LIST, J. 1996. System Design Practice, Emerging Development Acceleration Strategies, and the Role of User-Centered Design. In: RUDISILL, M., LEWIS, C., POLSON, P. & MCKAY, T. (eds.) *Human-Computer-Interface-Design*. San Francisco: Morgan Kaufmann.¶
- ROGERS, Y., SHARP, H. & PREECE, J. 2012. *Interaction Design --- beyond human-computer interaction*. United Kingdom, John Wiley and Sons.¶

Key difference is the names of the author/s are in upper case where they are lower case in the APA format.

As with the APA style, the references are in alphabetical order according to author surname.

IEEE (Institute of Electrical and Electronics Engineers) style

The IEEE style, also known as the numbered style, is commonly used in technology. This style numbers each cited work. The references at the end are numbered and do not appear in alphabetical order of the author's last name. The numbers represent where in the text the reference was first cited.

IEEE EXAMPLE

Authors are listed if they are reference in the text as they are here.

Rogers, et al. [4] (pp. 327) notes that the UCD principles proposed by Gould and Lewis [3] are more of a philosophy than a design technique. There is no one universally accepted approach to UCD; most approaches however share common characteristics. This is not surprising as any design approach involving users can be difficult to implement and manage [8, 9]. Based on ISO 13407 [9] suggests the activities in UCD include planning the human centred design process, identifying the user/organisational requirements, specifying the context of use, producing and evaluating the designs.

Where a reference is provided in support of a statement just a number is used to identify the source.

References

3. - Gould, J. and C. Lewis, *Designing for usability: key principles and what designers think*. Communications of the ACM, 1985, 28(3), p. 300-311.¶
4. - Rogers, Y., H. Sharp, and J. Preece, *Interaction Design -- beyond human-computer interaction*. 3rd ed., 2012, United Kingdom: John Wiley and Sons, 519.¶
5. - Usability, N. *ISO 13407: Human-centred design processes for interactive systems*, 2014, [cited: May 2014], Available from: <http://www.usabilitynet.org/tools/13407sds.htm> ¶
6. - Rasmussen, L. *From human-centred to human-context centred approach: looking back over 'the hills': what has been gained and lost?* AI & Society, 2007, 21, p. 471-495.¶
7. - Avison, D. and G. Fitzgerald, *Information Systems Development: Methodologies, Techniques and Tools*. 3rd ed., 2003, London: McGraw-Hill.¶
8. - Ritchie, J. and J. List, *System Design Practice, Emerging Development Acceleration Strategies, and the Role of User-Centred Design*, in *Human-Computer Interface Design*, M. Rodissil, et al., Editors. 1996, Morgan Kaufmann San Francisco, p. 338-366.¶
9. - Earthy, J., B. Jones, and N. Bevan, *The improvement of human centred processes -- facing the challenge and reaping the benefit of ISO 13407*. International Journal of Human-Computer Studies, 2001, 55, p. 553-585.¶
10. - Ominksy, M., K. Stem, and J. Rudd, *User-Centred Design at IBM Consulting*. International Journal of human computer interaction, 2002, 14(3&4), p. 349-368.¶

The authors are not in alphabetical order but in number order matching where in the text they were used.

Reference format

A list of references is usually found at the end of a document, magazine piece, book, paper or even a newspaper article. You will be required to provide references you have used in your assignments as well. The format of the references will depend on the reference style used. As you will have seen in the examples above there are similarities and differences. APA 6 and Harvard are similar; the IEEE style however is quite different. The details required however for each reference is the same. The details include author name/s, year of publication, title, book section and book title, publisher (for books), volume and issue number for journals, conference name, date and place.



Paraphrasing and Quotation

The two main (legitimate) methods of including information from other sources in your work are paraphrasing and quotation.

Quotation

While it is good to paraphrase where possible, using a quote may be appropriate.

Definition: A quotation is using the exact words of another author or source such as a website within the text in quotation marks.

Direct quotes are often used because the words an author has used to express an idea is the best way it can be expressed or because it is difficult to find an alternative way to describe the idea.

Direct quotes are handled differently depending on their length. A short quote (say, less than 30 words) may be incorporated in the body of the text. A longer quote (for example, more than 30 words) may appear in a separate paragraph.

Paraphrasing

Definition: Paraphrasing is not using an author's exact words but rephrasing those words but keeping the idea (Neuman 2003, p.473)

The ability to paraphrase is a useful technique, as it can allow you to present the information in a more concise or easily understood manner than the original source.

It is also helpful to rewrite the information in your own words. This can demonstrate that you truly understand the material. However, it is still necessary to acknowledge where the information came from.

Below is an example of quoting and paraphrasing an idea.

QUOTING AND PARAPHRASING: EXAMPLE

Quoting: In this paragraph the text in quotation marks is a quote from an author, Norman. These are the exact words as they appear in his book.

User-Centred-Design-(UCD), also known as human-centred design (Norman, 2005) is not new and today is widely accepted and used in the development of systems particularly where user interests must be taken into account. It is a “philosophy based on the needs and interests of the user, with an emphasis on making products usable and understandable” (Norman, 1990 pp. 188).

Paraphrasing: In this paragraph the Norman’s definition/idea, his words have been rephrased by the author of this paper to capture the essence of what was said but not exactly what he said.

User-Centred-Design-(UCD), also known as human-centred design (Norman, 2005) is not new and today is widely accepted and used in the development of systems particularly where user interests must be taken into account. Norman, (1990 pp. 188) describes UCD more as a philosophy as distinct from a development method and one that understands the needs and interests of users, the aim is to ensure what is built works for users.

Plagiarism

Definition: "Plagiarism is fraud that occurs when a researcher steals the ideas or writings of another and uses them without citing the source" (Neuman 2003, pp.118-9)

Plagiarism includes using the exact words of another author without attributing the words to that author. However, it is also plagiarism to steal an author's ideas without attribution - not just stealing the exact words they used.

Unintentional plagiarism can be avoided by using techniques such as using different coloured pens for direct quotations and keeping bibliographic records of sources you use.

Plagiarism also refers to concepts, diagrams, images and other sorts of intellectual property (IP) (see Chapter 8). Although plagiarism can be inadvertent, "accidental" plagiarism is still considered a serious

matter and can have serious consequences.

To see what this looks like, consider the above example of quoting and paraphrasing. If an author read that example text and then wrote the following paragraph, it would be considered plagiarism.

PLAGIARISM: AN EXAMPLE

User-Centred-Design-(UCD), also known as human-centred design (Norman, 2005) is not new and today is widely accepted and used in the development of systems particularly where user interests must be taken into account. It is a “philosophy based on the needs and interests of the user, with an emphasis on making products usable and understandable” (Norman, 1990:pp.188). ¶

This is a quote with the correct attribution to Norman.

User-Centred-Design-(UCD), also known as human-centred design (Norman, 2005) is not new and today is widely accepted and used in the development of systems particularly where user interests must be taken into account. UCD is a philosophy as distinct from a development method and one that understands the needs and interests of users, the aim is to ensure what is built works for users. ¶

This text clearly draws on Norman's work and ideas but there is no reference to his work. This would leave the reader to believe the person who wrote this piece of text is the author.

Avoiding plagiarism

When taking notes for your research, always be sure to note the source of your information so you can include it in your work. Failing to cite the source is not only unfair to the original author, but it can also cause confusion in your readers, since they may not be able to tell which ideas are your own and which you have taken from elsewhere.

3.6 **References and additional resources**

References

Eunson, B. (2012). *Communicating in the 21st Century*, 3rd Ed. Milton, Queensland: Wiley.

J. Gwizdka (2006) Finding to Keep and Organize: Personal Information Collections as Context. Personal Information Management - A SIGIR 2006 Workshop, Seattle, 64-66
https://www.researchgate.net/profile/Antonella_Poggi/publication/252699132_OntoPIM_From_Personal_Information_Management_to_Task_Information_Management/links/54acf7d40cf23c69a2b85273.pdf#page=64 (Accessed May 2016)

Leedy, P. (1997). *Practical Research Planning and Design* (6th ed.). Upper Saddle River: Merrill Prentice Hall.

Neuman, W. L. (2003). *Social Research Methods: Qualitative and Quantitative Approaches* (Fifth Edition ed.): Pearson Education Limited.

Additional resources

The Monash University Library APA guide can be found at

<http://guides.lib.monash.edu/citing-referencing/apa> (Accessed March 2018)

Cox, R. J. (2002). Unfair use: Advice to unwitting authors. *Journal of Scholarly Publishing*, 34(1), 31-42.

Emerald Group Publishing *Searching for information*

http://www.emeraldgroupublishing.com/learning/study_skills/skills/searching.htm (Accessed May 2016)

4

Chapter 4: Oral Presentation as a Form of Communication

Overview:

- Types of oral presentations
- Preparing your presentation
- Delivering your oral presentation

Learning Outcomes

- Appreciate how you might change your presentation approach for the different contexts in which you might be required to present
 - Be familiar with the best way to present given the context of the presentation
 - Understand the basics of preparing your oral presentation
 - Recognise how to deliver an oral presentation including verbal and non-verbal communication
 - Recognise and learn from others on the different ways to present
-

4.1

Oral Presentations as a Form of Communication



Oral Communications

In this section you will learn about the different types of oral presentations you may be faced with, and the advantages and disadvantages of an oral presentation.

There are many different professional circumstances which require us to be effective oral communicators. Examples include:

- Delivering presentations
- Participating in informal work-related (or social) discussions with colleagues
- Persuading (or being persuaded by) colleagues
- Giving or receiving feedback
- Following instructions
- Networking
- Instructing, explaining and demonstrating
- Negotiating with clients and employers
- Conflict resolution
- Chairing/leading discussions
- Relationship development

All these circumstances involve utilising the interpersonal communication skills covered earlier in the unit.

This week's topic will focus on developing effective presentation skills - both in terms of **preparation** and **delivery**. These skills are particularly useful for formal presentations, but can be applied to any form of oral presentation. Delivering effective presentations can be challenging for many professionals. It is worthwhile developing these skills in the relative comfort of the University environment, before entering professional life.

Advantages of Oral Delivery

There are a number of significant advantages connected with live oral delivery, in contrast to pre-prepared material such as written reports or even pre-recorded video.

Oral delivery:

- allows use of the attributes unique to verbal communications, such as voice modulation, eye contact and body movement
- can be more dynamic than other forms of communication. This allows the speaker to tailor to the specific audience and actively manage the audience's engagement
- enables the use of supplementary materials such as audio/visual materials, slides and video, or even interactive

Disadvantages of Oral Delivery

We have all sat through a poor oral presentation. Think about a recent oral presentation you have heard. Was it good or poor? If it was a good presentation, what made it good? If poor, what were the issues?

Although an oral presentation may be effective, there can be limitations or challenges. Primarily, the speaker requires a specific public-speaking skill-set in order to communicate effectively, including the ability to speak confidently in front of an audience. This can be challenging for those who find that speaking in front of an audience makes them anxious. Additionally, managing the dynamic aspect of audience engagement can be challenging for speakers who do not cope well with spontaneity. Consider how speakers manage if audience members:

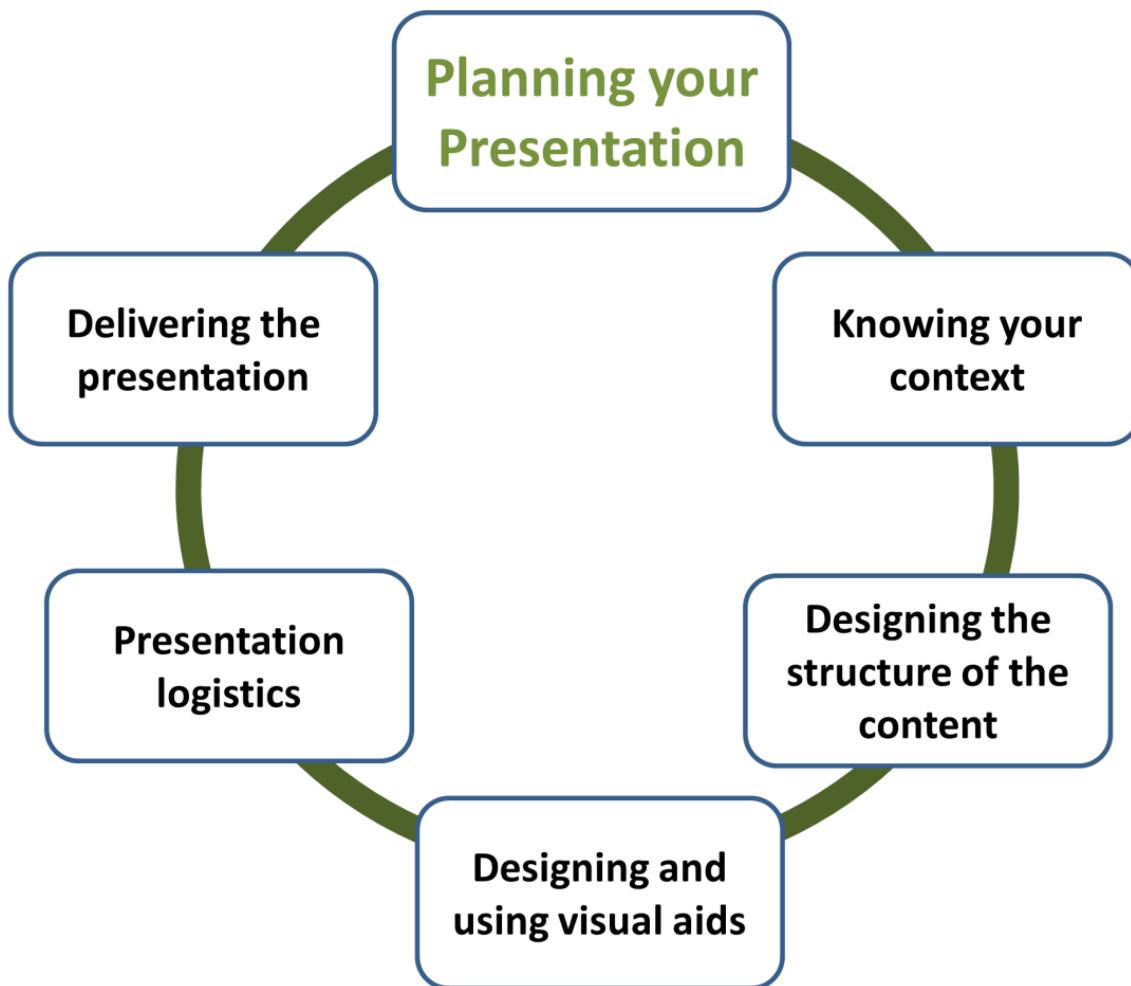
- heckle
- talk during the presentation
- ask questions before the speaker is ready for questions
- walk in late or leave early

Other disadvantages relate to the nature of the communication type. Each oral presentation may be limited to the particular instance of delivery and the attending audience. This may be somewhat overcome through recording (either audio or audio-visual) the presentation, although this loses the dynamic aspects of live oral delivery.

Developing our oral presentation skills can help us reduce these disadvantages, so that we are able to manage our internal mental state and concentrate on delivering fluently and effectively.

4.2 Preparing Oral Presentations

In this section we will give you guidance on how to prepare your presentation including the context in which you might be presenting.



Oral presentations are best thought of as a two-stage process: **preparation**, and **delivery**.

Effective preparation facilitates effective delivery. Properly developing the content and structure of a presentation helps you achieve its communication objectives. Preparing effectively also makes it easier to be a dynamic presenter, as you will have spent time thinking about the queries, feedback and adjustments you may need to make to communicate effectively with your audience. This allows you to adapt more easily during delivery.

Pre-preparation: Know Your Context



Understanding the Context of Oral Presentations

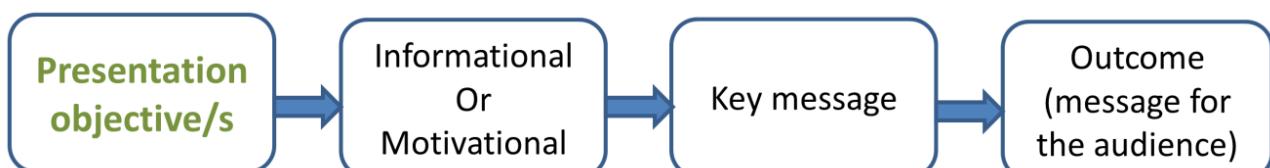
Oral presentations can have varying characteristics in terms of:

- Size of audience
- Time allowed
- Speaker's objective and the surrounding context
- Audience member characteristics

By paying attention to these attributes when preparing and delivering presentations we can improve the effectiveness of our communication.

Presentation Objectives

When starting to prepare for a presentation, we should begin by setting out for ourselves the purpose of our presentation. For example, our objective might be to inform or persuade our audience. The more precisely we are able to define our objective during preparation, the easier it becomes to prepare and structure presentation content and deliver effectively.



Informational presentations will convey specific information about a topic and may include research, statistics and/or facts. Motivational presentations are designed to raise awareness, change attitudes or gather support for an issue.

Audience

During the preparation phase, it is important to tailor the presentation for the audience to which we will be speaking. For example, we might use different language and content when speaking with a student audience as compared to a more professional audience. We would tailor how casual or formal our communication needs to be. Also, we would modify the depth and detail of explanation of technical concepts depending on the technical literacy of our audience.

Flame Challenge

As a child, actor Alan Alda asked his teacher 'what is a flame?' He was always disappointed with how her basic answer ('it's oxidation') didn't help his 11-year old self to understand. In 2012, Alda started the 'Flame Challenge' to try to get scientists to focus on how to effectively communicate scientific concepts to young audiences. Each year, a question is asked - for example, 'what is colour?' - and each explanation entered into the competition is judged by thousands of 11-year old children in schools. By focusing so precisely on the audience, more effective explanations of challenging concepts can be formulated.

For more reading, see [HERE](https://www.aldacenter.org/outreach/flame-challenge) (<https://www.aldacenter.org/outreach/flame-challenge>).

Forum

Another key aspect to consider is the forum of delivery. This includes aspects such as the size of the space, which may or may not reflect the size of our audience. The location could be outside. This will also affect our delivery. It can be more difficult to get feedback from larger audiences, and this may influence how we deliver our content.

The forum also includes the technology available to support our delivery. Today it is common for delivery spaces to have access to projectors for presenting visual aids such as presentation slides and audio/visual content, and these tools can be used to facilitate more effective communication. What will you do, however, if the forum does not have the technology you planned for? You should have a contingency plan.

Room size

Convention centre

Lecture theatre

Tutorial room

Meeting room

Audience size

Tutorial group

Unknown

Very small group

Large audience

Available technology



4.2.1 Structuring Presentation Content

Build a Logical Structure

One of the most integral aspects of an effective presentation is structuring presentation content. This involves setting out content in a logical and coherent way that makes it easier for our audience to understand. Presentations should be structured based on the main points we wish to communicate to our audience, as audiences find it easier to synthesise information when it is logically structured.

When developing the presentation structure, we should ensure that there is a natural flow to the content. The materials in this topic provide a useful example. Covering preparation before delivery, we are reflecting the natural chronology involved in presentations. This should make the material easier to understand.

The Narrative Paradigm

Walter Fisher (1989) suggested that people understand communication through a narrative or 'storytelling' paradigm. Accordingly, effective communication requires telling a story to the audience. While we may not integrate this view completely into our communication, creating a narrative within our presentation is an effective communication tool.

Use an Effective Introduction and Conclusion

Entertainer Maurice Chevalier suggested that it was most important to start very well and to finish very well; the middle would take care of itself (Cott, 1977). This idea applies equally well to presentations as to other types of performances. An effective introduction and conclusion are an integral part of successful presentations, ensuring our audience remembers our main points.

Accordingly, effective introductions and conclusions will generally reflect:

- The presentation structure
- Each other

An introduction should set out the main points that will be covered. We should try to avoid introducing new content in our conclusion.

Many times, speakers don't properly introduce and conclude their presentation; perhaps because of a reluctance to repeat information that will be, or has already, been mentioned. However, the introduction and conclusion give a presenter a valuable opportunity to reiterate the key points. In this respect, a good introduction and conclusion are a little like the chorus in a song. They are the parts the audience is most likely to remember.

Grab the Audience's Attention

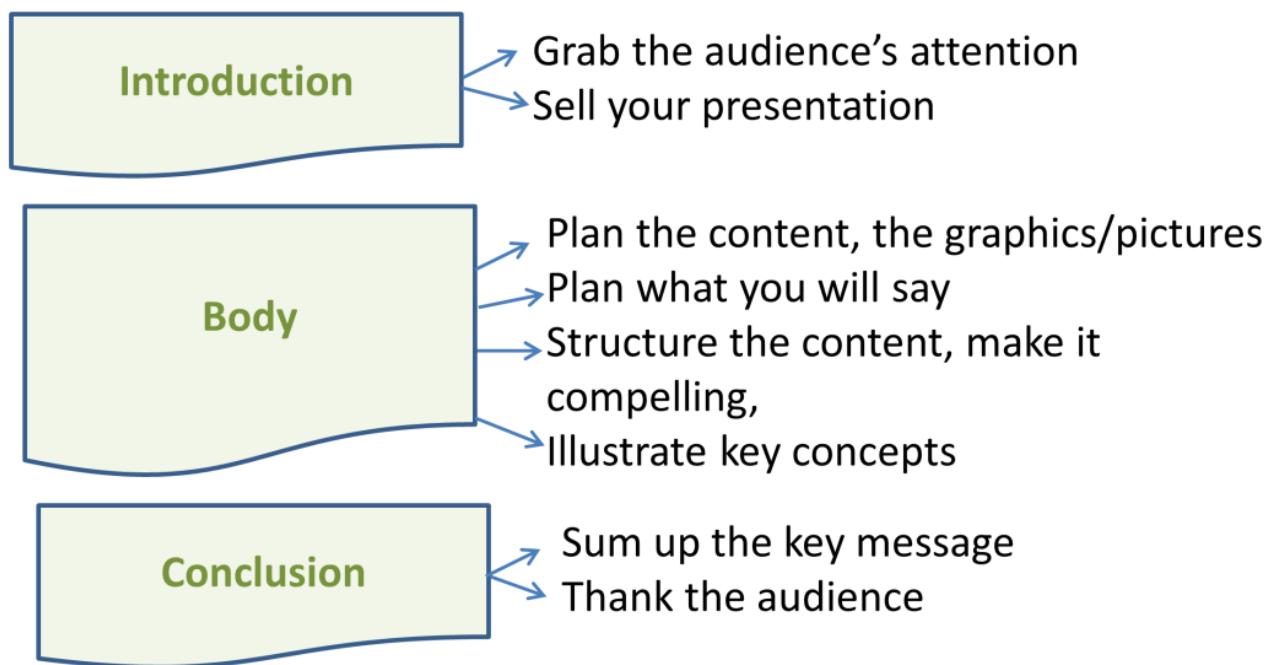
Additionally, an introduction should grab the audience's attention. This might be with a story or a video or some other content. The beginning of the presentation is the ideal moment to engage the audience; otherwise they may never engage at all.

Use a Plan!

When preparing presentations (and other forms of communication), using a plan to organise content helps the speaker to ensure content is effectively structured during preparation. A planned approach will also make it easier for the audience to synthesise the presented information.

Include Useful and Compelling Content

In addition to building an effective structure, we also need to decide what specific content to include in the presentation. Ideally, select content that your audience is likely to find interesting. This is done by reflecting back on the contextual considerations covered earlier. It is also worthwhile using examples to illustrate concepts, to help your audience to understand.



Preparation Takes Time

Preparing an effective presentation takes time; far more time than the actual delivery. For example, preparing a one hour lecture of a high standard may take up to 10 hours in planning and preparation. This preparation time may include:

- Setting out objectives and understanding the context
- Planning, structuring and generating content
- Refining presentation structure and materials

- Preparing any visual aids
- Preparing speaking notes
- Rehearsing

It is important to make time for each of these steps when preparing our presentations. The more effectively we prepare, the more fluent and effective our delivery is likely to be.

4.2.2 Using Visual Aids

Presentation Slides and Other A/V Aids

Once our presentation content and structure has been planned, we can incorporate various visual aids, such as presentation slides and other audio/visual content. Audio/visual aids give presenters versatility in how to present information to their audience; for example, using images, video, sound recordings, or figures and diagrams. Some information might be better presented with just audio content, while other information may be easier to understand with visual content, or a combination of both. This use of 'multi-modal' delivery (the combination of audio and visual material, particularly) has been demonstrated to assist in persuading an audience, and improves audience recall (Eunson, 2012, p.367).

What to consider in preparing presentation slides.

Visual aid elements	Design considerations
Content	<ul style="list-style-type: none"> • Don't overload the audience with information • Keep content to a minimum • Minimise clutter on the slides so the audience focuses on you the presenter not on the slides
Font type and size	<ul style="list-style-type: none"> • Should be easy to read so the audience grasps the information quickly • Use a standard font and size on all slides where possible. • Do not use all caps • Watch colour contrast • Minimise the number of colours used
Animation and other embellishments	<ul style="list-style-type: none"> • Avoid animations unless necessary – should serve a purpose not be for entertainment • Too many slide transitions can be annoying
Images/figures/video	<ul style="list-style-type: none"> • Use these to explain concepts more effectively particularly concepts which are difficult or inefficient to explain with language alone

By crafting our presentation aids to facilitate effective communication, we better achieve our objectives in delivering our presentation.

Presentation Slides - Tools: There are a number of different tools available for preparing presentation slides. The most well known is Microsoft PowerPoint, but there are others, such as Apple's Keynote. There are also online tools available now, including Google Docs presentation software.

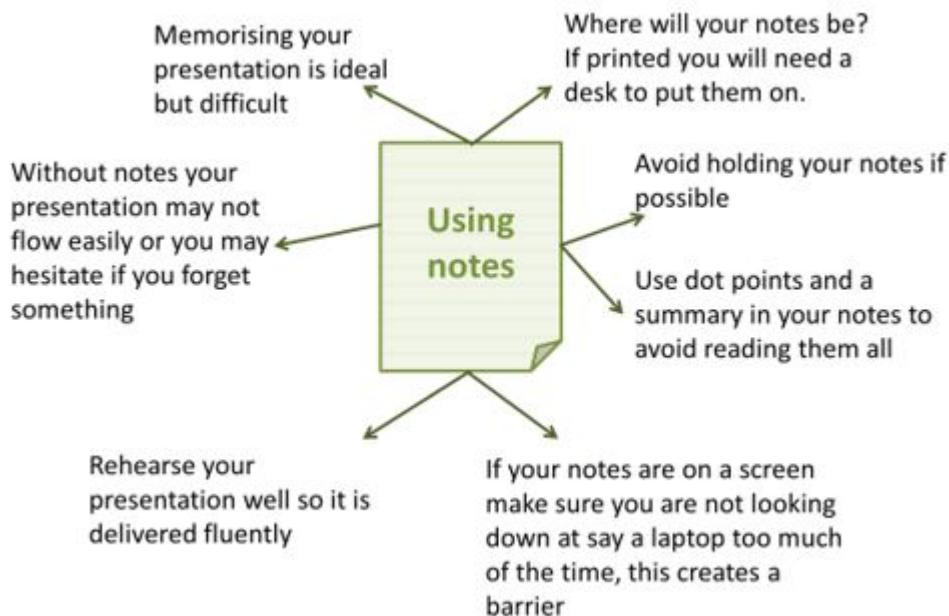
Another interesting example is 'Prezi', which uses a 'canvas' rather than a series of slides, allowing easier creation of non-linear content. See <http://prezi.com>.

Irrespective of which tool we use, we must ensure that we will be able to effectively deliver our presentation in the set forum, so it is important to check what technology is available in the delivery room.

4.2.3 Presentation Logistics

Using (or Not Using) Notes

Whether or not to use notes when delivering a presentation is really up to the individual presenter. Some presenters are able to memorise their presentation material well enough that they are able to deliver without notes. To deliver a presentation that flows without notes, we must be very fluent in the content area. While it may seem more impressive to present without notes, it can disrupt our delivery if we forget what to say next. In some environments there may be a lectern or desk to place our notes on, while in other circumstances we may need to hold our notes. We also must avoid creating a barrier to communication by holding our notes in front of our face. This may affect our voice projection or block our audience from taking in our facial expression and eye contact.



Presentations Must Flow!

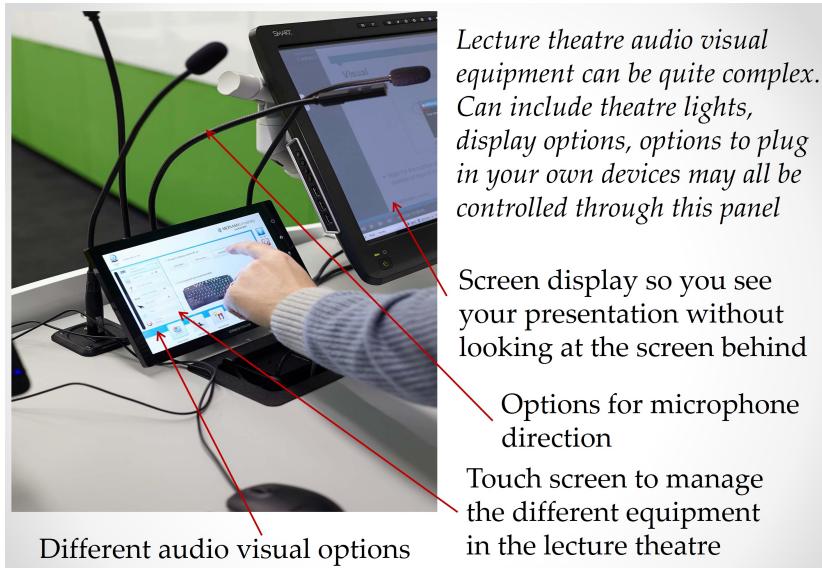
Notes should be used to ensure that we are able to deliver fluently and fluidly. However, we should be wary of using notes to create a strict script. Our audience may become disengaged if we are just reading a script word-for-word. The impression that we are working from a direct script is in contrast to the dynamic possibilities of oral presentations, so we ideally want to be able to react to our audience and modify our language and delivery if necessary.

Managing the Presentation Environment

It is important to be familiar with the presentation environment, including:

- AV / presentation equipment
- Lectern (or lack of). Where will we place our notes?
- Microphone and volume levels
- Lighting and controls
- Managing where to stand / multiple speakers. This includes making sure that movements or transitions between speakers do not distract your audience

Next time you are in a lecture theatre, have a look at the technology that controls the various presentation options for a speaker. What do you notice? The technology can be quite complex, and you don't want to be caught out on the day. Below is an example of what you might see in a Monash lecture theatre.



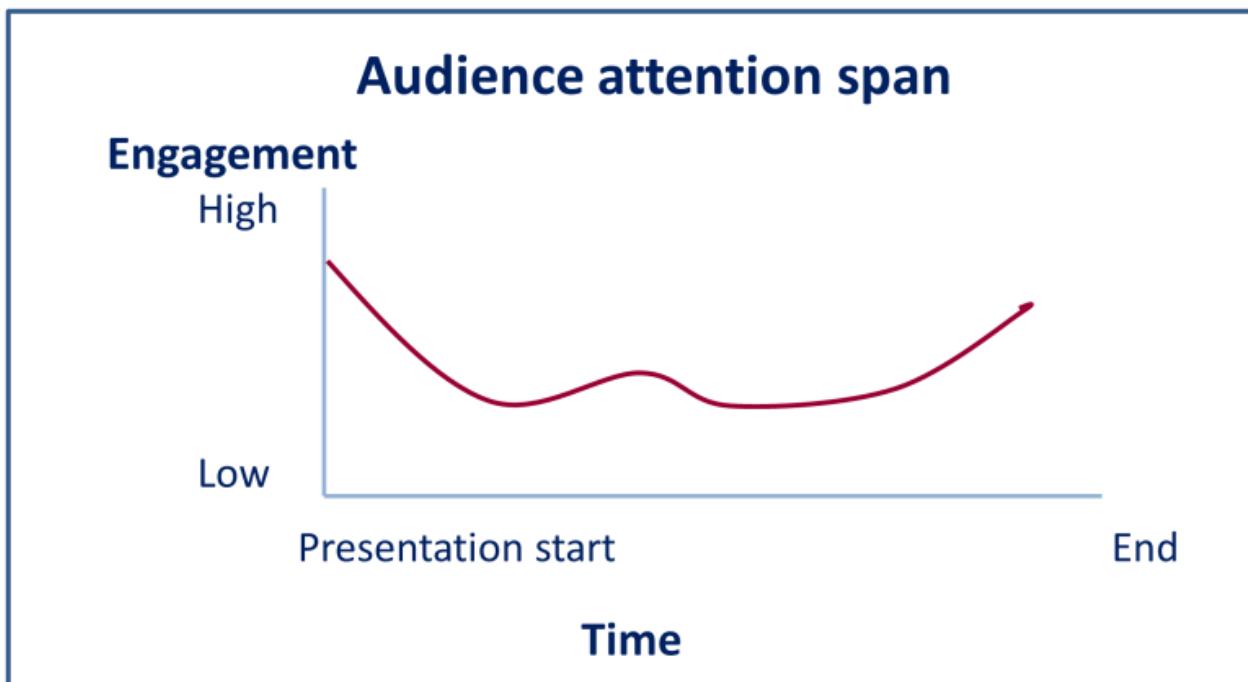
Final preparations for delivery

- Clothing. Dress appropriately. It is better to dress a little more formally than informally. You can always take off your jacket
- Go to the bathroom before beginning the presentation
- Stand upright where people can see you and the presentation
- Bring a drink in case your mouth gets dry
- Observe your audience:
 - Before, during and after breaks
 - Seek feedback. Pay attention to the audience's body language and mood

4.3 Delivering Oral Presentations

In this section we discuss the importance of how to engage the audience. If we do not capture and hold the audience's attention and interest, our presentation is unlikely to be very successful.

Verbal and non-verbal communications are integral to engaging our audience and delivering effective presentations. How will we hold the attention of our audience over the course of the presentation? The audience is usually attentive at the start of a presentation, but as time goes on their attention will wane.



However, before investigating these it is worthwhile reviewing the intra-personal communications aspects which are important for delivering oral presentations, and considering how we will manage our timing.

The Intra-personal Aspect of Presentation Delivery

When delivering oral presentations, it is important to acknowledge and manage our internal mental state. Before and during presentations, we may find ourselves feeling anxious or excited, or some other emotion. Our responses to these emotions may affect our delivery. For example, we may find ourselves shaking, or we may speed up or slow down our speech. It is important to be mindful of our emotions so that we can deliver effectively, without letting our emotions disrupt the flow of our delivery.

Often, the more prepared we are to present, the easier it is to manage our emotions. Try to be animated and enthusiastic, as this will help better engage the audience.

Managing Timing

An integral part of presentation delivery is managing timing. Presenters must pay attention to time, to ensure that audience expectations in terms of timing are met. While delivering a presentation we need to pay attention to the timing, and speed up or slow down our delivery speed accordingly. Sometimes, depending on how well we have planned our timing or if there have been discussions with the audience, we may need to modify our content delivery. This could mean either skipping some content, or presenting it in less detail. This may not be ideal, but being able to respond dynamically is part of being an effective presenter.

It is also important to leave time for our conclusion, so that we are able to 'end well' and re-iterate our key 'takeaways' that we want our audience to remember.

Managing Discussion and Taking Questions

Part of the dynamic of oral presentations is dealing with discussion, interruptions and questions from the audience. Our presentation should be planned with consideration given to how much and whether or not we plan on having a discussion or taking questions from our audience. Sometimes, we may decide not to take questions during a presentation, in which case we should tell the audience during our introduction to hold their questions until the end of the presentation.

Even if we are willing to have a discussion or take questions during the presentation, this can effect the timing, so have a strategy of dealing with questions. Sometimes it might be necessary to inform the audience that there isn't sufficient time to discuss an aspect in that level of detail, or that specific discussions can be continued privately after the presentation ends.

Keeping the audience engaged

Too often an audience will pay attention to the first few minutes of a presentation, but then start to lose interest. Here are 10 techniques to use to help hold your audience's attention.

1. Begin with something the audience is interested in. Hopefully they are listening to you because they have an interest in what you are saying.
2. Let the audience know why you are personally interested and expert in the topic.
3. If there was a speaker before you, if relevant connect your presentation's key point with theirs.
4. Ask a key question of the audience at the start. You won't be looking for an answer, but you will encourage your audience to think about what the answer might be and why they might want to know the answer.
5. Make it clear what the audience will learn from your presentation.
6. If you have a statistic, present it.
7. Use relevant diagrams and graphics to attract the attention of the audience.
8. Tell relevant personal stories and anecdotes to hold the audience's attention.
9. Keep the presentation short and on time.
10. Humour, well-judged, can engage an audience.

4.3.1

Presentations: Non-verbal communications

Obviously, oral presentations involve verbal communications: speaking to our audience. However, using non-verbal communication to engage our audience is also an integral aspect of an effective presentation.

Body Posture and Movement

How we use our body is an important part of our communication during oral presentations. Moving around too much may be distracting for our audience, while standing completely still will seem wooden and unnatural. The most important element is to make sure that body and hand movements are controlled and, ideally, confident. Here are some suggestions for how we should use our bodies during presentations to communicate more effectively:

- Stand with an open posture, opening your shoulders/torso toward the audience
 - Avoid closed or 'defensive' postures (such as placing your hands in your pockets or crossing your arms) and submissive postures (such as standing at military attention or with your hands clasped in front)
- Until you become more confident moving around in a controlled way, the easiest thing to do is to set your feet about shoulder-width apart, with a slightly open posture
- It is okay to move around a little during the presentation, as long as you don't distract the audience. Make sure not to walk in the way of the presentation slides, and always come back to standing in an open posture

As we present, we must maintain awareness of what we are doing with our body, so that we can maintain an open, communicative posture.

Using Hand Gestures to Enhance Communication

It is very natural for people to gesture with their hands while they speak (referred to as gesticulation). As with the way we use the rest of our body - the key is to be in control. Rather than flailing our arms about, we should try to use specific gestures, using our hands to help communicate in a natural way.

Making Eye Contact

It has been said that 'the eyes are the window to the soul'. Certainly, looking our audience in their eyes facilitates better audience engagement. This dynamic changes somewhat with the size of the audience. It can be difficult to make eye contact when there is a larger audience. In this case, we can let our eyes rest on sections of the audience, rather than making eye contact with individuals, so that we have a chance of connecting with the whole audience. Avoid looking at just one or two people only, as this can be disconcerting for those you are looking at all the time. Try breaking the room into sections and look at different sections at different times.

Importance of eye contact

Here are five reasons why we should make eye contact in an oral presentation:

1. It will help you concentrate on your presentation more and give you more confidence.
 2. You will look more authoritative in what you are saying.
 3. People will engage more with you and will actively listen when you look directly at them.
 4. It can help you slow down when you speak so your communication is more effective.
 5. Making eye contact changes our facial expression, helping the audience connect more with us.
-

4.3.2 References and additional resources

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Fisher, W. R. (1989). *Human Communication as Narration: Toward a Philosophy of Reason, Value, and Action*. Columbia: University of South Carolina Press.

Additional resources

Gross, A and Harmon, J (2009). The Structure of PowerPoint Presentations: The Art of Grasping Things Whole. *IEEE Transactions on Professional Communication*, 52 (2) (<http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=4957828>), 121-137

Martin, D. (2005). Evaluating oral presentations. *Journal of Computing Sciences in Colleges*, 20 (3), 48-54

This is a useful site providing information on structuring a presentation.

University of Southern California, Research guides <http://libguides.usc.edu/writingguide/oralpresentation>, Accessed April 2016

How not to present <https://www.youtube.com/watch?v=S5c1susCPAE> Accessed April 2016

Tips for getting the audience's attention <https://www.youtube.com/watch?v=k8GvTgWtR7o>
Accessed April 2016

5

Chapter 5: Meetings - Purpose and Structure

Overview

In this chapter we will cover the following:

- The basics of a meeting
- The structure for a successful meeting
- Meeting terminology and procedures
- The work of the chair and committee members
- Job interviews (a particular form of meeting)

Learning outcomes

From this chapter you will learn:

- The basics of a meeting structure
 - How to conduct and manage a meeting successfully
 - The procedures of a meeting, including the decision making process
 - The responsibilities of the chair and members
 - The keys to a successful interview
-

5.1

Meetings - Purpose and Structure

The first half of this chapter explores meetings: their structure and purpose, terminology and procedures, and how to ensure a successful meeting.

Definition: A meeting can be defined simply as two or more people coming together to communicate with each other, usually for a particular purpose.

The purpose of a meeting can be anything: from community members discussing an important issue, to a more business-orientated objective.

Structure of Meetings

Meetings can be structured in many ways. They can be formal or informal, subject to elaborate systems of rules and conventions, or completely without ceremony.

Formal Meetings

Formal meetings:

- are usually well structured
- have rules and regulations that provide the framework for the meeting
- are designed to allow all members to participate, but interactions are generally limited by the formal procedures
- generally focus on the leader who manages the meeting and the discussion
- will generate some final decisions, whereas other decisions may be deferred to later meetings

Example: Liam's meeting in the case study was set up to be a formal meeting. It featured someone who chaired the meeting and managed the discussion. There was a process with formal procedures.

Informal Meetings

"The majority of meetings are held informally and use the consensus method where the participants discuss a topic to the point they can all agree (or agree to disagree and can move forward)" (Aldridge, 2013).

Informal meetings therefore are:

- not well-structured
- usually held to exchange information, solve problems, make decisions and set goals

- designed to be task-oriented with group participation, feedback and interaction, usually leading to the final decision and action.
- not necessarily in a formal setting



Example: in preparing a group assignment, you will have an informal meeting with your group. There will be a key topic, but not a formal structure. The purpose will be to progress the assignment and possibly assign tasks.

Purpose of Meetings

When meetings are managed properly, they can be a dynamic arena in which:

- Problems are solved
- Decisions are made
- Actions are planned and taken
- Information is shared
- Group morale is boosted
- Communication quality and quantity are maximised
- Satisfaction, rapport, synergy and effectiveness are experienced by all present

Well-run meetings are an effective way of:

- Planning strategies
- Providing and clarifying information
- Encouraging problem-solving
- Coordinating efforts
- Motivating
- Allowing for exchange of ideas
- Evaluating performance
- Giving and receiving feedback
- Building a team

5.1.1 Keys to a Successful Meeting

"The meeting that drones on and on; the meeting where everyone sits fiddling with his or her smartphone; the meeting that Doug from Accounting hijacks; or the meeting where almost everyone in the room is wondering the same thing: Why am I even here?" Hartman (2014)

For many people, what Hartman describes is their experience of meetings. How can we improve on this situation?

How to have a Successful Meeting

For a meeting to be successful, there are ten steps that should be followed:

1. *Define the purpose:* What is the purpose of the meeting? What does it need to achieve?
2. *Select the participants:* Determine who needs to be there. There is little point in forcing someone to sit through a long meeting when they could get the information they need from documents emailed around later, or if the matter does not involve them.
3. *Provide sufficient notification:* People generally dislike being asked to attend a meeting at the last minute (and they may already be busy). Give them time to organise themselves and fit the meeting into their schedule.
4. *Prepare a realistic agenda:* Depending on the length of the meeting, the number of items you can get through may be limited. Don't try to cram too many things in.
5. *Arrange a suitable venue:* The venue should be easily accessible for all attendees. If it involves only staff within the organisation, then a location at that organisation's premises may be ideal. If it is between two or more organisations, a neutral location somewhere between the two offices may be better.
6. *Follow proper procedures:* Ensure that meeting procedures are followed to keep everyone on track.
7. *Provide prompt feedback to all participants:* Actions or results of the meeting should be communicated to the participants as soon as possible.
8. *Prepare an action list:* Outline who is responsible for jobs or tasks decided upon in the meeting.
9. *Keep an accurate record:* A secretary should take notes for the minutes to ensure that all information required and all decisions made in the meeting are recorded.
10. *Follow up:* Check to make sure that those responsible for completing their tasks are on track to complete those tasks.

Preparation

Before the meeting, you need to work out the five Ws:

1. Why?

Clarify the meeting's purpose. Is it really necessary? The purpose may be:

- Information sharing
- Decision making
- Information dissemination
- Symbolic
- Social

If there is little information that needs to be shared and/or it is relatively unimportant, it may be better to distribute it via other means (such as email) rather than holding a meeting.

2. Who?

Decide who needs to be there. For some meetings, this is fixed and remains more or less the same (e.g. board members, shareholders). If some people on the list are only there to obtain information, they could potentially get it another way (e.g. by looking at the agenda or minutes). Consider who specifically needs to be there to:

- Provide information
- Offer advice
- Offer specialised expertise
- Authorise action

3. When?

The length and timing of a meeting depends on a number of factors. For example, public or community meetings should be held in the evenings (to allow for people who work full time during the day). If a meeting is held within the organisation, it should not be held too late in the day (people are tired) or too early (people are not fully awake), and it should not go for too long. 90 minutes is about the maximum before people stop paying attention.

4. Where?

When deciding a meeting's location, it is important to consider some territorial and non-verbal aspects. For example, a meeting in the boss's office may feel more intimidating than a meeting in a meeting room or in some other external, neutral location.

5. What?

Before holding a meeting, you should always develop a plan or agenda so that you know what needs to be covered and can keep the meeting on track. Otherwise you run the risk of wasting time on unimportant matters and running out of time to discuss key issues.

Seating Arrangements

Venue selection is important, but so are the seating arrangements within that venue. Having people sit at the table creates formality. All should be at an equal height. There are some physical factors that should be considered, such as:

- Sight lines: Can everyone see everyone else?
- Acoustics: Can everyone hear everyone else?

In addition to these physical factors, the physical layout of the table and where people sit relative to each other can symbolise power dynamics:

- Long rectangular tables: "Traditional". Such tables focus on power, with the leader sitting at one end.
- Round tables: Ideal. Everyone is evenly spaced and can see one another's actions and reactions.

You can see from the picture below that each person is able to see the others at the table.



- Oval tables: A compromise between rectangle and round tables
 - Square: If a square table is too large, it can be problematic for people sitting in the corners
-

5.1.2 Terminology and Procedures

Formal meetings should adhere to formal procedures. There are a number of key words and phases that you need to know.

Agenda and Minutes

Agendas and minutes are the two meeting-related documents you will encounter most often.

Agenda

Board Meeting Agenda		
Date	Thursday March 3rd 2016	
Time	6.00 – 8.00 pm	
Location	Melbourne – Farah House, 25 Flinders Lane	
Chair	Peter Brain	
Attendees	J. Wakes; R. Roland; J. Chang; G. Black; J. Conroy & G. Mattiel (Minute-taker) C. Taylor (Guest)	
Apologies	E. Beckiaris	
Time	Topic	Presenter
6:00 pm	1.0 Meeting Opening 1.1 Apologies 1.2 Director Conflicts of Interest 1.3 Previous Minutes (26th November 2015 Meeting) 1.4 Matters Arising/Action List Refer attached	Chair
6:10 pm	2.0 Chair Person's Report 2.1 Australian Institute of Company Directors Seminar – report to Board 2.2 New L+ Constitution – ratified by CAV 2.3 New Board Appointment	Chair
7:00 pm	3.0 EO Report Funding streams update Advocacy progress – statistics / audit Progress on DSS items Update on L+ programmes presently underway Dandenong site update	EO
7:30pm	5.0 Matters for Decision	EO
7:50pm	6.0 Matters for Discussion	All

The agenda acts as a plan for a meeting. It provides a timetable for the meeting, states who will speak to which items and details the meeting contents (i.e. what needs to be discussed) briefly. The secretary usually prepares the agenda in consultation with the chairperson.

Minutes

The minutes are a record of what actually went on at the meeting, i.e. what was said and by whom, and any decisions that were made. Minutes are important because they are the formal record of what went on and particular decisions that were made. It may be the case that months or years later someone will want to know when a particular decision was made

Other Terminology

There are a number of other terms you should be aware of when conducting or participating in a formal meeting.

Definition: Standing orders are the rules used to manage the work of a committee. They govern the procedures of the committee.

It is likely you will have heard this term in relation to parliament

Definition: Point of order: "is a tool, which is used to draw attention to a breach in rules, an irregularity in procedure, the irrelevance or continued repetition of a speaker or the breaching of established practices or contradiction of a previous decision."
(The Meetings Institute, 2016)

A point of order can be used at any time during a meeting. The chairperson rules on the point of order after discussion.

Definition: Quorum "is the minimum number of people who must be present for the meeting to transact any business. The quorum is normally in the constitution of an organisation or sometimes in the By-Laws" (The Meetings Institute, 2016)

If the number of committee members able to attend a meeting is too low, this makes decision making difficult. Once decisions are made, they are minuted and binding. Therefore, a quorum is often required for binding decision-making.

Definition: Motion A formal proposal for action or change put to a meeting that calls for those present to vote for or against it. It is a way of getting definite decisions out of the meeting

Once a motion is put to the meeting, it will be recorded in the minutes with the outcome of the vote. Motions are discussed in more detail in the next section.

The Meetings Institute (2016) lists many more terms that may be used in relation to meetings.

While meetings can be informal, many follow a formal procedure. It is important to be aware of these formal aspects in order to participate in effective meetings.

5.1.2.1 Motions - Making a Decision

Motions

Making a decision in a formal meeting requires a certain process to be followed. This process is laid out below:

- Notice
- Proposal
- Motion
- Moved Seconded Amended Vote
- Casting Vote. The chairperson does not usually vote unless the vote is tied. When the chairperson votes it is called a casting vote
- Resolution

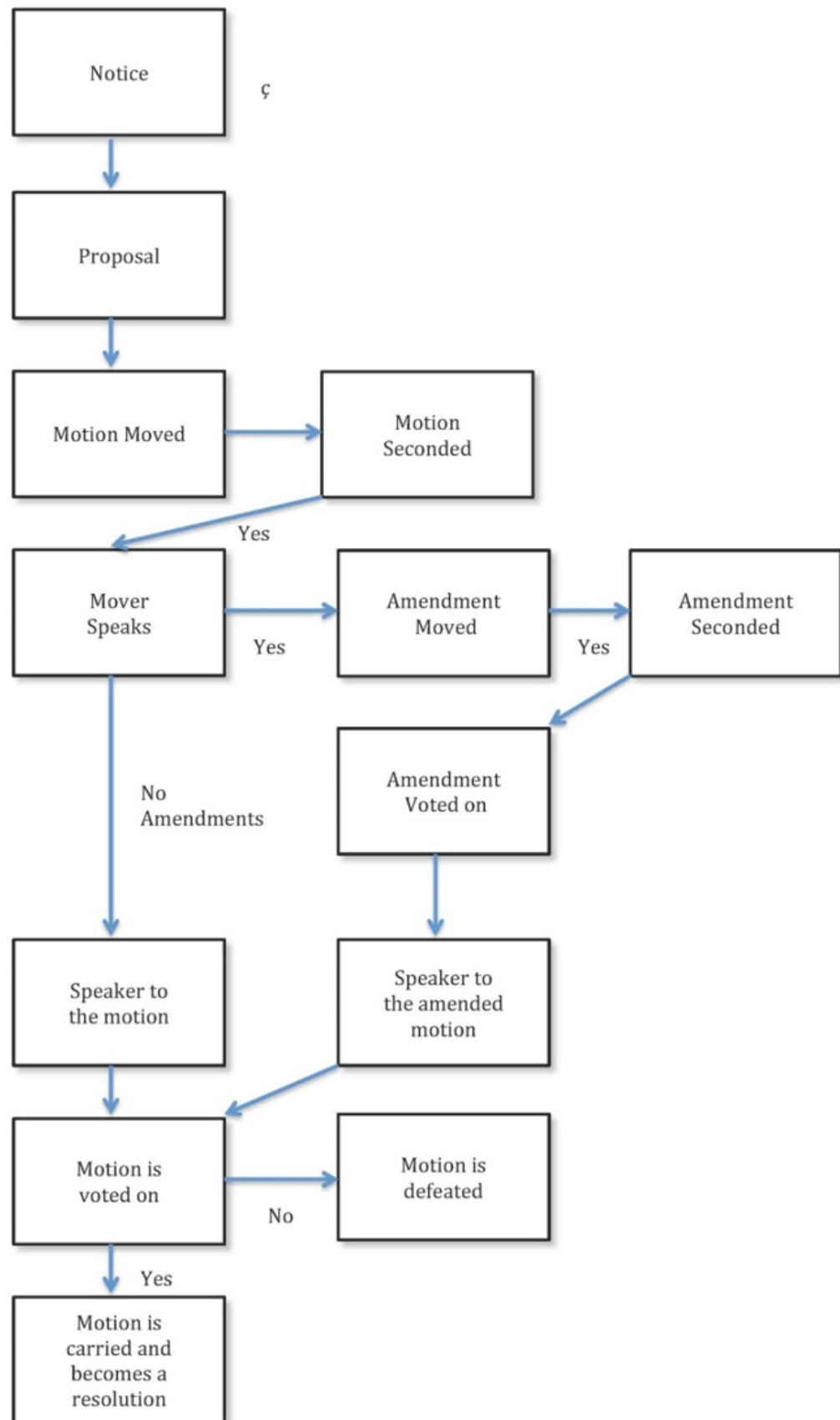
A motion is usually put forward in writing, and put on the agenda. A motion must be seconded by another member before discussion. The chairperson then asks members to speak for and against the motion. At this point, the motion may be amended.

Consider the meeting Liam is chairing. Liam has put a motion to the committee that each section of the organisation must send a senior representative to each meeting. However, Lin objects and asks for an amendment

Motion: 'That each section of the organisation must send a senior representative to each meeting of the committee.'

Amendment: 'Replace the words "senior representative" with the words "appropriate representative".'

Lin is concerned that if she has to find a senior person for each meeting this will cause problems in her section as there are only two people who fit the criteria. The process then is for the meeting to discuss and agree on Lin's amendment. If they do, the motion is 'put' and the members vote.



Right of reply

After general discussion, before the vote, the originator of the motion has a chance to reiterate and emphasise the main points.

When voting for the motion, the voting process is specified by the organisation's standing orders.

Carried (passed)

A motion is usually won or lost with a simple majority, though this may vary (e.g. a 2/3 majority). When a motion wins or is passed, it is generally said to have been 'carried'.

5.1.3 Meeting Participants - Members

Members' Responsibilities

Regardless of what the chairperson does, it is also necessary for other members to do the right thing in order to make sure the meeting is successful. This means they need to:

Prepare

Before attending the meeting, members should prepare themselves so they know what is going on in the meeting. This helps the meeting proceed as smoothly as possible. You can do this by:

- Reading the agenda and minutes of the previous meeting and any attachments or reports circulated prior to the meeting
- Preparing (in writing) any proposals and motions you wish to put to the meeting
- Give reasons for any proposal
- Present any relevant background information
- Catch members' attention
- State your main points clearly during discussion

Understand the procedures

Members should understand and follow proper meeting procedures, including:

- Addressing the meeting through the chairperson; remember formal procedure
- Not doing things out of order such as jump to other agenda items
- Not re-opening a debate after a motion has been voted on, etc.

In addition to these things, you should know how to conduct yourself in a professional manner. This goes for communication in general, as well as for meetings. This means practising general courtesy and meeting manners in addition to following the rules. E.g.

- Arrive on time
- Follow the agenda
- Avoid interruptions (such as phones; turn them off or put them on silent)
- Avoid distractions
- Don't interrupt others while they are speaking
- Let the chair run the meeting
- Contribute as appropriate

5.1.3.1 Thinking Hats

"Six Thinking Hats® is a time-tested tool that boosts creative and collaborative performance. It provides a framework to focus and broaden thinking by separating out six different ingredients in thinking. This approach leads to thorough thinking and solid solutions as each person's unique point of view is considered at each thinking step during the process-focused parallel thinking." (Curtin, <http://www.lyndacurtin.com/index.php/services/creativity-power-sessions/six-thinking-hats>)

Why do we attend meetings?

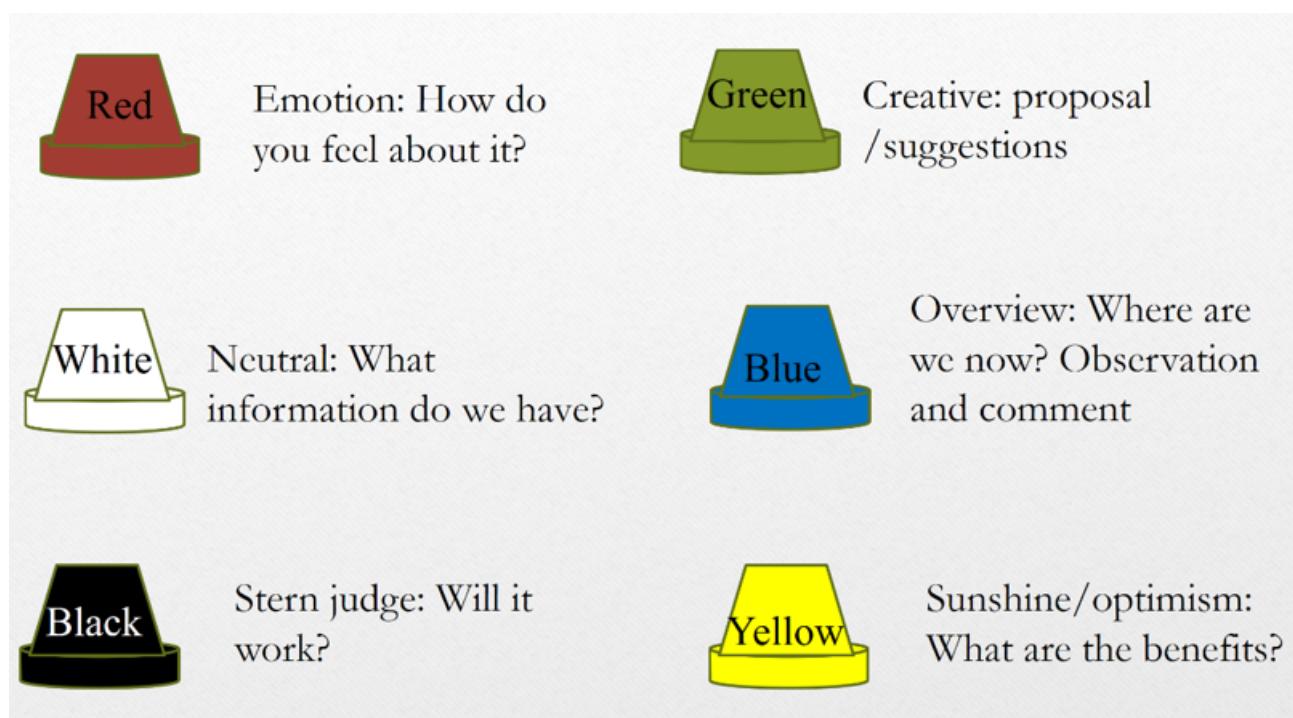
Most people will attend meetings at some point throughout their careers. The reasons they attend meetings are varied and include:

- They see the need
- They are involved with the intent of the meeting
- They are required to attend by their boss or by virtue of their position in an organisation
- They like the social side of meetings

The de Bono Hats System

The de Bono (1985) Hats system (also known as "Six Hats" or "Six Thinking Hats") is a tool for group discussion and individual thinking. It is essentially a way of classifying the way people think by using coloured "thinking hats". Each hat has a function. By thinking in terms of these hats, group members can move forward on a topic or in a meeting.

The general classifications are as follows:



5.1.4

Meeting Participants - Chairperson

Participants

In every meeting, the participants take on different roles.

- Chairperson
- Deputy chairperson
- Secretary
- Members

Duties of the Chairperson

The chairperson has a number of duties they must perform before and during each meeting.

Chairperson duties



Prior to a meeting:

- Set meeting objectives (as per agenda)
- Attendance (apologies)
- Prepare and circulate agenda
- Manage: day, time, place

During the meeting:

- Welcome members
- Meeting aims
- Prioritise agenda items and timing
- Confirm minutes
- Discuss agenda items (provide feedback if needed)
- Manage motions
- Confirm action items and who is responsible
- Close meeting

The chairperson has a number of other formal duties, including:

- Interpreting and clarifying points and issues
- Summarising points of agreement
- Moving discussion forward
- Encouraging participation from all attendees
- Bringing discussion to a resolution

Performing all of these duties is challenging and it is rare to find one person who can do them all well. Chairpersons are not necessary for informal meetings involving only a few people, but for larger or more formal meetings, they are invaluable.

5.1.5

Meeting Communication

Communication at Meetings

In order for the effective exchange of ideas and decision making to take place, a high level of communication between members is needed. This can be achieved in a number of ways.

- All members, as well as the chairperson, need to create a positive atmosphere, support and encourage contributions, reconcile disagreements and reduce tensions
- Members need to be willing to negotiate, modify their position and admit to errors
- Encourage and facilitate discussion and contributions by listening, giving feedback, motivating others and influencing opinion
- Avoid defensive or dysfunctional behaviour (e.g. blocking ideas, rebelling). Such behaviour lowers the performance of the whole group

Barriers to Effective Communication

These apply not only to meetings, but to communication in general:

- Poor verbal skills
- Inappropriate non-verbal behaviour
- Ineffective listening
- Unwillingness to contribute ideas
- Unwillingness to listen to others
- Unwillingness to use power and implement decisions

Minutes

As previously mentioned, the minutes are an important record of the meeting.

Decision-Making and Problem Solving in Meetings

Some team decision-making strategies (which we will look at in more detail in Chapter 6) can also be useful when applied to meetings.

Outcomes

- Provide feedback to the participants as soon as possible. Include an action list
- Follow-up should be done before the next meeting

After the Meeting

- Complete and confirm the minutes
- Follow up on action items
- Establish sub-committees where appropriate

- Track progress
- Keep key stakeholders informed

Board Meeting Minutes	
Thursday April 28 th 2016	
6.00 – 8.00 pm	
Melbourne – Farah House, 25 Flinders Lane	
Topic	Presenter
1.0 Meeting Opening 1.1 Apologies E. Beckiaris 1.2 Director Conflicts of Interest No conflict of interest raised 1.3 Previous Minutes (31 st March 2016 Meeting) Motion moved 1. G. Black 2. R. Roland 1.4 Matters Arising/Action List Refer attached	Chair
M. Musk invited to speak to the board. She reported on the quality audit. Suggest that the report be against targets and compared with previous period. Suggest change to the regular survey. The exit survey is still conducted and outcomes presented to the board every six months. Action: The chair proposed another quality meeting with outcomes be presented to the board. Leadership Plus. He presented the different options and answered questions from	Guest

There are a number of things all minutes documents should include:

- Name of meeting
- Date and time of meeting
- Attendance (who was there) and apologies (who was absent)
- Numbered items (from the agenda)
- Action after each item and who is responsible
- Details of any motions who moved them and outcomes
- Time meeting was closed

5.2 Job Interviews

The second half of this chapter deals with job interviews. Remember that a job interview involves a meeting with a selection committee or a single interviewer. We focus here on job interviews, the questions you may face and how you can prepare for them in order to have a better chance of winning that job.

When a prospective employer offers you a job interview, there are a number of things they want to know about you. They are likely to already have your CV and qualifications. Now they want to know things that may not be in your CV. These include:

- What you are like as a person
 - Your educational experience
 - Your work experience
 - Your interests/leisure activities
 - What you expect from the position
 - Whether you will suit their company
-

5.2.1 Interview Preparation

Interviews can be daunting, but there are a few things you can do beforehand to improve your chances of getting a job, such as:

- Understand the selection criteria and how you meet them
- Research the company; particularly the area you are hoping to work in
- Anticipate questions
- Practice (have someone conduct a mock interview with you)
- Know yourself

Selection criteria

Selection criteria are the skills, attributes, experience and education that the employer has defined as being essential or desirable for satisfying the requirements of the job. It is important to identify and clarify what the employer is looking for so that you can demonstrate that you have what they want.

Know yourself

People all have different strengths and weaknesses in terms of how they learn. You will also have specific strengths and weakness relevant to the job. Be aware of these. There are a number of theories that explore the concept of knowing yourself.

Learning styles

Fleming's (2001) VAK/VARK model describes three learning styles:

- Auditory
- Visual
- Kinesthetic

Consider which style you are. Knowing your preferred style of learning may help you better understand some of your strengths and weaknesses.

Multiple Intelligence Theory

The Multiple Intelligence Theory (Gardner, 1983) is related to "Emotional Intelligence", which we looked at in Chapter 2. It describes the different types of intelligence people have:

- Linguistic
- Logical-mathematical
- Musical
- Bodily-kinesthetic
- Spatial
- Interpersonal
- Intrapersonal

5.2.2 The Interview

Skills and Attributes Checklist

In an interview, the employer will ask you questions about yourself which may be tricky to answer without some forethought. Some things you should be aware of are:

- Your strongest skills
- The areas in which you are most knowledgeable
- The strongest parts of your personality
- The things you do best
- The skills you should develop
- Your key accomplishments
- Why you want to work for the organisation.

"Tell us about yourself"

This is a common interview question that enables you to highlight your key attributes and strengths. It is a good idea to prepare and practice an answer to this question. However, be sure to sound natural and conversational, and keep your answer simple. Avoid sounding 'memorised'. This is one way you could structure your answer:

- Brief introduction
- Key accomplishments
- Key strengths (demonstrated by these accomplishments)
- How you see yourself performing and developing in the program/position

The STAR Approach

Job interviewers will often ask questions about difficult situations you have found yourself in and how you have dealt with those situations. It can be useful to structure your response following the STAR approach:

S = Situation

Briefly describes the situation or scene.

T = Task

Say what needed to be done to address the situation and what your role and responsibilities were.

A = Action

Say what you did and how you did it. Include your reasons if they are useful or relevant.

R = Result

Say what happened as a result of your actions.

Example

S = Situation

Interviewer: Tell me about how you dealt with a difficult user problem?

Interviewee: I had a problem where a user in my area was struggling to print a document

T = Task

Interviewee: I went to the user's desk and observed their problem.

A = Action

Interviewee: I discussed the different issues there might be with the user. I then had a look more closely at the document and their workstation. I tried a number of things without success.

R = Result

Interviewee: It wasn't clear what the problem was so I called someone with more expertise. They came and were able to sort it out.

Presentation

Once you get to the interview, it is important to present yourself in a professional and confident manner.

Dress

Your appearance should reflect not just how you want to look. Ideally, your dress and appearance should suit what you know about the company. Things to consider:

- Choice of clothing: Should be conservative and appropriate to a business environment. It should also be clean and ironed.
- Appropriate shoes: Should be clean/polished.
- Accessories: Should be conservative.
- Hairstyle/hair grooming: Should be neat and clean.
- Personal hygiene: Clean fingernails, brushed teeth, etc.

Etiquette

- Punctuality: Know your route/destination and plan to be 15 minutes early. It can be useful to visit the interview venue before the actual interview to familiarise yourself with the area and how long it

takes you to get there. This can reduce the chance of being late (and becoming flustered/anxious) on the day.

- Greeting: First impressions are important when you meet the interviewer. Smile, make good eye contact and use a firm handshake (note: this applies to a western culture. Other cultures may have different expectations).
- Turn your phone off: Your phone should be completely off, not just on silent with a buzzing alert as this can still be annoying and distracting (both for you and the interviewer).

Manner

- Be enthusiastic, interested, positive, confident and bright, but not arrogant. Listen.
- Avoid yes/no answers. Expand and elaborate (but not too much).
- Be aware of who the interviewers are. Look at them and talk to them!

Non-verbal Communication

Recall all the non-verbal communication cues with positive connotations (from chapter 2):

- Maintain eye contact
- Speak at a moderate pace, volume, and pitch
- Use head and face to agree with both positive and negative statements
- Don't fidget
- Keep hands in an open position
- Keep arms, legs and feet uncrossed
- Lean forward slightly
- Try to appear calm and relaxed

Nerves

There are many physical manifestations of nerves, such as sweaty palms, flushed face, and dry mouth.

Preparation and practice help, as does doing breathing exercises. You can also refer to Chapter 4 of this ePub to see strategies for managing nerves for oral presentations.

Answering Questions

It may seem strange, but you can do some preparation for answering questions in an interview. It is worth practising the following:

- Anticipate what questions may be asked and prepare general points. Don't memorise answers as it can sometimes sound like you are just 'reciting'.
- Prepare a bank of relevant examples or personal anecdotes you can use to answer questions.
- Consider how much to say in your answer. Elaborate and expand where required, but don't waffle.
- Show confidence, enthusiasm, and good communication skills.

Asking Questions

In addition to answering questions, it is important for you to ask questions in the interview as well. This not only helps you clarify anything you may be unsure of. It also demonstrates to the interviewer that you are truly interested in the job.

- Think of at least two questions to ask the interviewer. Focus on questions related to the role.

- Don't ask a question for which you should know the answer from your company research.
- Don't ask about salary at the first interview.

Closing

- Thank the panel for their time, smile and shake hands. Reiterate your interest but don't appear too desperate.
 - Don't evaluate your performance until you leave the room.
 - Don't apologise.
-

5.2.3 Types of Interviews

Throughout your professional career, you will likely experience a number of different types of interviews while you are job hunting.

Stress Interviews

Stress interviews are a deliberate attempt to see how you handle yourself under duress. The interviewer may be sarcastic or argumentative, or may keep you waiting. Expect this to happen and, when it does, don't take it personally. Calmly answer each question as it comes. Ask for clarification if you need it and never rush into an answer. The interviewer may also lapse into silence at some point during the questioning.

Recognize this as an attempt to unnerve you. Sit silently until the interviewer resumes the questions. If a minute goes by, ask if he or she needs clarification of your last comments.

One-On-One Interview

In a one-on-one interview, it has been established that you have the skills and education necessary for the position. The interviewer wants to see if you will fit in with the company, and how your skills will complement the rest of the department. Your goal in a one-on-one interview is to establish rapport with the interviewer and show him or her that your qualifications will benefit the company.

Screening Interview

A screening interview is meant to weed out unqualified candidates and are often conducted by a consulting company engaged in a search process for the right candidate. Typically, they will, after a screening interview, put forward two or three candidates to the company looking for staff.

Providing facts about your skills is more important than establishing rapport. Interviewers will work from an outline of points they want to cover, looking for inconsistencies in your resume and challenging your qualifications. Provide answers to their questions, and never volunteer any additional information. That information could work against you. One type of screening interview is the telephone interview.

Telephone Interview

Telephone interviews are merely screening interviews meant to eliminate poorly qualified candidates so that only a few are left for personal interviews. You might be called out of the blue, or a telephone call to check on your resume might turn into an interview. Your mission is to be invited for a personal face-to-face interview.

Lunch Interview

The same rules apply in lunch interviews as in those held at the office. The setting may be more casual,

but remember it is a business lunch and you are being watched carefully. Use the lunch interview to develop common ground with your interviewer. Follow his or her lead in both selection of food and in etiquette. Polish your table manners.

Committee Interview

Committee interviews are a common practice. You will face several members of the company who have a say in whether you are hired. When answering questions from several people, speak directly to the person asking the question; it is not necessary to answer to the group. In some committee interviews, you may be asked to demonstrate your problem-solving skills. The committee will outline a situation and ask you to formulate a plan that deals with the problem. You don't have to come up with the ultimate solution. The interviewers are looking for how you apply your knowledge and skills to a real-life situation.

Group Interview

A group interview is usually designed to uncover the leadership potential of prospective managers and employees who will be dealing with the public. The front-runner candidates are gathered together in an informal, discussion-type interview. A subject is introduced and the interviewer will start off the discussion. The goal of the group interview is to see how you interact with others and how you use your knowledge and reasoning powers to win others over. If you do well in the group interview, you can expect to be asked back for a more extensive interview.

What Interviewers Look For

In an interview, interviewers observe and assess:

- Behaviour
 - Interaction with others and interpersonal ability
 - Communication skills
 - Impression made
 - Contribution and participation in team work
 - Persuasiveness and ability to influence others
 - Leadership and delegation
 - Organisation and planning skills
 - Ability to handle stress
 - Ability to deal with feedback
 - Ability to give constructive feedback
 - Problem solving and analytical skills

Summary

- Be punctual
- Dress appropriately
- Make a good first impression and greeting
- Exhibit appropriate non-verbal behaviour
- Answer questions fully. Expand, don't waffle
- Appear enthusiastic, bright, interested and confident
- Demonstrate good communication skills
- Be prepared. Know the position and the company. Use careers advisors

5.3

Week 5 References and additional Resources

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Additional Resources

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For an example of standing orders see
http://www.pcansw.org.au/docs/general/82/standing_orders_for_meetings.pdf

Good clip on chairing a meeting 6 minutes <https://www.youtube.com/watch?v=oPhKhTl0Lss>

Tips for an interview "What is my biggest weakness" <https://www.youtube.com/watch?v=Oyj2PCWHPHc>

6

Chapter 6: Teamwork

Overview

In this chapter we will cover teams and teamwork. This will include:

- Teams in organisations
- IT team structures and attributes
- Roles of team members
- Developmental stages of teams
- Characteristics of effective and failed teams

Learning outcomes

From this chapter you will:

- Understand why teamwork is important, particularly in an organisational context
- Be able to identify the positives and negatives of teams
- Be able to recognise the different styles of teams in IT
- Appreciate that there are different roles for team members, and that teams develop in different stages
- Recognise the elements that make an effective team, and the features of ineffective teams
- Understand the problems teams face and their solutions

6.1

Teamwork - Benefits and Limitations

Aristotle's statement that "the whole is greater than the sum of its parts" (Goodreads, 2016) is very relevant in the context of teams. Aristotle is arguing that when we work alone we are not as effective as when we work in a team. The output of the team is likely to be higher than if everyone worked alone. In this section, we will provide you with an overview of teams and teamwork.

In organisations, we find a variety of structures. Teams are just one. A distinction needs to be made between a team and a working group. Generally, a working group will not have performance goals and will primarily meet to exchange information.

Definition: A **team** is described as "a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable" (Katzenbach & Smith, 1993 p. 45)

Team work is "the process of working collaboratively with a group of people in order to achieve a goal" (BusinessDictionary.com)

Most organisations see the value of having staff members work in teams rather than individually in order to accomplish certain tasks.

'Complementary skills' does not mean everyone has the same skill set. A good team will include people with a variety of skills.

Complementary skills consist of technical / functional expertise, skills in problem-solving and decision making and Interpersonal skills (Katzenbach & Smith, 1993 pp. 47-48). Unlike a working group, teams will have performance goals and a more disciplined approach to the work.

Why Teamwork?

Teamwork is a required skill to succeed in the workplace. In a Monash University Employer Survey (2007), the capacity for co-operation and teamwork was ranked second in the top ten most desired skills of IT graduates in terms of importance. Approximately 70-82% of companies in the US use the team concept, making it one of the most commonly required workplace skills. The Australian Computer Society (ACS) core body of knowledge proposes that one element of ICT professional knowledge is teamwork concepts and issues. They argue that the topics that should be covered in ICT studies include "collaboration, group dynamics, leadership styles, conflict resolution, team development and groupware" (ACS 2015 pp. 9-10).

Positives

There are many positive reasons for learning how and being an effective team member. Some of these are:

- Synergy: The team's performance is greater than the sum of its equal parts, i.e. the team achieves more than all the team members could achieve working individually.
- Increased productivity through more effective problem solving and innovation
- Higher quality decisions given the different perspectives brought to the decision-making
- Improved processes
- Increased quality of work
- Reduced turnover and absenteeism
- Increased employee morale

Limitations

Though teamwork has many benefits, there are some limitations.

Groupthink:

Eunson (2012) describes groupthink as "a pattern of defective decision-making seen in groups," where "the more cohesive the group, the greater the chance of groupthink" (p. 594). It is often the case that as groups become closer, their thinking aligns. This can outweigh the benefits of the different perspectives individuals might bring. Symptoms of groupthink include:

- Illusion of invulnerability
- Rationalisation
- Belief in inherent morality
- Stereotyping opponents
- Direct pressure to conform within group
- Self-censorship
- Illusion of unanimity
- Mindguards (censors or gatekeepers)

There are potential solutions for avoiding groupthink:

- Examine alternatives, generate contingency plans
- Appoint a devil's advocate (someone who will deliberately propose a different option)
- Increase the size of the group and/or heterogeneity; bring in new ideas
- Remove physical isolation
- Facilitate organisational graffiti (anonymously input unpopular ideas and heresies or challenge dogmatic thinking)
- Eliminate competition with other groups (break down 'us and them' mentality)
- Make conformers into heroes (instead of shooting messengers, reward them)
- Create multiple affiliations (have group members report to more than one boss)
- Defer finality in decisions (have second-chance meeting)
- Manage impact of high-status members

Social loafing:

Social loafing refers to "the tendency of some group members to put in less effort if they believe their underperformance will not be noted - the phenomenon of one group member getting a 'free ride' while

others do the work" (Eunson, 2012, p. 585).

6.2

The Challenge of Teams

Teams are not a new concept. They have long been common in scientific and technical projects. A more recent development is the idea that teams are relevant throughout the workforce. In this section, we look at why teams are of value, but also some of the challenges teams present.

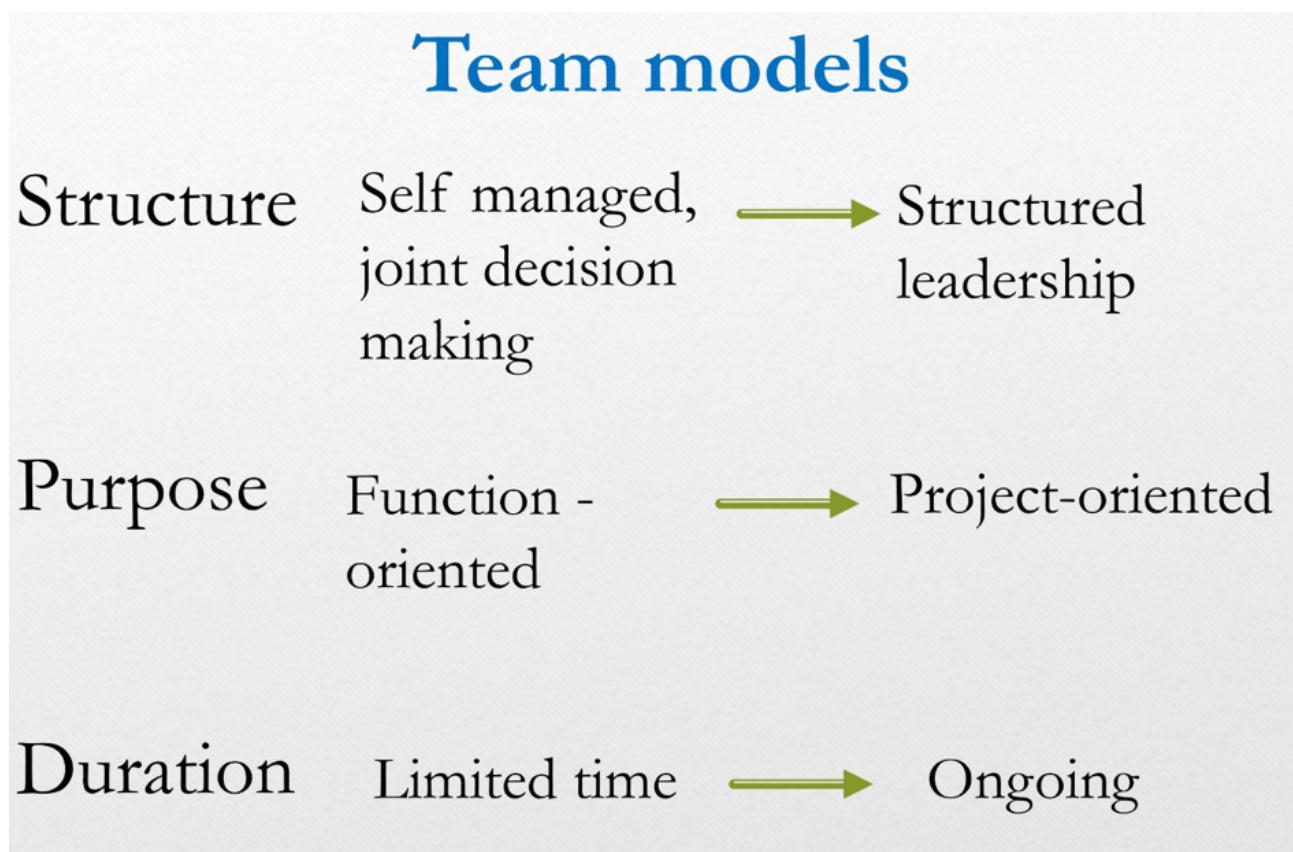
Value of Teams

Those who see teams as a good thing have varying levels of enthusiasm. Some promoters of teamwork are almost unbearably upbeat about the concept, while others are more cautious. However, most of them have the same view of teams within organisations. These views can be summarised as:

- Teams are a potential win/win for employees and organisations with improved outcomes
- Teams allow organisations to 'get more' from employees
- In order for teams to succeed within an organisation, the organisational culture has to change

Teams offer a different management style. Often there is no hierarchical structure with the team, although there is likely to be a team leader. Usually, decisions are made by the team rather than directed by a manager. This results in improved human relations, as employees are more collaborative, responsive, well-meaning and creative.

There is a range of models for teams.



Salem et al. (1992), suggest that self-managed work teams can lead to:

- Reduced absenteeism
- Increased productivity
- Increased employee satisfaction, morale and cohesiveness
- A multi-skilled workforce
- Increased flexibility in work practices
- Decreased need for managers

Structured leadership in the form of a group leader can help ensure the team is kept on track. However, the team may not be effective if the leader does not allow for open communication in the team and encourage collaboration and participation (Matthews & McLees, 2015).

Tapping into employees' knowledge, commitment and communication through teams is of significant value. However, teams must be effective. The characteristics of an effective team include the following:

- Shared goals and a supportive environment
- Emphasis on learning (and space for mistakes)
- Participation in decision-making
- Open communication
- Differences are 'recognised and handled' (Dyer, 1995)

Challenges of Teams

Though teamwork has benefits, critics have also noted a number of problems. Team approaches can be criticised as:

- A covert form of control; using employees' desire for less direct control from above as a way of making them work harder
- A means to secure employee knowledge and compliance on the cheap; using employees' desire to express their creativity for the organisation's benefit
- A distraction from an organisation's real problems; teams can sometimes be used to direct focus of attention away from broader questions of direction and purpose
- "People are better at whipping themselves" (Thompson & McHugh, 1995). Do people need to be controlled directly? Or can they be encouraged to whip themselves into line?
- 'Management by stress' (Parker & Slaughter, 1988). Teams have been combined with intensification/speed ups, especially in manufacturing
- 'Peer surveillance' (Sewell, 1998). Getting team members to monitor one another's performance (e.g. through inducement of team-based performance bonuses)

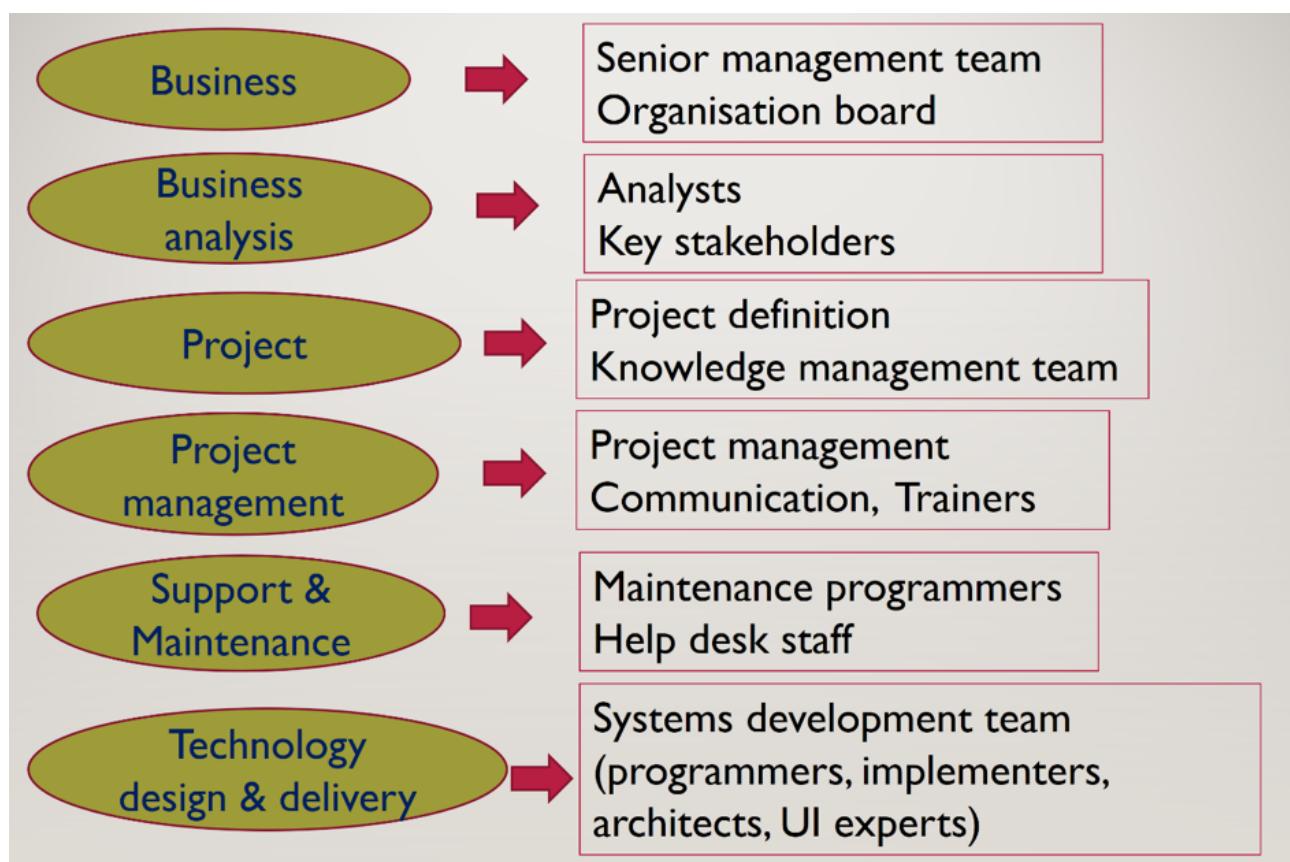
Some enthusiasts for teams also argue that bad practices have damaged their cause, and that many organisations continue to deploy team approaches as a surrogate solution for other problems. However, teams aren't a short term fix (Dyer, 1995) and they often fail in the absence of clear goals, support and the ability to take risks (Robbins & Finley, 2000).

6.3 Teams in IT

In this section, we cover teams in the context of IT workplaces and the types of teams you may experience or work in.

Types of teams in IT

Organisations will have many teams. Some are permanent and others temporary for a given project. Teams are often needed in IT for a range of functions, from support to software development. The diagram below provides an overview of the type of groupings that might be found in an organisation at the top level. At the top level are the business and the executive team. In organisations, there will always be an overarching team of managers to which areas within an organisation must report. On the right-hand side are examples of the types of teams that might be found that relate to IT.



In some cases, teams will be small. There may be just one development team, with different individuals contributing skills and performing different roles. Larger organisations with larger IT departments will have people with a range of skills, and these will be brought together in teams for particular tasks. For example:

- The project team would look at a high-level definition for a new system. This team will need skills to identify what the system will be needed to do and to define the project.
- The project management team will be responsible for overseeing the management of the whole project, communicating progress both to senior managers and staff impacted by any changes.

- Trainers will develop materials to train staff on a new or revised system.
- The support (help desk) team support users in their daily work.
- The maintenance team will be monitoring any needed changes or upgrades to systems.
- The technology development team will include programming teams, and user interface experts to help with interface design and usability.

There are many other types of teams, including people managing websites, database administration teams and experts in particular software packages.

Software development teams

Developing software is too large and complex for a single programmer to develop on their own in the time available. It is also unlikely one programmer will have all the skills required to complete the task of producing an effective, usable system. There are a number of reasons why IT projects are assigned to different work teams, including:

- The range of skills needed. IT work involves a wide range of skills from programming to understanding and working with users (as discussed above).
- In any workplace there are time pressures. Effective teams need to be efficient in how they use their time. With teams, work can be distributed for maximum efficiency.
- Increase in quality (work can be checked by more than one person).
- More effective (by using specialists for certain tasks).

However, the productivity increase depends on whether the process is inherently parallel (where two or more tasks can be completed simultaneously) or sequential (where certain tasks can only be completed once other tasks are complete).

Team Models

Matthews & McLees (2015) argue that building an effective IT team requires strong leadership to guide the project. They identify two important elements in team leadership: " (1) developing credibility and influence among team members, and (2) establishing a vision and goals for the team."

For high-performance teams, we could add to this setting performance goals and personal commitments. Personal commitments include both each member of the team's commitment to all other members of the team and to the goals of the team (Katzenbach & Smith, 1993 pp. 71-75).

There are numerous models for how teams are formed and operate. In IT three common approaches are:

IT team models

Chief programmer model (1970s)



Hierarchical model, chief programmer with the best technical skills makes the decisions. All communications go through the chief programmer

Democratic team



Decentralised, with no leader and everyone equal. Higher communication overhead (where everyone has to communicate with everyone else) and decision making can be difficult.

Virtual teams



Work in dispersed locations. Virtual teams are becoming more common, especially in outsourced IT environments

There may be multiple types of communication within a virtual team. For example, workers in the same physical workplace may still find it easier to communicate via voice mail or email.

It is also useful to have virtual team members meet face-to-face at least once (even though it may be difficult and/or expensive to organise) to allow them to establish communication norms.

6.4

Team Member Roles and Development Stages

We now look at the roles that teams might perform and how teams develop. These are important for understanding how to be more effective in a team.

Team Member Roles

When working in teams, people tend to take on different roles (whether consciously or not). These might include facilitating, giving directions, sharing information, finding information, giving feedback, monitoring and analysing (Matthews and McLees, 2015). The roles can be task-related or facilitating (i.e. helping the team work together). Other roles can be negative, where team members are defensive or hinder and undermine the progress of the team.

Team Development Stages

Understanding how teams develop and function can help us determine what is happening in a team, especially if things are not going well. Katzenbach & Smith (1993 p. 85) describe the 'team performance curve'. Initially, the performance of the group will be low. As the team starts to work together, however, they will gradually become more effective and their performance will improve.

Wisdom of Teams

Effective team leaders realize they neither know all the answers, nor can they succeed without the other members of the team. The wisdom of teams lies in recognizing that any person, whether previously an autocrat or a democrat, who genuinely believes in the purpose of the team and the team itself can lead the team toward higher performance. Katzenbach & Smith (1993, p. 86).

Bruce Tuckman (1965) proposed that team development consists of five stages.

1. Forming

The first stage of team development is Forming, also known as the 'getting to know you' or 'ice-breaking' stage. Group members attempt to identify what tasks they should be working on and begin to develop a sense of the group's independence. At this stage, task (job-related) and maintenance (interpersonal) roles are still unclear.

2. Storming

The second stage is Storming. Socio-emotional responses to task demands come to the fore, along with conflicts over leadership, control and influence, i.e. Who's in charge, who will be 'the star'? At this stage there are also misunderstandings about role and style behaviours and norms, conflicting goals, poor feedback and listening, ineffective group decision-making and problem-solving processes.

3. Norming

The third stage of team development is Norming, where formal and informal norms begin to emerge and cohesion between members begins to develop. Opinions are now stated more readily and are received in a less defensive manner.

4. Performing

The fourth stage is Performing, where the balance of rules and roles emerge. Synergy develops via positive role-playing (optimal mix of task and socio-emotional roles, with destructive role-playing under control). The group begins to produce solutions to the problem or task it is working on.

5. Adjourning

The fifth and final stage of team development are Adjourning, where the group reaches closure on its tasks. Members of the group may leave for a variety of reasons. At this stage, destructing role-playing may also become more prevalent.

Note on stages

Tuckman (1965) points out that not all groups or teams go through each stage; they may revisit a stage or skip one or more stages completely. Many groups continue to operate beyond the Adjourning stage, although their membership may change over time. Some groups may self-destruct before reaching stages 3-5. Others may have no storming phase if their cooperative spirit is greater than adversarial behaviour, and/or rules are already in place to regulate behaviour.

Team Processes

Most groups will develop processes or ways in which the team should behave and manage its business. Some of these will be informal (for example, exchanging ideas), while others will be formal (for example, taking minutes at meetings and following up on action items). Team processes which are accepted by the team are a key ingredient to team success (Peslak & Stanton, 2007). Team rules will describe the conduct of the team, their purpose and how the team should perform.

Formal Rules

Formal rules help define how the group will behave. Formal rules tend to be official, usually prescribed by the organisation. They can often be found in written form within the company's documentation.

Informal Rules

Informal norms are less specific and tend to be unofficial. Often they will develop over time within a group, and will generally not be found written down anywhere.

6.5 Effective Teams

Whether or not a team will be successful depends on a variety of factors, some external and some internal. This is discussed next.

Elements of Effective Team

Teams generally require all or at least most of the following if they are to be effective:

- A clear plan to achieve shared goals
- Clear roles
- Effective communication processes
- An optimal size (usually about 6-10 members)
- Excellent interpersonal and technical skills
- Open and trusting relationships with one another
- Accountability to the organisation
- Reward structures that are team-based

Effective teams require team members who:

- Are team focused rather than individually focussed
- Are content and process oriented
- Can handle conflict
- Are great communicators

Teams also require an effective leader who can:

- Challenge the process
- Inspire a shared vision
- Enable others to act

Building an Effective Team

Successful teams will share common approaches in how they have become effective. Katzenbach & Smith (1993 pp. 119-127) suggest the following:

- Ensure the team understands the urgency and direction of what is required
- Members of teams should be selected based on their skills rather than their personalities
- The first meeting will set the tone, establish the credentials and should leave a good impression on members
- There needs to be clear rules of behaviour
- Set achievable goals early to help give the team a sense of success when achieved
- The team should be regularly challenged in their thinking. This can be through new facts or information
- Teams should spend time together
- Ensure there is regular positive feedback to recognise and reward success or particular behaviour

Ineffective Teams

Usually teams fail when:

- They do not have enough time
 - They do not have enough resources
 - The resources they have are ineffective
 - They have no management support
 - There are technological challenges
 - There are team issues, such as personality conflicts or inadequate levels of experience in one or more members
-

6.6

Team Issues - Problems and Solutions

As discussed in a previous section, teams can face a number of problems which may be internal or external to the team itself. Some of these problems are explored below in more detail.

Internal problems

Over time, teams will face internal issues. Katzenbach & Smith (1993, pp. 151-159) identify a number of problems that might occur. For individuals it can be a loss of enthusiasm for the work, feeling unable to contribute properly or becoming cynical.

Issues internal to the team can include:

- Unconstructive meetings where there are no outcomes or one-sided discussions take place
- Meetings where the agenda takes precedence over decision making
- Personal attacks
- A weak sense of direction for the team
- Skill gaps in the team
- Differing levels of commitment by team members
- Poor leadership that needs help
- Poor time management. This can be one of the biggest issues with any extended project

Belbin (1981) describes successful teams as those that know how to mix and match different personality types. Belbin classifies these personality types as:

- The Monitor-Evaluator: May provide good overview of various options facing group, but not be able to excite others into action.
- The Team Worker: Helps keep group together, but can be indecisive.
- The Plant: Is creative, but may not communicate well, or attend to details.
- The Company Worker/Implementer: Practical thinker whose perceived lack of enthusiasm for radical thinking may frustrate other team members.

Each of these types has strengths and weaknesses.

Hidden agendas: Sometimes within teams, there may be members who, whether unconsciously or deliberately, act in a manner that is disruptive for the team. Foy (1999) describes these personality types as being 'anti-Belbin' and include roles such as the Hijacker, the Loose Cannon, the Passenger and the Sponge.

Common Solutions

There are a number of ways the problems described above can be reduced or removed.

1. **Shared goals:** Having shared goals can help a team be more successful, though it is not always necessary. Moore (1999, p. 211) believes a group can be described as a team if "they all have commitment to a set of shared values and objectives, together with an acceptance of how those objectives are to be met. In other words, they are not only in agreement as to where they are going but also on how they are to get there". In some teams, the members' goals may merely be

- mutually compatible rather than identical.
2. Motivation: It is important that team members feel motivated to complete the work. This can be achieved in a number of ways (such as fun motivational games) but if the work they are doing is intrinsically interesting, people are less likely to need motivation. The work they are doing needs to have meaning.
 3. Clear decision-making structure: Robbins and Finley (2000) identify seven basic approaches to team decision-making:
 - Consensus - everyone agrees with the decision or feels the same way
 - Majority rule - the decision is made based on what most people in the group think
 - Minority rule - a small sub-set of the team has the power to make the decisions
 - Averaging - there is compromise between the team members for them to agree on a 'middle ground'; ideally the decision should make everyone happy but often most people will still be unsatisfied in some way
 - Expert - when a team lacks the knowledge or skills to make a decision, they may bring in an expert to guide them
 - Authority rule without discussion - a dictator-like scenario where the leader makes all the decisions with no input from other team members
 4. Planning: Galvin, Prescott and Huseman (1992) argue that small groups can learn from American educationalist John Dewey's notion of reflective thinking, i.e:
 - Defining and analysing the problem
 - Establishing criteria for a solution
 - Proposing possible solutions
 - Evaluating possible solutions
 - Selecting a solution
 - Plotting a course of action
 5. Realistic expectations: Setting unrealistic goals (and inevitably failing to meet those goals) can lead to decreased morale and have a negative impact on future performance.

Problems External to the Team

Problems can exist not just within the team but in the larger organisation.

EXTERNAL PROBLEMS AND SOLUTIONS

PROBLEM

- Lack of resources (time, \$\$, staff, equipment)
- Poor communication within the organisation and other teams
- Lack of management support.
- Invisibility of the team within the organisation

SOLUTION

- Team leader meets with management regularly, raises resource issues early
- Team leader circulates team outcomes to organisation regularly, communicates organisational information to team.
- Team leader raises issue with management. Promotes team successes and outcomes.
- Communication ensures successes of the team are widely circulated.

6.7

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6.8

Chapter 6 - Quiz

7

Chapter 7 - Ethics

Overview

The key matters we deal with in this chapter are:

- What ethics is
- Theories related to ethics
- Professional ethics
- ACS code of ethics
- Examples of ethical dilemmas
- Whistle-blowing in IT

Learning Outcomes

What you can expect to learn from this chapter:

- How to distinguish between morality and ethics
- An understanding of ethical theories
- The role of ethics in professions
- Become familiar with the code of ethics for IT professionals
- Improve your understanding of the issues relating to whistle-blowing

7.1

Introduction to Ethics

Introduction to Ethics

Almost everyone in society shares core values. Most people desire life, happiness and the ability to accomplish their goals. There are two main ways we view the world:

- Selfish point of view: Consider only ourselves and our core values
- Ethical point of view: Respect other people and their core values

Definitions

Often the words 'morality' and 'ethics' are used interchangeably. They are, however, different.

Definition: Morality refers to a society's rules of conduct describing what an individual ought to do and ought not to do in various situations

Quinn (2011, p. 78) describes a society as an "association of people organised under a system of rules designed to advance the good of its members over time".

Definition: Ethics is "the philosophical study of morality, a rational examination into people's moral beliefs and behaviour" (Quinn, 2011, p. 79).

There are other definitions for ethics as well. Laudon (1995) describes ethics as being about the decision making and actions of free human beings... about what is good and what is evil, and how we come to make such judgements. Pemberton (1998) describes it as the study of the practices of making right and wrong moral choices - "right" and "wrong" insofar as society can best understand those terms.

Morality



Rules of the society
An individual's principles and understanding of right and wrong within the context of society's rules

Ethics



Rules of conduct for a group of people for example a profession

ACS CODE OF ETHICS

The ACS Code of Ethics, adopted by the ACS Council in 2001, is an ACS member you must uphold and observe the honour, dignity and effectiveness of being a professional. This entails, in addition to the obligations of being a member of the ACS, your adherence to the following Society values:

- 1 The Primacy of the Public Interest**
You will work to protect the public interest above those of personal, business or sectional interests.
- 2 The Enhancement of Quality of Life**
You will work to enhance the quality of life of those affected by your work.
- 3 Honesty**
You will be honest in your representation of skills, knowledge, services and products.
- 4 Competence**
You will work competently and diligently for your stakeholders.
- 5 Professionalism**
You will enhance your own professional development, and that of your colleagues and staff.
- 6 Responsibility**
You will enhance the integrity of the Society and the respect of its members for each other.

This Code of Ethics applies to all ACS members regardless of their role or specific area of expertise in the ACS industry.

Why study ethics?

Ethics helps us decide the best thing to do. New technologies bring with them new problems and situations, for which 'common wisdom' about what is right and wrong may not exist.

7.1.1 Ethical Theories

Ethical Theories

In this section we provide an overview of ethical theories. These different theories often underpin the way we operate, think and act.

Ethical Theories

Ethical theories provide a foundation for solving ethical problems we may encounter. There are a number of ethical theories which may be applicable depending on the culture or context. Theories of ethics have been developed by people who spend time thinking about why people act in different ways or hold different views about the best way to act. There are a number of categories relating to ethical theories, but we will just look at rule versus consequences approaches.

Rule oriented approaches

A rule based approach sets rules to follow. The rules that are set must be followed irrespective of the consequences. Even if there are logical or rational reasons not to follow the rules in certain circumstances, they must be adhered to. Examples of rule oriented approaches include:

- The golden rule, i.e. treat other people as you would like to be treated yourself (statutory or legal interpretation that takes into account the sense of words)
- Human Rights (laws governing our rights as people)
- Kantian ethics (based on the philosophy of Kant)
- The Ten Commandments (described in the Bible)

Consequence oriented approaches

Consequence oriented approaches involve making decisions based on the likely consequences. There are no fixed rules; each decision must be made on a case by case basis. This means that different responses to the same problem could be considered best in different circumstances. Rather than following set rules, people can disagree on moral issues. Examples include:

- Relativism (argues that morality is relative to someone's culture)
- Ethical Egoism (you make decisions based on what is best for you)
- Principle of Utility (decisions are right if they promote greater happiness)

7.2

Professional Ethics

The first half of this week's material has explored overarching ethical theories and how these may influence decision-making in certain situations. The second half will look at how ethics is relevant in professional situations, focusing particularly on formal ethical codes and ethical issues within information technology professions.

7.2.1 Professions and Professional Societies

We next return to the matter of professions and professional society. The concept of a profession was discussed briefly in Chapter 1. We extend that discussion here.

What is a profession?

Some of the recognised characteristics of a profession described by Ford and Gibbs (1996, cited in Quinn, 2011, p. 422) include:

- Initial professional education
- Accreditation
- Skills development
- Certification
- Licensing
- Professional development
- Code of ethics
- Professional society

Quinn questions whether a computer-related career is truly a profession, describing the characteristics of computer-related careers as:

- Certification and licensing not required
- College degree not required
- Apprenticeship not required
- Membership of a professional society is optional
- No specific requirements for continuing education

Professional Societies

There are a number of professional bodies which support those working in IT and provide accreditation. Professional societies offer memberships to individual practitioners and academics. Some of these societies are:

ACS*: The Australian Computer Society - www.acs.org.au

ACM: The Association for Computing Machinery - www.acm.org

IEEE: The Institute of Electrical and Electronic Engineers - www.ieee.org

BCS: British Computer Society - www.bcs.org

CSSA: Computer Society of South Africa - www.cssa.org.za

AIS: Association of Information Systems - www.aisnet.org

ITPA: The Information Technology Professionals Association - www.apesma asn au/professions/itpa/

Engineers Australia** - www.engineersaustralia.org.au

*All Monash IT graduates (BBIS, BCS, BITS, BSE) are eligible for membership of the ACS.

**Monash BSE graduates are eligible for membership of Engineers Australia.

Company memberships

Other societies offer membership to companies. For example:

- AISS: Australian Information Industry Association - aia.com.au
- AIMIA: Australian Interactive Multimedia Industry Association - aimia.com.au
- IIA: Internet Industry Association - iia.net.au

Purpose of Professional Societies

Why should we join a professional society? Belonging to a professional society has many benefits, both for individuals and organisations.

Value of professional societies to individuals

From the Australian Computer Society (ACS)

<https://www.acs.org.au/about-the-acss/about-us>

Ensure members realise their professional ambitions

Help members be the best they can be

Provides opportunities to network with others in the industry

Provide a range of resources to help with career development

Take advantage of professional development opportunities.

Ensure skills are internationally recognised through the ACS certification program

Help members realise their professional ambitions globally

Be connected with new opportunities

There are also good reasons for businesses and organisations to belong to a professional society. Some of the reasons are that societies:

- Promote the development of IT
- Advance research into IT (often with funding)
- Develop policies and ethical standards of IT use

- Maintain technical standards throughout IT and communications
 - Build communities of IT specialists worldwide
 - Develop community understanding and appreciation of IT
-

7.2.2 Ethical Codes

Ethical codes are beneficial to a profession for many reasons. One reason is that self-regulation is often preferable to legal supervision. The development of a code of ethics is often justified as most pertinent for those with specialist knowledge and a charge of social responsibility. We next examine some of these ethical codes.

ACS Code of Ethics: Values and Ideals

The first ethical code we examine is the ACS Code of Ethics (2014a). There are six main values, each with sub-clauses giving specific instances. The full version of the ACS Code of Ethics (including all sub-clauses) is available on Moodle, but the main six values are detailed below:

The Code

1. "The Primacy of the Public Interest:

Interest: You will place the interests of the public above those of personal, business or sectional interests.". This means that the public interest is more important than your personal or private interest

Example

Jim, a programmer is behind in his work. He is working on the electronic payment section of a website. He has a friend who has done similar work and asks his friend for an example of the code he used. Jim incorporates that code into the website.

The ethical problem: In using someone else's code and IP, Jim put his desire to complete the work on time above the interests of the business.

Leah is working on a database which will store very sensitive information. When the consulting company that employs Leah quoted for the job, they were not aware of the sensitive nature of the data to be stored. Leah is concerned that the security that was to be provided is insufficient but the company does not want to pay the extra for a more secure system. Leah has spoken to senior managers in the company.

The ethical problem: A less secure system is dangerous for the client and their customers. Leah was right to raise this and stress the importance of appropriate security.

2. "The Enhancement of Quality of Life:

of Life: You will strive to enhance the quality of life of those affected by your work."

	Eddy has applied for a position in a large company to work on their help desk. As a recent graduate, Eddy believes the skills he acquired through study will meet the needs of the employer. Eddy did some volunteer work for a small organisation and helped with technical matters around the office. Eddy is happy to claim he has the experience, knowledge and skills based on this.
3. "Honesty: You will be honest in your representation of skills, knowledge, services and products." This means that you should not claim to have knowledge, training, experience or skills you do not have.	The ethical problem: As a recent graduate with only limited experience (and no experience in this area), Eddy has misrepresented his skills and is being dishonest. Example number two also relates to competence.
4. "Competence: You will work competently and diligently for your stakeholders."	The ethical problem: It was important that Leah told the client of her concerns and provided them with advice on how they should proceed.
5. "Professional Development: You will enhance your own professional development, and that of your staff."	William has a new role that will require him to perform a technical role in an area with which he is not familiar. William has sought advice and found a short course he can do which will provide him with the skills he believes he needs. The ethical problem: Similar to point three, it is important for William to ensure he continues to have the right skill set for the job he is doing.
6. "Professionalism: you will enhance the integrity of the ACS and the respect of its members for each other."	Natalie has been working hard to complete software for small businesses to help with their tax. Time is short. Although Natalie knows the system still has some bugs, there is no time to fix them. The plan is to fix them for the next release. The ethical problem: Delivering software that may not meet the needs of the customer because it does not work well is unprofessional.

Alternative (discipline-independent) List of Fundamental Principles

The set of principles below are a good guide for ethical behaviour regardless of what industry you work in.

- Be impartial
- Disclose information that others ought to know
- Respect the rights of others
- Treat others justly
- Take responsibility for your actions and inactions
- Take responsibility for the actions of those you supervise
- Maintain your integrity

- Continually improve your abilities
- Share your knowledge, expertise and values

Software Engineering Code of Ethics

Quinn (2011) lists the clauses of the Software Engineering Code of Ethics (below) which fit into the Alternative List above. Quinn (2011) suggests software engineers follow these principles:

- **Public:** should be consistent in dealing with the public interest.
 - **Client and Employer:** will act in the best interests of their client and/or employer.
 - **Product:** should make sure their products meet the highest professional standards possible.
 - **Judgement:** will maintain integrity and independence with respect to their professional judgement.
 - **Management:** managers should subscribe to and promote an ethical approach to the management of software development and maintenance.
 - **Profession:** should advance the integrity and reputation of the profession.
 - **Colleagues:** should be fair to and support their colleagues.
 - **Self:** should ensure they participate in lifelong learning in the practice of their profession and promote an ethical approach to practice.
-

7.2.3 Ethical Issues

In this last section we discuss some of the issues which arise with respect to ethics when working in and using IT.

Views on Ethical Dilemmas

Taylor and Moynihan (2002) argue that information professionals are caught in a web of sometimes conflicting needs, torn between the demands of:

- Users
- Society
- Employers
- Their own needs
- Some current ethical dilemmas

Common Ethical Issues for IT Users

Although most professions face ethical issues, some issues are more commonly encountered in information technology professions. Ethical issues and policies to promote ethics can include:

- Inappropriate sharing of information:
 - Organisations store vast amount of information that can be classified as private or confidential
 - Private data describes individual employees (for example, salary, attendance, performance rating, health records, etc.)
 - Confidential information describes a company and its operations (for example, sales, promotion plans, research and development, etc.)
 - Sharing this information with unauthorised parties, even inadvertently, has violated someone's privacy or created the potential that company information could fall into the hands of competitors
- Supporting the ethical practices of IT users by defining and limiting the appropriate use of IT resources
- Developing, communicating and enforcing written guidelines
- Encouraging employees to respect corporate IT resources. Use them to enhance their job performance
- Effective guidelines to allow some level of personal use

Ethical responsibility in IT

Taylor and Moynihan (2002) believe that "the main aspect of ethical consideration for systems analysts is the uses to which the systems that they develop or maintain will be put". This raises some interesting questions:

- To whom are information managers and systems analysts ultimately responsible?
- Can professional ethics be aligned with an organisation's pursuit of power and profit?

Landon (2005) believes that ethics involves a process of learning that can be developed over time

through reasoning and experience. He concludes that "an ethics of information systems is impossible without an understanding of how information technologies affect human choice, human action and human potential."

7.3 Whistle-blowing

This section deals with the difficult issue of whistle-blowing. Two recent high profile instances of whistle-blowing (Julian Assange and Edward Snowden) involved accessing and distributing email in the case of Assange and distributing confidential files in the case of Snowden. As IT professionals we must be aware of the potential impact of whistle-blowing.

What is a Whistle-blower?

Definition: In Australia, whistle-blowing is defined as "the disclosure by an organisation's members (former or current) of illegal, immoral or illegitimate practices under the control of their employers to persons that may be able to effect action" (Pascoe, 2008).

Quinn (2011, p. 446) defines a whistle-blower as someone who "breaks ranks with an organisation in order to make an unauthorised disclosure of information about a harmful situation after attempts to report the concerns through authorised organisational channels have been ignored or rebuffed".

The point of whistleblowing is not simply to outrage the public, but to effect change.

It is important to note that 'whistleblowing' and 'leaking' are not the same. A leak discloses previously confidential information (the reasoning behind the disclosure is not integral to the concept), whereas whistleblowing is particularly concerned with disclosures in the public interest.

Whistle-blowers are usually punished (e.g. dismissed, lose chance of advancement), and often suffer emotional distress and economic hardship. Yet they often serve the public good. For this reason, governments have passed legislation to encourage whistleblowing.

USA

The USA's legislation is discussed in more detail by Quinn (2011). The main two pieces of legislation are:

1. False Claims Act
2. Whistle-blower Protection Act

Australia

There is different Whistle-blowing Protection or Public Interest Disclosure legislation in each Australian state and territory. The problem is that a lot of this legislation only protects the whistle-blower when they engage in an internal disclosure, rather than a public disclosure (to the media, for example). Protection for the whistle-blower in terms of the law, from vindictive actions (e.g. sacking, bullying, etc.) is very weak. In order to gain access to those protections, the whistle-blower must give up their anonymity.

In the corporate sector, whistleblowing is federally protected in the Corporations Act 2004 (Cwth), Part 9.4AAA: see Pascoe (2008) for more information.

Currently, no existing Australian whistle-blowing law provides a 'best practice' model for managing the complex issues of privacy and confidentiality. Public officials who possess information about official

wrongdoing or incompetence face complex legal and ethical questions, especially in circumstances where action may reasonably depend on disclosures made publicly (e.g. to the media). This situation has been brought into sharp relief by the clear inadequacy of Commonwealth law in response to a series of prosecutions for unauthorised release of official information. However, whistle-blower protection laws at the state level also currently provide no better solution. At the present time, the lack of effective extension of whistle-blower protection to public or media disclosures only serves to elevate public officials' duty of confidentiality to the level of a de facto right of governments to privacy in respect of all internal affairs (which in any mature democracy does not and should not exist). However, there is real potential for the development of a new legislative response to these difficult situations, using experience with existing state laws as well as overseas precedent. The Australian Securities & Investments Commission (ASIC) has some role in legal protections for whistle-blowers (Australian Securities & Investments Commission 2015).

Morality of Whistle-blowing

People become whistle-blowers for different reasons. Quinn believes that the morality of action may depend on motives. So a "good" motive is desire to help the public, whereas questionable motives include retaliation and avoiding punishment. On the other hand, Pascoe (2008, p. 6) notes that it is important to focus on the disclosure rather than the motive. It is the exposed conduct that is worthy of scrutiny rather than the credibility of the discloser.

Whistle-blowers generally provoke three reactions: (see Quinn)

1. Whistle-blowers cause harm
2. Whistleblowing is a sign of organisational failure
3. Whistleblowing is a moral duty

Pascoe (2008) notes that in spite of the perceived lack of legal protection, companies should be actively developing internal disclosure procedures to promote good governance and risk management. This is part of the mixed government / self-regulatory approach in current Australian law.

Thus, whistle-blowing should be seen as an aspect of corporate governance and addressed by the company's internal governance framework. This approach is fostered by the ASX Corporate Governance Council's guidelines. (Pascoe, 2008, p.2)

Whistle-blowers Australia: <http://www.whistleblowers.org.au/>

Whistle-blowing and the IT Profession

The ACS has a 'Code of Professional Conduct'. This code references ethical behaviour and argues it should be taught as part of teaching ethics (Australian Computer Society, 2014). The Association of Computer Machinery (ACM) also mentions whistle-blowing in their code of ethics. They recommend employees act if they are aware that management may be acting in a way that is dangerous. However, they caution that any reporting should not be 'capricious or misguided' (ACM, 1992).

7.4

Chapter 7 References and Additional Resources

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8

Chapter 8 Information Technology and the Law

Overview

In this chapter we will:

- Explain what a non-disclosure agreement is and what it means
- Introduce you to the concepts of intellectual property (IP), particularly Copyrights, Trademarks and Patents
- Provide an explanation of copyright and current issues
- Provide an overview of Open Source Software in the context of the law and Creative Commons as alternatives to IP
- Privacy, its importance and implications for IT professionals

Learning outcomes

The key learnings from this chapter are:

- To understand the different agreements that can apply in an IT context
 - To recognise the other forms of legal protection there are when working in IT
 - To become aware of IP and its role in the IT industry
 - To become familiar with copyright and its implications
 - To understand the implications for IT of Open Source Software and Creative Commons
 - Have a better understanding of Australian privacy law and its importance in the context of being an IT professional
 - Appreciate the issues that arise in terms of big data and privacy
-

8.1

Intellectual Property (IP)

Definition - Intellectual Property (IP):

An overarching category that includes different legal mechanisms used to protect the intellectual work created by an individual or organisation.

- Patents (inventions, new processes)
- Trademarks (names and symbols)
- Copyright (Musical, artistic, dramatic and literary works, including computer programs, film, sound recordings, performances and broadcasts)
- Designs (Appearance of item)
- Trade Secrets

Intellectual Property (IP) includes:

Some IP rights are automatic (such as copyright). In other cases you need to apply for protection (for example, a patent).

IP protection is created by laws within a particular country. But because there are many international treaties and trade agreements which mandate mutual protection, most countries have similar protections.

IP is transferable, like any other property, so can be licensed or sold to another owner by the creator.

Why does IP exist?

Intellectual property exists to protect the owners of the work. When physical property like a mobile phone is stolen, there are laws to punish the thief. IP can also be stolen, but the theft is less obvious or tangible. For example, the copyright in a book covers the words on the page rather than the physical book itself. If you 'steal' the words from the book and pass them off as your own, this is theft of IP.

Exclusive rights to IP form a 'social bargain' with creators. This social bargain provides incentive to create, as people know that their work is protected by law. Society benefits from the existence of their creations.

Technology drove the creation of modern IP law, in response to the invention of the printing press. Technology and IP are still highly interdependent. As such, it is important that as IT professionals you have an understanding of IP law and related issues.

8.1.1 Trade Secrets

Definition: Trade Secrets Under Australian law a 'trade secret' is a piece of confidential information (i.e. facts and knowledge). It is often regarded as the property of a company.

A trade secret has these main attributes:

- It is not publicly available
- It may be used by the information holder to gain economic benefit by virtue of its confidentiality
- The information holder must make efforts to keep it confidential

Trade secrets may include formulas, business processes or designs. Some examples are the formula for Coca-Cola and Google's algorithm for ranking websites.

The confidentiality of trade secrets is only commercially useful for limited types of information. Recipes and business processes are good examples. However other creations of the mind, such as inventions and art, cannot be protected through trade secrets because they need to be made available to the public.

Unlike copyright or patents, trade secrets never expire. However, trade secrets are lost once they become public (and are no longer 'secret'!).

Issues for IT professionals

Trade secrets lose their protection once they become public, so they may become compromised. For example, through reverse engineering or 'information bleed' from those aware of the information. There are many basic steps that can be taken to ensure confidentiality, e.g. locking doors, using passwords. To try to maintain the confidentiality of trade secrets, firms often use non-disclosure agreements and contractual non-compete clauses.

8.1.2

Employment contracts

In this section we will discuss two clauses that might be included in contracts. These relate specifically to preventing employees from sharing or using knowledge gained from working with an employer.

Non-disclosure agreements (NDA)

Definition: A non-disclosure agreement is an agreement between two or more people or organisations and is legally binding.

Non-disclosure agreements:

- restrict the sharing of confidential information with others
- specify what is confidential, how long the agreement runs for and how long the parties must keep the information confidential
- may be unilateral (one-way) or multilateral (restricting all parties)
- most often do not require confidentiality, particularly if the information is public or the recipient subsequently discovered the information through another source, or the recipient had prior knowledge of the information

These exceptions will depend on how the NDA is written, i.e. the written contract.

NDAs are common in the IT industry. If you are required to sign one, it is wise to consult a lawyer so you are fully aware of what the agreement means.

Non-compete clauses

Definition: Non-compete clauses restrict an employee's ability to work for direct competitors or in the immediate geographic location.

Employment contracts often contain a non-compete clause (also referred to as restraint of trade clause). The features of a non-compete clause include:

- Restrictions on trade provided by non-compete clauses must be reasonable, otherwise they will be unenforceable. For example, in one case an employee on leaving the company was told she could not work for a competitor for 12 months. The court found this to be reasonable. In another case, however, the court found the 12 month restraint unfair.
- A non-compete clause covers a range of circumstances. It could for example restrict an employee moving to a competitor for a period of time. The period of time can vary. For example, an employee may be restricted from working in the same industry sector for a period of 6 months, 12 months or two years. Likewise, a contractor could be restricted from working for a competitor, or soliciting business from clients of the company that previously hired them. These restrictions are still subject to what the court might regard as 'reasonable'.

8.1.3 Copyright

Definition: Copyright

Is a legal construct granting the creator of an original work a set of exclusive rights on that work for a limited time. Copyright covers the expression of an idea, not the idea itself.

The © symbol is placed next to words, a logo or another element to indicate that that something has been copyrighted. The word 'Copyright', however, can be used instead.

Copyright protection arises automatically on creation. You don't need the symbol for a work to be protected. You also don't need to register a work for it to be protected by copyright, either.

IP Symbols



Indicates that something has been copyright righted

© 2015, TatvaSoft - Web and Software Development Company.

'Copyright' Just the word can be used instead.



Unregistered trade mark

[Atlassian™ Official Site - Plan, Collaborate, Code & Service](#)



Registered trade mark



The copyright owner has exclusive rights which include:

- Copying (Reproduction)
- Distribution
- Adaptation
- Public performance and display

- Production of derivative works

Copyright is intended to give individuals and companies an incentive to create, as they can sell or licence these exclusive rights for payment. By restricting Copyright to a limited term, society further benefits from these creations entering the public domain (when the exclusive rights expire). There are limited exceptions to these exclusive rights for socially useful purposes like education.

Australian Copyright Law

In Australia, copyright is governed by the Copyright Act 1968.

Classes of creative works covered by copyright include:

- Literary works (including books, poems, plays, theses, etc.)
- Photographs and films
- Musical compositions and audio recordings
- Drawings
- Sculptures
- Radio and TV broadcasts
- Computer software

(Note that graphic and industrial designs are covered by the closely related area of design law.)

There are two different types of copyright violation: direct and indirect infringement.

- Direct infringement = unauthorised exact copies of protected works
- Indirect infringement = you authorise or approve of someone else doing the direct infringement, for example by recommending a website hosting pirate copies of a film

Infringing requires copying. If another party can show they came up with the work on their own, they will not have infringed copyright. Infringement occurs when someone copies a substantial part of the original work. What constitutes a 'substantial' part is decided on a case by case basis, and is often difficult to determine.

Impact of copyright infringement

In the past, making copies by hand took so long and was so difficult that copyright protection was not needed. In the information age, technology has reduced the cost of reproduction and distribution, trending these costs towards zero. Thus technology combined with cultural acceptance has seen large increases in the amount of piracy, which has a cost to both individuals and companies.

The Business Software Alliance is the peak body for the software industry. The 2018 survey (https://gss.bsa.org/wp-content/uploads/2018/05/2018_BSA_GSS_Report_en.pdf) showed a piracy rate of 18% in Australia in 2017. Not all of this represents lost revenue because not every pirated copy means a lost sale. However, the relative ease of copying software has led to new business models, such as software hosting and maintenance services, which cannot be so easily duplicated.

The lesson for IT professionals is: do not pirate music, movies and software - especially in the workplace. If software is required, obtain a license or use open source software (see below).

Understanding derivative works

Copyright protects the specific expression of an idea, rather than the idea itself.

For example, the Microsoft 'Office Assistant' Clippy (not a very successful animated graphic) is covered by copyright for 70 years after the death of the creator. In the reference section is a clip of 'Clippy' for those of you who are too young to remember this graphic.

Infringement occurs when someone creates an unauthorised derivative work, taking a substantial part of the original work.

What constitutes a 'substantial' part is decided on a case by case basis, and is often difficult to determine.

Issues for IT professionals - copying code or other documents

Copyright covers specific programming code, rather than the conceptual idea behind the code. Document templates and precedents likewise cover the specific document content, rather than their conceptual basis. Because the same idea or concept can often be expressed in different ways (or with different code) it is often possible to reverse engineer programs to be compatible. However, there are limits on how much you can copy from an existing program to integrate it with competing or new software or to develop new software.

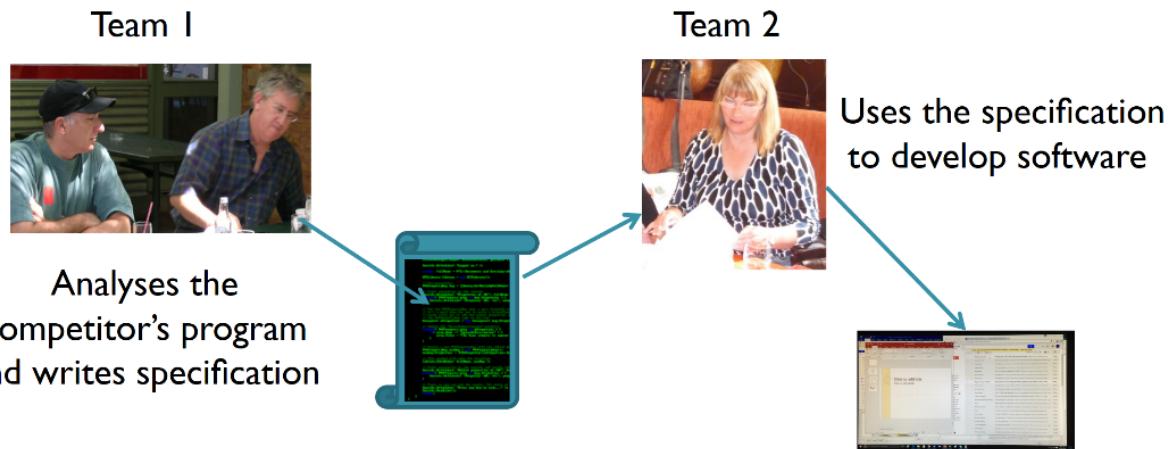
How much can you copy? Not much!

- Data Access Corp v Powerflex Services (1999). This Australian case confirmed the principle that copying even a very small amount of code, necessary to allow the interoperability of software, could be infringement. The findings of this old case still impact on software development in Australia today. See
<https://www.dundaslawyers.com.au/reverse-engineering-of-software-what-are-the-legal-boundaries/>
- Oracle v Google (2018). This litigation involves accusations that Android software copied Java API's which now owned by Oracle. The software originally shared the same 37 names for functions in Android as in Java. See
<https://www.wired.com/story/the-case-that-never-ends-oracle-wins-latest-round-vs-google/>

Avoiding copyright issues - Safe Software Development

Reverse engineering is may be legally acceptable because copyright doesn't protect ideas and functions (though sometimes patents can). However, companies must protect against unconscious copying. One suggested two stage solution is known as a 'clean room.'

Example of a clean room



Corporate Ownership

When your work involves creating something during your employment, the default is the copyright is owned by your employer. For example, in university environments, any materials created as part of a course are owned by the university. If you are not an employee, but an independent contractor, you will generally own copyright in your work, unless you sign an agreement to transfer copyright to the organisation you are contracted to work for.

The lesson for IT professionals is never to take code, documents or other copyrighted material (i.e. the specific expression) to a new employer. Just take the knowledge you have gained (i.e. the ideas).

In some cases, employees can have clauses inserted into their contracts which give them ownership of the material.

8.1.4 Copyright Creep

Copyright Creep - The Ongoing Expansion of Copyright

Originally, copyright lasted for a period of 14 years. However, there have been numerous extensions to this term. Copyright terms are now for the life of the creator, plus 70 years in most countries.

Copyright used to only apply to printed works. This has now expanded to cover online and other format works. Originally only registered copyrights were protected, whereas now all copyrighted works are protected. This expansion of copyright has the effect of restricting an individual's access to their own culture and limiting critical analysis of the artefacts of that culture.

In the digital age, technology results in most uses of copyrighted works being copies, because it is in the nature of electronic devices to copy in order to function. This results in very few uses of copyrighted works being unregulated by law.

Exceptions to copyright

There are some exceptions to the exclusive rights of copyright owners, which are detailed in legislation. In Australia, the Copyright Act lists several exceptions for fair dealing, for education, for private use and for libraries.

Australia does not have a general fair use exception. That is only in the US, Singapore, South Korea and Israel. In Australia you can only use material if the use is for the purposes of criticism and review, research and study, reporting news, parody and satire and giving professional advice and if the dealing is fair. If your use doesn't fall within one of those purposes, there is no copyright exception, no matter how fair the use might be.

In *National Rugby League Investments v Singtel Optus (2012)*

(<http://www.corr.com.au/publications/ip-preview/nrl-optus-full-court-dont-stream-its-over/>)

(<http://www.corr.com.au/publications/ip-preview/nrl-optus-full-court-dont-stream-its-over/>)

Optus was not able to rely on copyright exceptions to host content for users. This means that in Australia, unlike the US, cloud based services breach copyright. In 2014, the Australian Law Reform Commission recommended that Australia legislate for a fair use exception. This was also recommended by the Productivity Commission in 2016.

Suggested copyright exceptions

Research or study



Reporting news



Parody or satire



Professional advice

Criticism or review



Incidental or technical use

Quotation

“....”

Library or archive use

Non-commercial private use



Education



Access for people with a disability

Practical restrictions on copyright exceptions

Content industries have responded to high rates of piracy by implementing Technological Protection Measures ('TPMs') to restrict unauthorised use of copyrighted works. Under worldwide legislation circumventing TPMs is illegal, even if the resulting use fell within an exception to copyright protection.

As a result, law and technology combine to significantly affect society's ability to use creative works. Examples of circumventing TPMs include breaking the encryption on DVDs, unlocking electronic devices and overriding region codes.

The effects on society from the expansion of copyright

Lessig (2004) suggests that as a result of the expansions of copyright in term, scope and enforcement, never have fewer people controlled more of the evolution of our culture.

Many are now saying that the benefits to society derived from copyright are currently outweighed by the counter-effects on technology and innovation. This includes the landmark [UK](http://www.ipo.gov.uk/ipreview-finalreport.pdf) (<http://www.ipo.gov.uk/ipreview-finalreport.pdf>) review of IP and Growth .

8.1.5 Trademarks

Definition: Trademarks

Trademarks are distinctive identifiers of goods or services restricted for use by the owner. They may take the form of words, phrases, logos, symbols, photos or some combination of these elements.

In Australia, trademark law is governed by the Trade Marks Act 1995 and is administered by [IP Australia](http://www.ipaustralia.gov.au/) (<http://www.ipaustralia.gov.au/>). The law includes the procedures for registration and what constitutes infringement. Trademark protection lasts as long as the trademark is in use. In Australia, non-use for a period of three years may invalidate the trademark. Trademarks are granted in particular areas or business sectors. It is possible for two different owners to have

legitimate similar trademarks in unrelated business areas.

After application, the trademark is published for objections. Objections may include that it is too broad or conflicts with an existing trademark.

When your trademark becomes part of popular culture as a noun or verb, you can lose protection. That is why Google hates people describing searching as 'googling' because the term may become too common and lose trademark protection.

Trademark Takeaways

When naming companies, products or services, it is important not to risk infringing on the trademarks of others.

You can check if your proposed name is similar to an existing trademark by performing a trademark search (<http://www.ipaustralia.gov.au/get-the-right-ip/trade-marks/search-for-a-trade-mark/>).

8.1.6 Patents

Definition: Patent

Provides the owner with a set of exclusive rights to prevent others from making, using, or selling the invention for a period of 20 years, in exchange for public disclosure of the invention.

Patents are granted by application (i.e. they are not automatic like copyrights). This process is expensive.

Under Australian law, patents are covered by the Patents Act 1990.

Patents cover inventions, not discoveries. There also must be some functional aspect to the invention. E.g. a painting could not be covered by a patent, although a new type of paint could.

In order for an invention to be patentable, it must be 'novel'. 'Prior art' (i.e. evidence that it is not novel) will invalidate the patent. Any use or imitation of a patent or patent process could be infringement.

Examples of commonly-patented inventions include pharmaceutical formulas and mechanical inventions.

The tendency of Patent offices worldwide to grant overly broad patents can create a chilling effect on innovation. The risk of litigation discourages people entering the market, even where a patent is likely to be invalid.

Software Patents

More recently, software or business method patents have become common, and they are highly controversial, with some arguing they provide no societal benefits.

Software patents do not have a universally accepted definition.

Historically, patents have not been granted on pure 'business methods' or mathematical formulas or algorithms.

However, by incorporating a business method into a computer program, it is possible to obtain a software patent in many jurisdictions.

The validity of software patents varies from country to country. The status of software patents in Australian law is somewhat uncertain. There is now confusion about where the line will be drawn between what is a "technological" innovation and which is a "business innovation".

The most important jurisdictions are the US and EU, as they are the IP policy leaders. Both the US and EU allow software patents to different degrees.

The Mobile Patent Wars

It is important to understand that patents may be used offensively (as a 'sword') by suing others for infringement, or defensively (as a 'shield') by using the threat of their use to discourage others from

suing.

This is demonstrated by the lawsuits between Apple and the makers of Android-based smartphones.

Apple and Microsoft sued Android manufacturers in an attempt to increase the cost of Android handsets relative to their own mobile products.

These types of lawsuits are often settled with broad cross-licensing of each party's patent portfolio, perhaps combined with some amount of financial compensation.

The business objective of these lawsuits is to deprive competitors of income and product features.

The result of all this litigation is that the consumer (i.e. society) ends up paying more for these products, as the companies are forced to pass on the costs of patent litigation to the consumer. It also makes it more difficult for new and small players to enter these markets, as they lack the funds and defensive patent portfolios to defend themselves from patent-based litigation.

8.2 Alternative Responses to the Expansion of Copyright

There have been initiatives in response to the expansion of copyright which aim to give control and rights back to owners and users. We discuss two of these next.

Open-Source Software

Definition: Open-Source Software (OSS) is software developed by a community of users but may be licensed (such as Linux/Redhat/Ubuntu).

The license includes the source (i.e. program code). The source is released allowing users to examine, distribute, change and improve the original code.

Normally, proprietary software is released only as an application package.

An OSS license will also include the obligation to distribute the source and binary together, or at least to make the updated code available publicly.

Note that OSS licenses such as the GNU-GPL rely on copyright law for enforcement. That is, without copyright, they cannot bind others to distribute the source code with the application. Linix, an open-source, Unix-like operating system is one of the most widely used examples.

Benefits of Open-Source Software

- Gives everyone the opportunity to improve programs and new versions of programs appear more frequently
- It eliminates tension between obeying laws and helping others
- Programs belong to the entire user community
- It shifts the focus from manufacturing to service

Disadvantages of Open-Source Software

- Without critical mass of developers, quality can be poor
- Without an "owner," incompatible versions may arise
- No one formally responsible for updates and bug fixes
- Poor mechanism for stimulating innovation. No companies will spend billions on new programs

Creative Commons

Definition: Creative Commons license

The license lets the owner of the work decide how others may use the work (including sharing and changing the work).

The Creative Commons (CC) license was created by Professor Laurence Lessig in 2001 in response to the overly strong nature of modern copyrights. Instead of 'all rights reserved', the users of creative commons licence many of their rights to encourage sharing.

Lists of copyright free and creative commons sites for images, text, AV and music are available at:
<https://guides.lib.monash.edu/c.php?g=673714>.

8.3 Privacy

Privacy must be considered within the contexts of both law and ethics. There are legal requirements relating to privacy, e.g. having to identify yourself with personal information when contacting a bank or other service provider. Ethical considerations relate to data and if, for example, we disclose data about a person to someone else.

There is no precise definition of privacy.

Definition: In Australia "The [Privacy Act 1988](http://www.comlaw.gov.au/Series/C2004A03712) (<http://www.comlaw.gov.au/Series/C2004A03712>) (Privacy Act) regulates how personal information is handled. The Privacy Act defines personal information as:...*information or an opinion, whether true or not, and whether recorded in a material form or not, about an identified individual, or an individual who is reasonably identifiable.*" (Australian Government 1988)

Most definitions of privacy reference personal dignity and autonomy. Accordingly, current [Australian law](http://www.austlii.edu.au/au/journals/PLPR/2002/45.html) (<http://www.austlii.edu.au/au/journals/PLPR/2002/45.html>) (<http://www.austlii.edu.au/au/journals/PLPR/2002/45.html>) and [US law](http://www.supremecourt.gov/opinions/10pdf/09-1279.pdf) (<http://www.supremecourt.gov/opinions/10pdf/09-1279.pdf>) (<http://www.supremecourt.gov/opinions/10pdf/09-1279.pdf>) does not allow companies to assert privacy rights. The UN Declaration of Human Rights recognises the right to privacy as a fundamental human right.

The report from the Global Internet Liberty Campaign available at <http://gilc.org/privacy/survey/intro.html> (<http://gilc.org/privacy/survey/intro.html%20>) (<http://gilc.org/privacy/survey/intro.html%20>) contains some worthwhile discussion of privacy concepts, rights and concerns in the digital age.

Personal information is an increasingly valuable resource for businesses in the internet age. Gaining commercial benefit from this value is in tension with the right to privacy.

Benefits and Harms of Privacy

Some of the benefits of privacy (Quinn, 2011) are individual growth and responsibility, freedom to be yourself, intellectual and spiritual growth and development of loving, trusting, caring, intimate relationships. Some possible harms of privacy include cover for illegal or immoral activities, burden on the nuclear family, hidden dysfunctional families and a lack of care or attention paid to people on society's fringes.

8.3.1 Privacy in Australian Law

Privacy in Australian Law

Do we have a right to privacy? Currently, Australian privacy law is in a state of flux. This is because the Australian Law Reform Commission published a report in 2008 (<http://www.alrc.gov.au/publications/report-108>) which proposed changes to Australian privacy law - some of which are yet to be implemented. A short summary of the contents of this report is available on law firm Phillips Fox's website:

<http://www.dlaphillipsfox.com/article/253/ALRC-Report-on-Australian-Privacy-Laws>

(<http://www.dlaphillipsfox.com/article/253/ALRC-Report-on-Australian-Privacy-Laws>)

<http://www.dlaphillipsfox.com/article/253/ALRC-Report-on-Australian-Privacy-Laws>

(<http://www.dlaphillipsfox.com/article/253/ALRC-Report-on-Australian-Privacy-Laws>).

That summary notes that "The federal Privacy Act 1988 (Cth) establishes and regulates a national scheme for the collection, use, transfer and disclosure of 'personal information' by the private sector and the Federal and ACT Governments."

It is important to distinguish between:

- public record: information for public access (for example, information on a website)
- public information: information revealed to an organization that has the right to share it
- personal information: undisclosed information

There are many pieces of legislation related to handling of public information. The Australia Privacy Act 1988 establishes and regulates the collection, use, transfer and disclosure of 'personal information' by the private sector and the Federal and ACT Governments and is governed by the [Australian Privacy Principles](#)

(<http://www.oaic.gov.au/privacy/privacy-resources/privacy-fact-sheets/other/privacy-fact-sheet-17-australian-privacy-principles>) (<http://www.oaic.gov.au/privacy/privacy-resources/privacy-fact-sheets/other/privacy-fact-sheet-17-australian-privacy-principles>)

(<http://www.oaic.gov.au/privacy/privacy-resources/privacy-fact-sheets/other/privacy-fact-sheet-17-australian-privacy-principles>).

Implications for IT Professionals

Software should be secure so that users' information is not disseminated widely or used without consent. The ACS (2014) Code of Professional Conduct: emphasises:

"1.2.1. The Primacy of the Public Interest:

1. g) endeavour to preserve the confidentiality and privacy of the information of others" (ACS, 2014, p. 4).

It is important that IT professionals are aware of the privacy obligations under the law. A breach of privacy laws may result in civil penalties for a company or for individual employees. Even without these ramifications, privacy breaches may result in significant negative publicity and may be grounds for

discipline or dismissal from employment.

Principle 4 of the Privacy Act (Office of Legislative Drafting and Publishing, 1988, p. 54), relates to 'Storage and security of personal information'. For an IT professional, this section highlights the importance of ensuring that records are properly protected (particularly from unauthorised access and misuse).

8.3.2

Privacy in the Age of Big Data

Big Data refers to data sets so large that current software has difficulty capturing, storing and analysing the data. Advanced analytics allow these large amounts of data to access analyses that would otherwise not be possible. Companies deal with privacy concerns by 'anonymising' data, i.e. stripping away the aspects that are personally identifying. However, it has been shown that the amount of data captured makes de-anonymisation almost impossible. The tendency of companies is to provide new services on an opt-out rather than opt-in basis in order to drive uptake, but this raises the question of exactly what users have consented to.

These are issues that all online companies struggle with, including Facebook (http://www.pcworld.com/article/185033/facebook_privacy_complaint_ignites_war_of_words.html) and Google

(http://www.washingtonpost.com/new-privacy-policy-lets-google-watch-you-everywhere/2012/02/27/gIQA_dyscpR_story.html)
 (http://www.washingtonpost.com/new-privacy-policy-lets-google-watch-you--everywhere/2012/02/27/gIQA_dyscpR_story.html)

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(http://www.washingtonpost.com/new-privacy-policy-lets-google-watch-you--everywhere/2012/02/27/gIQA_dyscpR_story.html).).

One salient case study involves Target. A father presented at a Target store in the United States to complain that his teenage daughter was being sent targeted marketing material about baby products. His complaint was an accusation that Target was encouraging his daughter to get pregnant. It soon came to light that the teenager was in fact pregnant. Based on her purchase history, Target had already established this and actually predicted the delivery date with some accuracy. Target were able to discern that this customer was pregnant, proving that it can be almost impossible to hide your presence/privacy in the big data age.

Australian Examples of Privacy

- Your location data (if location is switched on, on your mobile device) is available to Google. Google automatically records where you are every 45 seconds <http://www.abc.net.au/technology/articles/2015/02/19/4183553.htm>. This data could be used for a wide range of things, including whether you were speeding in a car, where you were, finding missing people and potential links between you and others. No warrants are needed by police to access this data.
- Facebook builds a profile of users based on likes, clicks and your profile data. Much of this data is sold to advertisers.
- Reward programs such as those of Coles and Woolworths, track customer spending via their reward cards. Supermarkets and other stores with reward programs collect your data such as who you are, where you live, date of birth, telephone number and often email details. This enables stores to paint a picture of who you are and helps with marketing campaigns. This data is also sent overseas.
<http://www.news.com.au/finance/business/retail/the-price-youre-paying-for-loyalty/news-story/c6c2316fc3faef5dc86cd917c0cf729e>

- The data from frequent flyer programs is onsold. In the case of Qantas, data is sold to Woolworths, car hire companies and hotels. The data is also used in marketing programs.
<http://theconversation.com/airlines-spread-their-wings-with-omnipresent-loyalty-programs-13094>
-

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Australian Government Business
<http://www.business.gov.au/business-topics/business-planning/intellectual-property/Pages/default.aspx>
 has a range of short Youtube clips on IP
<https://www.youtube.com/watch?v=pL1xdzpX9iE&index=4&list=PL77CF5AB88C22C0C2> (Accessed May 2016)

'Clippy' https://www.youtube.com/watch?v=3G_uCbKoG5A

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[Non-compete clauses](#) <http://en.wikipedia.org/wiki/Non-compete>

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9

Chapter 9 - Organisational Communication

Overview

This chapter deals with how we communicate within organisations and between organisations. The topics focus:

- Organisations' goals and objectives
- Organisational communication, both internal and external
- Different organisational structures
- Orthodox communication modes
 - E-mail
 - Letters
 - Fax
 - Memoranda
 - Proposals
 - Reports

Learning Outcomes

Through this chapter you will:

- Be able to identify organisational characteristics, goals and objectives
- Appreciate how different organisational structures impact on communication
- Distinguish between formal and informal communication
- Learn to communicate better through writing
- Understand the difference between internal versus external communication
- Be able to identify different documents types and their significance for communication

9.1

Organisations and Organisational Communication

This week's content is divided into two parts. This first half will look at organisational communication and aspects of organisations, such as functions, structures and organisational goals and objectives. The second part deals with written communication, with a focus on traditional written communication.

9.1.1

Organisations and Organisational Communication

In this section we briefly explore organisations, their characteristics, and their goals and objectives. In addition, we cover the different organisational structures you may encounter.

Organisations - Classical Approach

There are many theories of organisations; these are out of the scope of the unit. If you are interested you can study Organisational Behaviour or other units from the Faculty of Business and Economics that deal with this material. For our purposes we will consider the classical theory only.

Major points of interest in the classical approach are:

- The organisation behaves as a single unit, regardless of size or diversity
- The organisation has a clearly identifiable purpose or goal
- The people who work in or belong to the organisation share that goal and they work cooperatively to achieve the goal
- Employees or members of the organisation place the interests of the organisation ahead of their own individual interests
- The organisation uses rational, scientific analysis as the basis for deciding on the right organisational structure and activities for achieving its goal

Arguments against this classical theory suggest that this oversimplifies human relationships in and with the organisation.

We are not engaging in a study of organisations, so will be using the theory only as a framework for the key background concepts which relate to IT.

Organisational Characteristics

Four factors or characteristics are used to describe organisations:

- Function or purpose
 - Why does the organisation exist?
 - What products or services does it produce?
- Interface with customers/clients and suppliers
- Size
 - Number of employees, customers, range/number of products/services, turnover/profit
- Structure for internal management and control
 - Decision making: how centralized, how formalized, how complete?

These four factors all affect information use and flow:

- Type of information
- Volume and complexity of information
- Who accesses what information

- The importance of information to the organisation's survival

Information is crucial in every organization. Much of your work as an IT professional will concern organising how information is created, managed and used within organisations.

Organisational Goals and Objectives

Organisations often express their direction and purpose in terms of goals and objectives

Goals

Definition: Goals are broad descriptions of what an organisation plans to achieve. For example, to be a high performing organisation or to be a leader in the industry.

For example, one of the Faculty of Information Technology's goals is "to innovate tomorrow's information technology for the benefit of society and to educate our students to become global technology leaders." <http://www.infotech.monash.edu.au/about/>

Objectives

Objectives are different from goals. In the case of Monash IT, the objectives will describe how the faculty will achieve their goals.

Definition: Objectives are operational statements describing what an organisation will do to achieve the goals; objectives must be measurable

Together, goals and objectives:

- Summarise the organisation's reason for existing
- Provide measures of organisational effectiveness
- Are abstract statements, so do not specify methods for achieving them

Organisational Functions

Organisational functions are a set of essential functions needed to achieve the objectives. Functions may be primary or secondary.

Primary Functions

Primary functions are directly related to goals / objectives. For example:

- Retail organizations:
 - sales, ordering and supply, inventory and stock control, financial management
- Sporting organization:
 - competition scheduling, venue booking, membership
- Research organization:
 - information and data management financial controls

Support Functions

Support functions maintain the functioning of the organisation itself. For example:

- Human resources or personnel
- Building maintenance
- Office services and supplies
- Transport

Primary and support functions may change as the organisation grows or changes.

IT professionals need to understand organisations because organisational structures, functions, tasks and information are closely bound to the IT systems and technologies that support them.

Importance of communication in organisations

Why are organisations interested in effective communication? The communication of information is the lifeblood of an organisation. It is a central purpose for IT within organisations. Effective communication is a necessary, but not sufficient, precondition for organisational success.

9.1.2 Organisational Communication

We now look at communication within and external to organisations. In discussing organisational communication, we must be aware that communications will occur both within an organisation as well as externally, i.e. organisation to organisation. There are a number of definitions for organisational communication. Here we are focusing on internal communication.

The first two definitions of organisational communication take a traditional view:

Definition: "the communications transactions between individuals and/or groups at various levels and in different areas of specialisation that are intended to design and redesign organisations, to implement designs, and to co-ordinate day-to-day activities" (Frank and Brownell, 1989, pp. 5-6).

Definition: "the display and interpretation of messages among communication units who are part of a particular organisation. An organisation is comprised of communication units in hierarchical relations to each other and functioning in an environment" (Pace & Faules, 1994).

The more recent definitions below are expanded, and include stakeholders and individuals within organisations:

Definition: "Internal communication is understood here as the strategic management of interactions and relationships between stakeholders at all levels within organisations." (Welch and Jackson 2007).

Definition: "The process by which individuals stimulate meaning in the minds of other individuals, by means of verbal and nonverbal messages in the context of a formal organisation" (Richmond & McCroskey, 2009).

Communication can take place at different levels and between different people and organisations.



9.1.3 Organisational Structures

The structure of an organisation will depend on a number of factors, such as the size and purpose of the organisation. How an organisation communicates with its staff and those external to the organisation will be influenced by its structure.

- The structure is related to the way that work is allocated among employees/members
- Choice of structure facilitates achieving goals most effectively
- Groups, managers and staff can be organised into:
 - Long term groupings, e.g. departments
 - Dynamic groupings, e.g. projects
- Organisation supports job specialisation
 - Tasks undertaken by people in sections are narrowed
 - Concentrates experience
 - Can increase competence and efficiency

Functional Structures: areas within an organisation with an identifiable function. For example, marketing departments, sales departments, Information Technology support, etc.

Project or Regional Structures: project structure might be a team coming together to complete a particular project, which is very common in IT. In a regional structure, an organisation is located in more than one place and most of the functions of the organisation are duplicated in each place. For example, Monash University has a library, IT support and student services on all campuses.

Nearly all organisations today are based upon some kind of hierarchy.

There are 3 common organisational structures:

1. Functional structure
2. Divisional structure
3. Matrix structure

The structure of an organisation has an impact on its communication needs and approaches. Note however that although we can describe organisational structures very formally, it is often the case that an organisation will have a mix of structure types

1. Functional/Hierarchical Structure

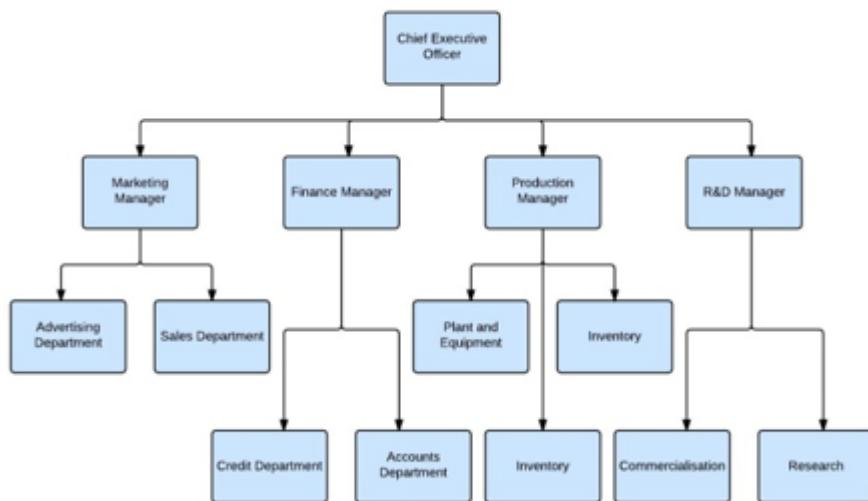
This is a very common organisational structure where there are different levels of management depending on the hierarchy. Features include:

- Groupings based on functions performed: people, resources, activities and tasks
- Managers responsible for departments of specialists

This structure is suitable when:

- In-depth knowledge is needed about functions
- There is low reliance on coordination between departments

- There are a few well-defined products



Benefits

- Continues to build expertise in personnel

Drawbacks

- Response to change or opportunity can be slow
- Departments have narrow view of goals and objectives
- Decisions pushed up management hierarchy making for heavy loads

Communication Channels

Defined and rigid, clear and precise.

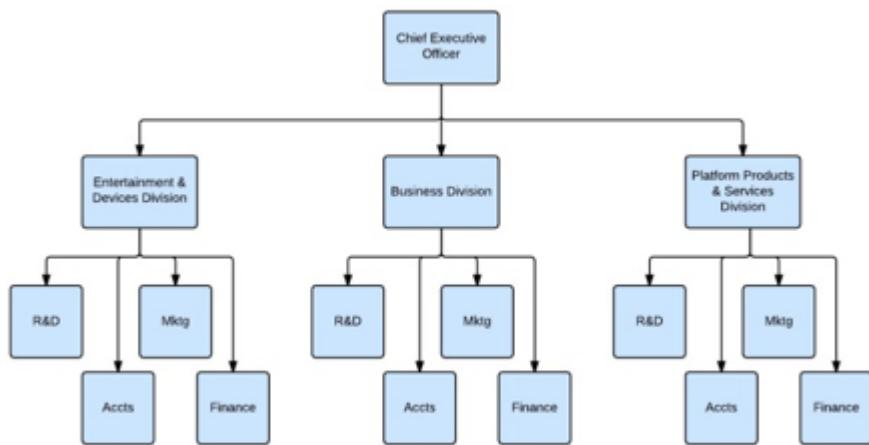
- Upward channel - via manager.
- Downward channel - direct information to staff you manage.
- Horizontal channel - some communication with staff reporting to the same supervisor.

The trend to flattening hierarchical structures (eliminating middle management) has resulted in increased communication between management and workers.

2. Divisional Structure

A divisional structure by contrast is organised around the function of the organisation. For example, Monash University is organised around faculties and schools/department responsible for the development of courses and teaching within specific areas of knowledge. Features of a divisional structure are:

- Organisation is divided based on products, services, major projects or geographical location
- Product or project divisions include a range of functional expertise
- Decision making centred in divisions



Benefits

- Flexible, able to respond to change and opportunity.
- Groups are smaller, functions coordinated in groups.
- Divisions have broader view of goals and objectives.

Drawbacks

If there is poor communication, conflicts and incompatibility of products may arise. Duplication and under-use of expertise and resources possible.

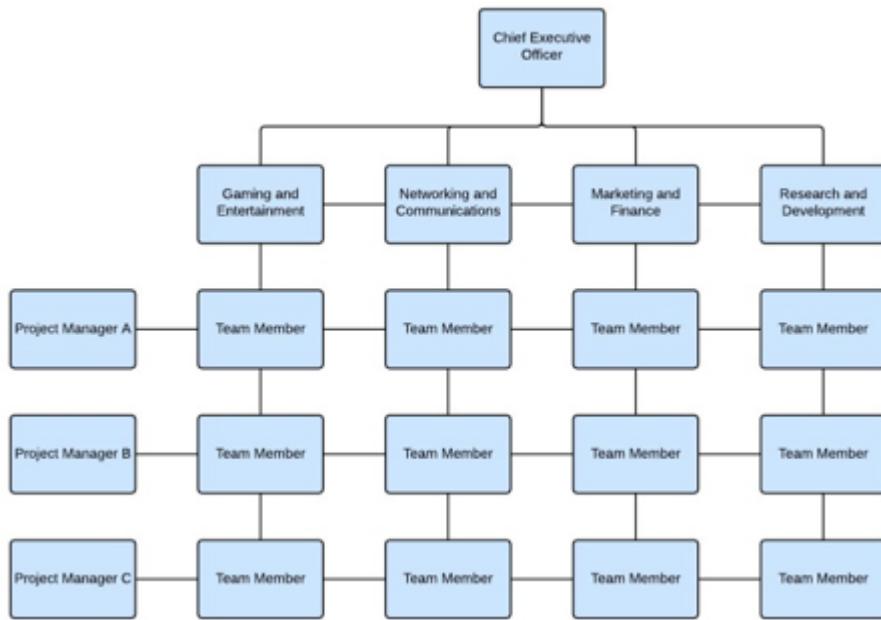
Communications

Hierarchical communications can cause problems, e.g. how do Accounts in each division communicate?

3. Matrix Structure

Groupings report horizontally (by product/project/location) and vertically (by function or division). Suitable for:

- Rapidly changing business environment
- Multiple products needing complex servicing



Communications

Can cause issues when teams or individual staff members have to report to more than one manager/conflict of orders, etc.

9.1.3.1 Formal and Informal Communication

Communication that occurs within an organisation may be defined as formal or informal.

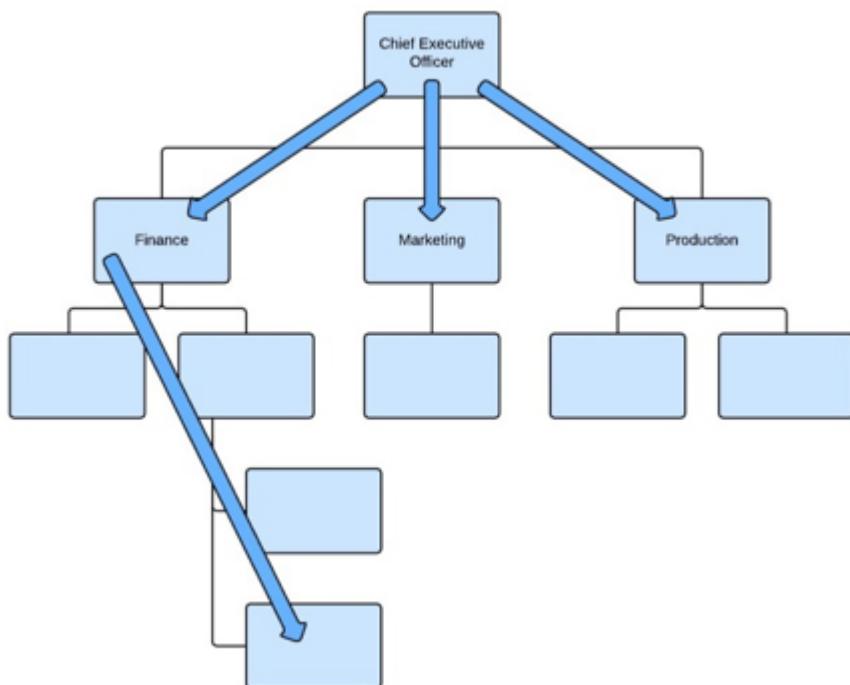
Formal Communication

Formal communication is systematically set up for messages through defined relationships related to organisational structure.

Definition: formal communication is the process of exchanging information between two or more people by following the prescribed or official rules, procedures, systems, formalities and chain of command in the organisational structure.

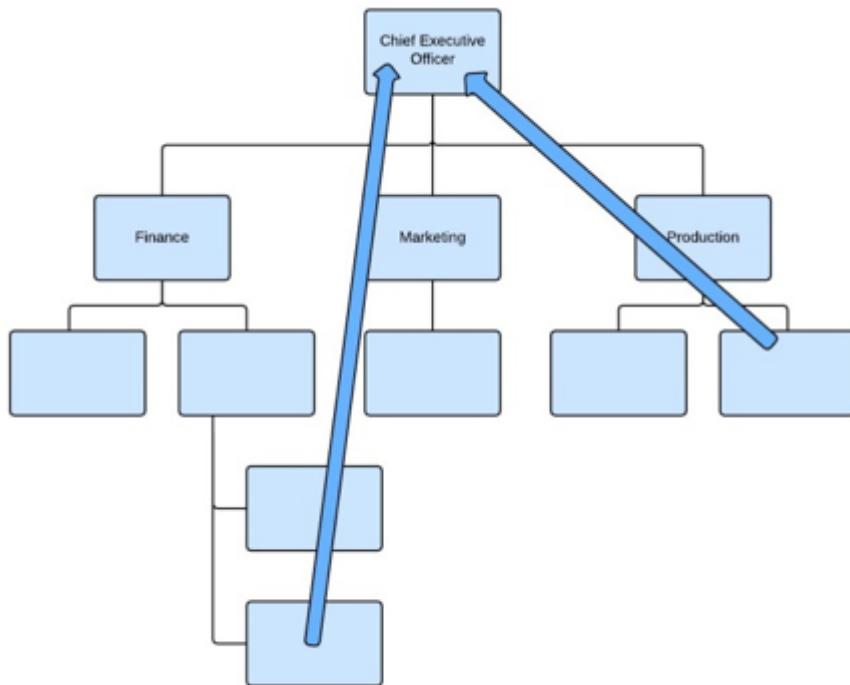
Downward Communication

- Communication flows down through the organisation
- Content of the information could include: e.g. employee handbooks, instruction manuals, newsletters, policies and procedures
- Typically concerns what to do and how to do it. May include announcements of management policies
- Important that there is feedback to confirm that the message has been received and more importantly has been understood



Upward Communication

- Communication/information moves up to a person at a higher level.
- Generally the same path as downwards communication, but not the same kinds of messages.
- Method - meetings, suggestion boxes, reports, questionnaires, interviews, email.



Horizontal Communication

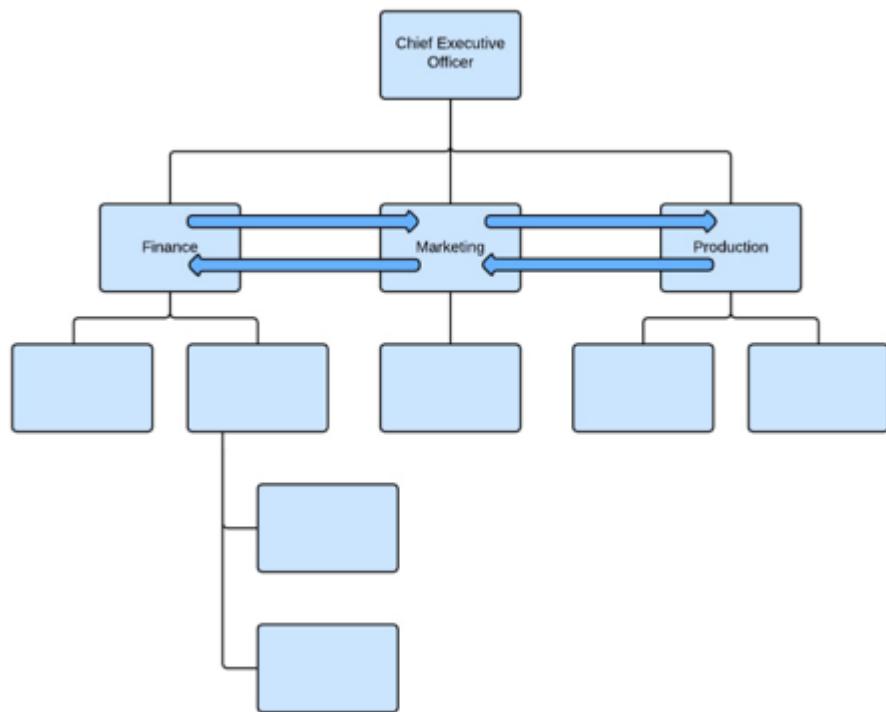
Communication flows between people at the same level of an organisation

Difficulties:

- People 'speak different languages'. For example, a technical person communicating with someone in sales
- Can sometimes be threatening as a superior may not be involved

Advantages:

- Fosters a co-operative environment, and a communication culture
- Some approaches that encourage this type of communication include teamwork, discussion forums



Informal Communication

Definition: informal communication occurs outside the established channels of an organisation. It frequently occurs across different areas of the organisation separate from work.

Interpersonal communication is between members of the organisation. Employees talking to employees usually at the same level is often called 'grapevine' communication

- Is not under the control of management
- Not a permanent structure. That is, it happens in an ad hoc way

Content includes:

- Personal information (gossip chain)
- Organisational information (cluster chain)
- The information may be correct or incorrect
- Management may tolerate this or try to control it or suppress it, but it always exists
- It can become important in maintaining relationships between employees, and the networks formed can facilitate work

Timely, good quality and open communication is critical to controlling the grapevine.

9.2

Writing as a Means of Communication

The second half of this week's content deals with modes of traditional written communication. It will look at different types of messages and documents and how to construct a professional piece of communication. We also cover the five-step approach to communicating, the difference in terms of writing, internal versus external communication and the types of documents you will be required to write.

Written Communication

Written communication is an important skill for most professions, with benefits and drawbacks.

- It is usually one-way communication with limited feedback
 - You don't often know if your message has been ignored or went to a bin straightaway (email in particular)
 - You will be unaware of how the message was received, e.g. if the message confused the reader, or the message offended the reader
 - Effectiveness of writing depends on the reader's ability to comprehend the content (especially with people who do not have an IT background)
- It is static. Once sent, the content will not change
- Writing is both a record of communication and evidence of that communication
- Whether you are the sender or receiver, written communication has both positive and negative aspects

You as the Sender

Positive

- You send off the message, and if there was no feedback, you can claim that the message was sent and 'accepted' (maybe?)
- It is a record of, for example, a decision which you may later need as evidence
- Email in particular can be useful for recording the outcome of a discussion and sharing with another person, who may add to or edit the outcome

Negative

- Communicating in writing can be dangerous, e.g. if you are not sure about something, or commit to a promise you can't deliver
- It is like a 'contract'. The reader can assume that what you've written is what happened or what will happen or what has been promised

You as the Receiver

Positive

- It is a good record keeping/sharing device; much more informative and consolidated than chatting
- You can assume the content is correct

Negative

- You must request corrections, if necessary, before a document is finalised
- People tend to assume (often quite opportunistically) that you accepted the document if you didn't (or couldn't) give any feedback

Key Aspects

- "Who is writing what and for whom"?
- Presentation, language and formatting (Aesthetics)
- Structure, coherency and argumentation (Logic)

Messages vs Documents

Messages

- Come with or without attached documents.
- Are open-ended, and usually have initiatives.
- Communication through letters and e-mail is more immediate, e.g. dealing with individual cases, making an appointment, sending off documents, checking everyone's availability, etc.

Documents

They have self-sufficiency (i.e. they are 'closed').

- Formalised, not because of their styles, but because of their purpose, e.g. proposals, progress reports, project reports, etc.
- They are sent off or delivered with an accompanying message or cover letter.

9.2.1

Five-Step Approach to Communication

When composing a piece of communication, it is useful to adhere to the following five-step approach to help make your communication as effective as possible.

Step 1: Identify the Objectives

- Assess the situation carefully
 - Expectations, potential consequences, risks and opportunities
- Identify both long term and short term objectives
 - How can you handle the situation? And where do you want to direct it to?
- Separate your personal agenda from the organisational benefits

Step 2: Conduct Research

- Know the contexts well
 - Facts and data, Personality and preference, Cultures and customs
- You may not use all the information you have available to you. However, with some selected information, you can establish the context of your communication
- Provide alternative options of communication, hence more confidence to handle the situation

Step 3: Create a Background

- You frame all the participants before you initiate communication
- Understand the roles of each participant in the situation

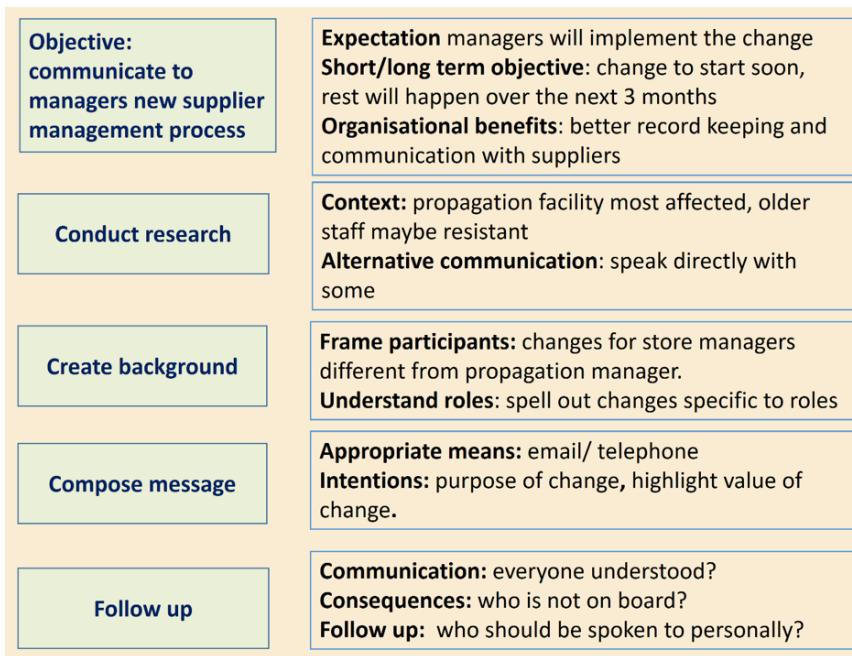
Step 4: Compose a Message

- Choose appropriate means of communication (written, verbal, etc.)
 - Sometimes you can use more than one channel. Always prepare Plan B...
- Expect their negative intentions when you initiate communication, and assume their positive intention when they initiate communication.
- Handle the situation, not the people.

Step 5: Follow Up

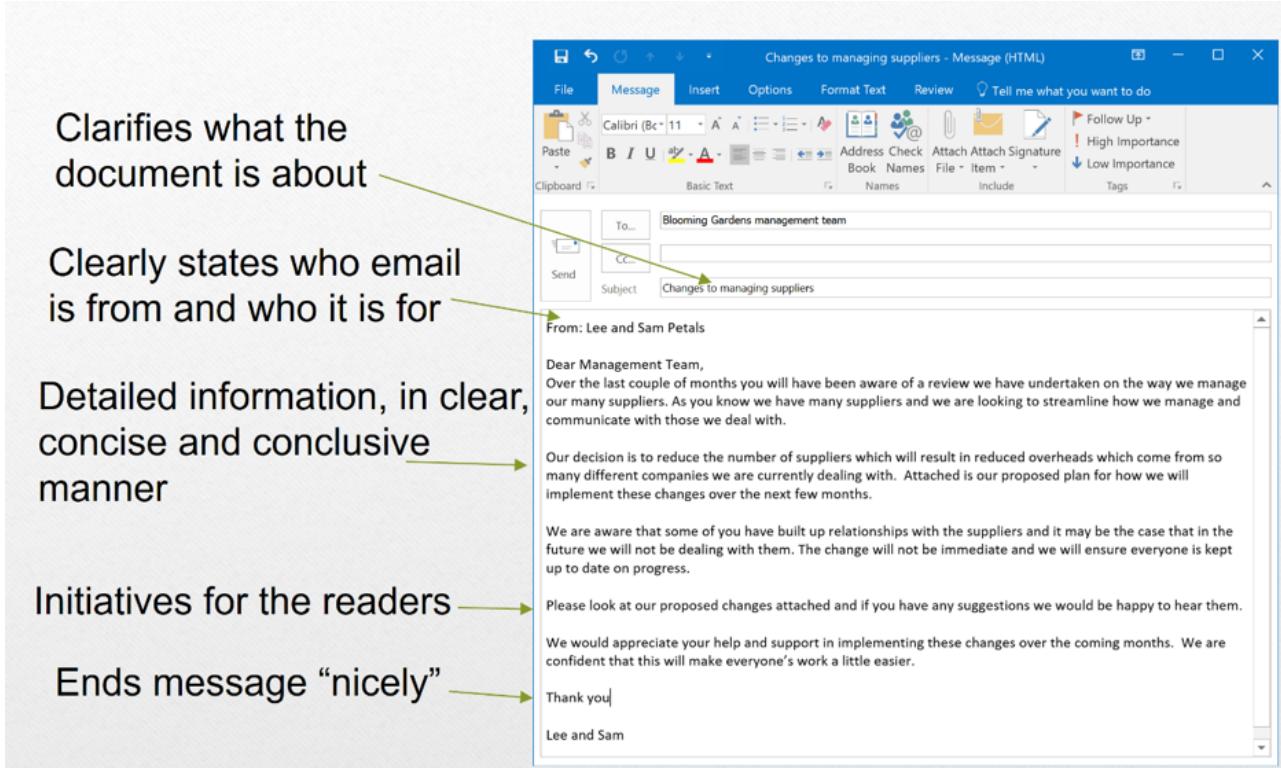
- Make sure that communication achieved what you wanted
- Assess the consequences and their implications
- What kind of follow-ups would be appropriate?
- How can you inform others of the outcomes?
- How can you make others feel comfortable and assured?

The table below describes how an organisation such as Blooming Gardens might manage communication with their managers about a change to the way they deal with suppliers in future.



General rules for composing a message

1. Clearly state who's writing for whom
2. Clarify what the document is all about
3. Detail the information in a clear, concise and conclusive manner
4. Make initiatives for the readers
5. End the message "nicely" (will depend on recipient(s) and your relationship with them)



What should be included in a message?

From the example above, Lee and Sam might send the following email to their managers highlighting the changes they are about to implement.

9.2.2 Internal and External Communication

Professional communication may take place between individuals or groups within an organisation (internal) or between the organisation and people outside the organisation (external). How this is done will be different.

Internal correspondence

Internal correspondence can be a little more informal and often will be very concise.

- Your manager has to read in his/her tight schedule, so be efficient.
- There is no definite style to follow. It is a typical example of 'what works well is the best'. The emphasis is more on the aspect of 'giving and sharing the information' and it aims:
 - to establish a consensus between your manager and yourself and/or within the team, and
 - to clarify and re-affirm that everyone involved have the same understanding on the project.
- Some internal correspondence will be 'formal'. This could be treated as you would external correspondence.

External correspondence

Corresponding externally from your organisation will require a different approach. How the message is received can have an impact on the perceived image of your organisation. It of course will depend on who you are communicating with. For example, if you are writing to a supplier your message will be different to communicating with a potential client.

- It can vary from a brief email message to a substantial document
- Your writing/contribution will become the 'face' of your organisation
- It is thus written in a very formal/stylised format and presentation
- It also aims at establishing and consolidating the relationship between your organisation and the other party
- Any external correspondence will function like a contract. The relationship will be officially initiated and based on this correspondence

9.2.3 Types of Documents

There are various types of documents that you will need to be familiar with.

Facsimile/fax

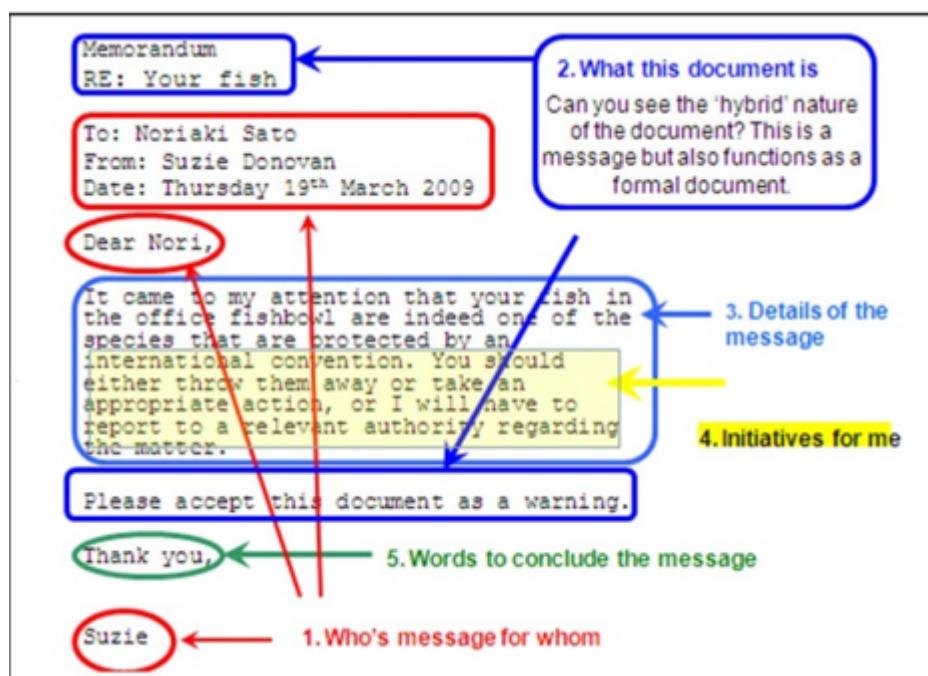
- Almost obsolete! Gradually disappearing as scanning/communication technology develops (e.g. faxes sent to Monash staff results in scanned documents being sent to the recipient's email)
- Still used sometimes (?) to send copies of non-electronically processed documents or to send documents instantly to a place where the Internet is not easily available
- You attach a cover letter which means the basic approach is the same as any other means
- Often companies have their own templates

Memorandum ("Memo")

See: <http://en.wikipedia.org/wiki/Memorandum>

- Often half-way between a message and a document
- Contains information that is important and worth being kept as written records, but cannot be classified as reports or proposals
- A useful way to 'formalise' what was discussed or what happened

Below is an example of a memo (click image for a larger view):



Letters

There are a number of types of letters. For example, some letters are sent as an email attachment, not necessarily as a hard copy. The type of letter will determine how you communicate. Typical types include:

- Cover letter of a document
- Business letter
- Reference letter

The basic approach to composing a message remains the same, but there are some differences in format.

Document Templates

Templates are used to generate a simple 'frame' for correspondence. These can include report writing templates, minutes of a meeting, or a business letter on company letterhead. Microsoft Word, for example, has a range of templates you can use.

General Points

- Know the nature of communication you are about to initiate before you start writing
- What is the most effective type of written communication to achieve your objectives?
- Professional writing is not just about how to produce a document/message, but how to handle it
- Always leave other communication channels open
- Being thoughtful and caring about how others would take your writing is the essence of professional writing
- ...and professional communication in general

Types of Reports

Reports may have different purposes and will therefore have different formats. Some examples include accident reports (quick overview of event associated with human injury), research report (gives detailed analysis of a situation) and annual reports (provides an account of the year's operation of organisation).

Proposals

In a workplace, your work group might want to see a change or implement something new. However, to do this you need approval from your manager. This will usually involve the writing of a proposal. A good proposal reinforces that:

- The project is doable
- The project is worth doing

...which may lead to sections like (only as an example):

- Aims: What the project tries to achieve
- Significance: Why it has to be done
- Project Plan: How it will be done
- Requirements: What is required to do it
- Expected Outcomes: What will be produced as an outcome

Sending a proposal to management

It will be important, as with any communication, that the right impression is given at the start. This applies as well to sending a proposal to your manager when you want to convince them to do take some action. Drawing on the Blooming Gardens case study, below is an example of how communication should not be done and how it should be done.

Poorly written message:

"hey Lee. Thx for the chat here is the doc. cheers, Amber"

A more appropriate message:

"Dear Lee,

Please accept the attached proposal with respect to the proposed changes relating to suppliers. I prepared it following our discussion yesterday. I would be grateful if you could advise if the suggested proposal is acceptable and ready for circulation within the team.

Thank you,

Amber"

Working in a team

Any work group or team will involve communication or messages between team members and to management. It is also likely that the team will generate documents such as agendas, minutes of meetings, proposals, reports, etc.

For any messages/documents

If you are the writer

- Timeliness is important. If your message or document requires a response, make sure you give people time to consider what has been written
- Be pessimistic and assume the reader's negative intention

If you are the receiver

- Timeliness is important. Attend to the message or document and respond within the time-frame given
- Be optimistic and assume the writer's positive intention

Relating to Team Documents

If you are the writer

- Send your communication to relevant people as a 'draft version' and ask for their input before circulating the document further. This way if there are contentious issues, they can be highlighted and addressed before the document goes further
- You should write a 'good' message to be attached to the document

If you are the receiver

- If necessary, tell the sender diplomatically that part of the document that needs to be revised. It is often useful to provide suggested wording for a revision.
 - Send a gentle reminder if the document you expected hasn't come through
 - Again, you need to write a good message for this, not one that sounds accusative or angry
-

9.3

Chapter 9 References and Additional Resources

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10

Chapter 10 - Electronic forms of communication

Overview

This chapter will cover:

- How to deal with email and use it appropriately
- How to write emails so they are effective and conform to a business standard
- The different style of writing for the web and what that involves
- Different social media platforms for communicating
- Style of writing for social media
- Use of instant messaging

Learning outcomes

Through this chapter you will:

- Develop strategies for managing email
 - Be able to write emails to a business standard
 - Understand the different ways email can be distributed
 - Appreciate what is different about writing for the web and what that involves
 - Learn about the different social media platforms available for business and how businesses are using them
 - Find out how to write social media posts and manage a social media presence
-

10.1

Email Communication

There are numerous communication channels we can use to communicate within an organisation and externally. A Pew Research study found that email and searching were the two most common internet activities (Purcell, 2011). However, the rise in the use of social media has resulted in a greater range of options. The communication means you choose will depend on the circumstances. Selecting the wrong channel can have a negative impact on an organisation. Next we discuss email, and some of the things you need to consider when communicating through email.

Email Communication

In Chapter 9 we looked at email as one form of written communication. This chapter provides more details on managing, writing and using email as a form of communication.

Although you have likely been writing and responding to email for a number of years, you may not have considered its importance as a business communication tool. A major issue with email and other forms of electronic communication is that the receiver only sees the text that has been written. When we speak with someone face to face, however, the receiver can interpret what we are saying from our facial expressions and body language (at least to some extent). There is no opportunity for this with email. Email therefore can result in tension, confusion or a negative response from the recipient. It shares attributes of both traditional and online communication. Given email is possibly the most used form of communication in organisations today, it is therefore useful to discuss it in more detail.

With workers receiving 50-80 emails a day, it is easy for the email you sent to be overlooked or to slip to the bottom of the pile. Here are 10 rules which will help ensure your email is noticed and acted on.

Email - getting attention:

1. Think about what you want to say before you start
2. Make the subject line informative
3. If the message is urgent, say so in the subject line
4. Make your email clear and brief
5. Have a structure to your email (salutation, opening, body and a close)
6. Be polite and respectful
7. Proofread before sending
8. Ask yourself: is this the best method for communicating my message?
9. Include an email signature
10. Consider carefully the number of emails you send. Ask yourself: do I need to send this email?

Managing email

- Which media: It's all about knowing when to use email and when to use other means of communication, such as the telephone.
- Batch your email: Find a time to deal with a number of emails together. When you batch your tasks, the brain works faster.
- When should you use 'cc' or 'reply all': Be selective with your use of the 'cc' option and the 'reply to

all'. They are seldom vital or even necessary.

- Don't engage in flame mail: If you receive an email which upsets or angers you, DO NOT respond right away. Take time to think through your response. You could write a draft response which you might later review before sending.

The 'One touch' inbox:

Manage your inbox. When you process your email always use the '4 Ds' method to choose one of four actions:

1. Do it
2. Defer it
3. Delegate it
4. Delete it

Components of an email message

Subject

Introduces the receiver to the content/purpose of your email

- Be concise and clear about what your message will be about
- Do not squeeze your main text here, or start here and finish in body of the email

Poor example

Subject: Agenda

Good example

Subject: Agenda for team meeting with
Alex

If the message is very brief it may appear in the subject line. This saves the recipient time, because they don't have to open the email. Be careful, however; brevity can be an issue.

Example

Subject: Meeting tomorrow moved to 10.30 in the
board room

Content and structure

It is good email etiquette to begin with a salutation. If you know the person well you might use their first name. If not, you may need to address them with their title (Mr Sato, Dr Betts, Prof. Green, etc.)

You may need to introduce yourself, e.g. 'I am Jan, and I work in accounts'.

It is often appropriate to begin with a polite opening which may provide more details on the subject of the email, a little like we do when we speak with someone face to face. Next comes the body, providing detail relating to the purpose of the email. Last comes the close, which might require a response from the recipient.

Poor example

Good example

Great work last night Alex. Hope you got my email about a meeting next week with the big boss. He wants to discuss plans for the team and a new project or something like that. Let me know what you think

Jan

Hi Alex,
 Thanks for discussing the issues relating to our team yesterday.
 I have arranged a meeting with my manager Sam next week, possibly Thursday. The purpose will be to discuss a new project and the skills of our team as we spoke of yesterday.
 Please let me know if you have any further input into this matter.
 Thanks,
 Jan

Language

Email in an organisational context is a form of business communication. As such, the rules written communication apply. Basic rules include:

1. Avoid 'txt' speak (LOL, OMG, etc.) and emoticons
2. Avoid abbreviations. Spell them out if you are emailing a non-technical person
3. Check your grammar and spelling. If sending an email externally, poor grammar and punctuation reflects poorly on the organisation
4. Avoid using BLOCK lettering. This is not just annoying, but can be confused with 'yelling' at someone
5. Use exclamation marks (!) sparingly

Attachments

Email is a great mechanism for sending documents, as it can ensure everyone has been sent and received the same document and the same version. In the email body, you should refer to the attachment and what it contains. Use the document name as information about the contents.

Poor example

Attachment
 Subject: Agenda
 Hey guys here's the agenda

Attachments are great but...

Good example

Attachment:
 Subject: Agenda for team meeting with Alex
 Dear All,
 Please find attached the agenda for the team meeting next week. Documents pertaining to the meeting can be found in the agenda.

- People may not read them
- Some attachments are too big for some email systems. Consider sending large files as a pdf

Sometimes it is much easier to type up a document as part of a message.

- HTML may be a suitable way to email complex information effectively
- Some people prefer plain text, which works with any email system

Recipients, Fw: for forwarding, 'CC', 'BCC', Reply All

Consider carefully who you are sending your message to if you have more than one recipient. Below are some guidelines.

FW (Forwarding)

- Only include on the list people to whom the email is relevant.
- Only include those who would be interested in the information
- Clarify who is forwarding what message to whom and for what reason
- Read the content of the email to be forwarded carefully in case the contents contain information somebody should not know

'CC' (Carbon Copy)

- Carbon copy ('cc') is for sharing correspondence with those who may need to know, e.g. a meeting your manager needs to know about
- If someone is mentioned in your email (for example, you are sharing information from this person), it is polite to 'cc' them in the email

'BCC' (Blind Carbon Copy)

- Blind Carbon Copy ('bcc') is for sharing an email with somebody without revealing their identity to other recipients of the email
- It is for people who do not (necessarily) need to know about other recipients. For example, when you are using a mailing list, and you don't want to disclose the members' personal details (e.g. email addresses) to each other
- The 'bcc' function should be used with a great deal of caution

Reply All

- Often clutters our email inbox with emails we do not need that are not relevant to us
- Use only when your reply is relevant to everybody on the list
- Avoid using reply all for messages such as 'Thanks for the information, Sam'

Sender

If you have an email signature, include it at the bottom of any emails you send. This will provide your recipient with your contact details and position title within the organisation. Things to include in a signature include:

- Name
- Phone number (office or mobile number, but only if you are happy for people to call you on your mobile)
- Address
- Other potentially relevant contact information

Examples

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Commercial Director



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Other things to consider

One key issue to consider is whether you need to send an email, or should instead use another form of communication (such as the telephone, or going to someone's office to speak with them personally). Ask yourself: Will this be a more effective form of communication than email?

Email is handy for its immediacy, but...

- Some people rarely check emails
- Often people are away from their desk (for lunch, tea, conference, all sorts of reasons...) so you may not get a quick response
- Some people don't read messages carefully
- Some people never reply even when a response is needed
- Make sure your email does not appear as Spam
- In an organisational context we must be careful how we use email. It is not appropriate for sending around your favourite jokes, for example

and remember that:

- Emails from an organisational account are still legitimate written communication initiated on behalf of the organisation
- Write your message as if it will be read publicly
- People do print out emails, file them and show them around as information sources
- Do not use discriminatory language, negative comments or personal attacks!
- Email is 'discoverable'. That is, emails can be retrieved for legal purposes

10.2 The Narrative of Writing

In this section, we explore writing and how it changes depending on the form. In your working life you will find different people will communicate in different ways. There are, however, things you need to consider when using any communication approach.

Traditional Linear Narrative

"Traditional writing in paper texts is by definition linear and narrative: that is, we most often start at the beginning and proceed to the end" (Eunson, 2012, p. 199).

- Examples: fiction, essays, letters, memos, reports, policy documents
- May include end matter or attachments (appendices, bibliographies, etc.) that "go beyond the nominal end of the document" (*ibid*)

In non-fiction, particularly reference books, they may not be read in a linear way. This is because readers may only want or need a certain piece of information (e.g. encyclopaedia, instruction manual, etc). However, such non-fiction or reference books tend to be constructed in a linear way. To a large extent, this is dictated by the nature of hard copy publications.

Writing for the Web

Websites are a different form of communication compared with paper based documents. This is often because the purpose of online communication is to sell you a product or service, so sites will feature colour and graphics (Shneiderman and Plasiant, 2010 p. 470). There are, of course, many informational sites such as government sites, sites containing specific public information, professional societies and educational sites. In non-commercial websites such as these, the information and how it is presented is critical to the value and usefulness of the site.

Different purposes different writing styles

Purpose	Organisations
Sell products/services	Business (retail/wholesale)
Advertise products, promote company	Real estate agents, theatres, libraries Universities, government
Inform/announce, promote causes	Public interest groups, charities
Offer services, information	Political groups, professional associations, councils
Create discussions, connect people	Social sites, public interest groups
Nurture communities, keep people informed and in touch	Political groups, professional associations
Provide answers, inform	Health authorities, hospitals, health groups

We must consider the purpose of the site when writing for the web. A major issue for those writing for the web is that users can access online information in any sequence. Cooper, Reiman and Cronin (2007) argue that 'informational websites' "can easily be conceived as sets of pages or documents organized sequentially or hierarchically with a navigation model to take users from one page to another" (p 175)

Presenting information online has advantages and disadvantages compared to traditional printed information:

Advantages

- Able to hyperlink areas of content
- Gives the reader more control when interacting with the content and determining the sequence in which the content will be explored or navigated
- Able to show movement or animation
- Able to convey sound

Disadvantages

- Less information can be contained in a typical single screen than in a typical printed page.
- Screen text may not be as legible as printed page
- More reader effort is needed to scroll horizontally and vertically through screen text than is required looking at different parts of a printed page
- Readers navigating via hot links can miss vital, logically prior material when they choose their own pathway through content
- Lack of tactility

- Possible time lags, especially when outdated or slow devices are used

When writing information that will be displayed on a website, the following 10 guidelines will improve the effectiveness of your communication.

1. Keep the communication simple and to the point
2. Do not clutter the page with graphics which can distract from the information being conveyed
3. Make sure key information is clear and available, not buried deep in the site
4. Ensure information is placed where readers would expect it to be
5. Do not put too much information on any one page. Use short pages and group relevant information. Avoid forcing readers to scroll
6. Keep information as brief as possible with links to further information if the reader wants it
7. Research has shown the poor grammar, punctuation and spelling lower a reader's trust in a website
8. Pay attention to the size of the text, colour and fonts. Avoid bright colours and hard-to-read fonts or text sizes
9. Use headings so readers can find information
10. Avoid the use of gratuitous graphics, images that have nothing to do with the content and do not help with finding information

Web Development

Website development and writing for the web are very specialized areas, which we don't cover in detail in this unit (Monash IT has a number of web design and web development units).

Online communication has various attributes. Each mode of communication can be placed somewhere on the below list of continuums:

- Linear <--> Non-linear
- Public <--> Private
- Short <--> Long
- Formal <--> Informal
- Professional <--> Personal

The positioning of a mode of communication may be based on technology constraints, or usage norms. For example, it may be possible to set a Facebook profile to private, but people may choose not to.

10.2.1 Social Media, Wikis, Blogs and Forums

We face an ever-changing landscape when it comes to social media. What we see today and what we have available to us will not be the same in ten years time. Irrespective of the social media platform, organisations are using social media extensively. Where then do wikis, blogs, discussion forums, twitter, social media, and so on fit in terms of written communication? Whether you are writing for a website, a wiki or social media, the guidelines suggested above apply to all these forms of communication.

Wikis

"A wiki (pronounced 'WIK-ee') is a website that allows the creation and editing of any number of interlinked web pages via a web browser using a simplified markup language or a WYSIWYG text editor." (Wikipedia, <http://en.wikipedia.org/wiki/Wiki>). Wiki is Hawaiian word for "fast".

WikiWikiweb - the first Wiki (25 March 1995), produced by Ward Cunningham (<http://en.wikipedia.org/wiki/Wikiwikiweb>)

Usually powered by wiki software: there are many to choose from (<http://www.wikimatrix.org/>) (<http://www.wikimatrix.org/>). Often used collaboratively by multiple users:

- Community websites
- Corporate intranets
- Knowledge management systems
- Note services

Wikis sometimes have different levels of access (editing rights vs. read-only) or ways of organising content.

Wikis are increasingly used in organisations for collaboration and information sharing as an alternative communication technology. Wagner and Schroeder (2010) suggest that "Their unique refactoring capability allows wikis to support communication processes which are usually associated with those communication media that provide a high social presence (i.e., processes of negotiation and consolidation)."

Examples

- Moodle Wiki is built on top an older wiki system called Erfurt wiki: <http://erfurtwiki.sourceforge.net/> (<http://erfurtwiki.sourceforge.net/>) [net](http://erfurtwiki.sourceforge.net/) (<http://erfurtwiki.sourceforge.net/>) (<http://erfurtwiki.sourceforge.net/>))
- A Monash IT wiki: the MeSSAGE Lab (Monash eScience and Grid Engineering Laboratory) research wiki: (<http://www.messagegelab.monash.edu.au>)
- Reddit is a Wiki for users to post and vote on new items, with editorial oversight provided by editors <https://www.reddit.com/wiki/index>.

Some organisations (e.g. software development companies) use a wiki for more immediate communication or project management. Wikis can be very helpful for teams.

Advantages and Disadvantages

Wikis are often a useful resource, especially when looking up definitions for words or concepts you are unfamiliar with. However, like many online resources, they have positive and negative aspects. Some of these include:

Pros

- Easily accessible
- If the community is active, information will usually be current
- Articles often provide links to other relevant resources or definitions

Cons

- Depending on how active the community is, the information may be out of date
- Wikis are vulnerable to misinformation, whether by people unknowingly entering incorrect or incomplete information, or by people deliberately sabotaging a page to remove important information or enter false information

Blogs

A [blog](http://en.wikipedia.org/wiki/Blog) (<http://en.wikipedia.org/wiki/Blog>) (<http://en.wikipedia.org/wiki/Blog>) (a blend of the term web log)[1] is a type of website or part of a website. Blogs are very similar to Wikis. They are usually maintained by an individual with regular entries or commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. Blog can also be used as a verb, meaning to maintain or add content to a blog.

Most blogs are interactive, allowing visitors to leave comments and even message each other via widgets on the blogs. It is this interactivity that distinguishes them from other static websites.[2] (http://en.wikipedia.org/wiki/Blog#cite_note-1)

(http://en.wikipedia.org/wiki/Blog#cite_note-1) (http://en.wikipedia.org/wiki/Blog#cite_note-1)

Many blogs provide commentary or news on a particular subject; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability of readers to leave comments in an interactive format is an important part of many blogs. Most blogs are primarily textual, although some focus on art (art blog), photographs (photoblog), videos (video blogging), music (MP3 blog), and audio (podcasting). Microblogging is another type of blogging, featuring very short posts.

It is impossible to know how many blogs exist today, just as it is difficult to know how many websites there are.

History

- Weblog (Jorn Barger, 1997)
- "we blog" (Peter Merholz, 1999)
- "to blog", "bloggers" (Evan Williams)

Types of blogs

- Differ in the type of content and the way that content is delivered or written
- Personal blogs (e.g. [Ann Nicholson's](http://anicholson.org/) (<http://anicholson.org/>) (<http://anicholson.org>) - password protected!)
- Corporate/organizational: "used internally to enhance the communication and culture in a corporation or externally for marketing, branding or public relations purpose" (Wikipedia)
- By genre, e.g. health
- By media type
- By device

Legal and social consequences

Blogging may seem like an innocent, innocuous activity. However, there can be consequences if you are not careful

- In Australia you are not immune from defamation or liability for your blog posts
- Employment prospects could be damaged by poorly considered blogs
- Political dangers
- Loss of personal safety or privacy

Blogger's Code of Conduct

"The [Blogger's Code of Conduct](http://en.wikipedia.org/wiki/Blogger%27s_Code_of_Conduct) (http://en.wikipedia.org/wiki/Blogger%27s_Code_of_Conduct) is a proposal by [Tim O'Reilly](http://en.wikipedia.org/wiki/Tim_O%27Reilly) (http://en.wikipedia.org/wiki/Tim_O%27Reilly) (http://en.wikipedia.org/wiki/Tim_O'Reilly) (http://en.wikipedia.org/wiki/Tim_O%27Reilly) for bloggers to enforce civility on their blogs by being civil themselves and moderating comments on their blog. The code was proposed due to threats made to blogger [Kathy Sierra](http://en.wikipedia.org/wiki/Kathy_Sierra) (http://en.wikipedia.org/wiki/Kathy_Sierra) (http://en.wikipedia.org/wiki/Kathy_Sierra)" (Wikipedia)

Discussion Boards / Forums

Discussion boards or forums are different, and usually outside the corporate space. They are often set up for particular groups or communities, e.g. artist forums, music/band forums, gaming forums, etc.

These date back to the 1980s (pre-WWW!)

There is generally a "netiquette" (explicit or implicit) to observe. For example, Moodle FIT1049 General Discussion Forum:

It is important that you use Netiquette when using the discussion forums. Whilst it is perfectly OK to seek assistance from your fellow students or staff if you need clarification on something, *please do not discuss or post assignment solutions on the forums.*

Use the *Reply* option when responding to a message, or use the *Add a new discussion topic* to start a new thread. Remember it is much easier for you, your fellow students and staff to follow discussions if they are organised by *Subjects*.

Do take your time when composing your message

Don't send a long personal introduction

Do consider emailing individuals directly if the message is not meant for everyone generally

Do keep your messages as concise and relevant to the group as possible

Don't use this forum for complaints - identify how they can be resolved and then contact someone who can assist in the resolution

Do be respectful and tolerant of others

Do be pleasant and polite

<https://moodle.vle.monash.edu/mod/forum/view.php?id=4699867>

10.2.2 Social Networking Sites

Social networking and social media sites were initially intended to be for social networking. Today, businesses large and small, government departments and not for profit organisations are taking advantage of social media. The 2015 Sensis report found 64% of small businesses, 69% of medium sized businesses and 84% of large businesses are using social media for two-way communication with clients and contacts (Ravensdale & Wong, 2015 p. 52).

Networking sites

There are numerous options for networking sites. Below, we cover the three most important for business.

Facebook

Facebook is the most widely used social media channel, with 90%+ businesses of all sizes using Facebook (Ravensdale & Wong, 2015 p. 49).

Professional implications

Before posting on your Facebook page, think carefully about how you write posts and manage your online identity:

- Protalinski (2012) reports that more than half of employers do look at the Facebook page of potential employees
- People have been caught taking sickies because they have posted images of themselves on Facebook and other social media of being somewhere other than their sick bed (see <http://www.news.com.au/technology/bosses-catching-employees-out-through-facebook-and-twitter-posts/story-e6frfro0-1226561605536> for two Australian examples).
- Colleagues can see if you spend time updating your status or playing games when at work!

Case Study: "Hotel worker Michael Nolan sacked over Facebook post to Clementine Ford"

In 2015 the Sydney Morning Herald reported that a hotel worker was sacked by his employer because of offensive comments he posted about a public figure, Ford. "On his Facebook profile, Mr Nolan listed that he was a supervisor at Meriton Apartments, prompting Ford to tag the Meriton Group on Facebook and query whether they were aware that one of their employees was making such degrading comments." The response by the Meriton Group was fast. Realising the damage to their reputation, they acted quickly to dismiss Michael Nolan.

(<http://www.smh.com.au/national/hotel-worker-michael-nolan-sacked-over-facebook-post-to-clementine-ford-20151130-glc1y4.html>)

So, either be very selective and careful of who you have as friends and what who you let see what, OR use a public (not private) persona. As with the case above, it can be costly if your posts are linked back to

the organisation you work for.

For an organisation, there are also implications for how Facebook pages are managed:

- Spearmint Rhino, a Melbourne strip club, in 2013 posted baby photos of some of their employees asking Facebook users to guess who they were. One was a baby photo of a girl who was only 14 at the time
- An employee of a pizza delivery company spat on a pizza and posted it
- In 2015, Woolworths used images of diggers just before ANZAC Day. The public thought this inappropriate, and Woolworths quickly abandoned their marketing campaign.

LinkedIn

"[LinkedIn](#) (pronounced /lɪŋkt.'ɪn/) is a business-oriented social networking site. Founded in December 2002 and launched in May 2003, [3] it is mainly used for professional networking. As of 22 March 2011, LinkedIn reports more than 100 million registered users, spanning more than 200 countries and territories worldwide.[4][5]" (Wikipedia). In Australia, LinkedIn is the third most used social media channel, with 19% of small and medium sized business and 36% of large businesses using it (Ravensdale & Wong, 2015 p. 49). Businesses and individuals use LinkedIn for:

- Professional connections
- Up to date CVs
- Finding contact details (email, website, blog, etc)
- Professional groups
- Limited messaging

LinkedIn is not particularly flexible as a platform. You cannot completely hide your profile, or set up different 'views' of your profile for different groups (e.g if you were applying for roles in different fields and wanted to emphasise different things).

Twitter

Twitter is a website, owned and operated by Twitter Inc. It offers a social networking and micro-blogging service, enabling its users to send and read messages called tweets. Tweets are text-based posts of up to 280 characters displayed on the user's profile page. Tweets may also include photos, videos and links.

Twitter was launched in 2006 by Jack Dorsey. In 2016, it was estimated that there were 1.3 billion registered Twitter users (<http://expandedramblings.com/index.php/march-2013-by-the-numbers-a-few-amazing-twitter-stats/>).

In Australia, 17% of small businesses, 38% of medium sized business and 46% of large businesses are using Twitter (Ravensdale & Wong, 2015 p. 49).

"Businesses that can benefit from using Twitter are likely to:

- target customers that fit the Twitter user demographics above
 - have dynamic products or services so they often have news to share - such as new menu items, new products, new information, regular special offers
 - develop relationships with their customers over time rather than just one-off transactions
 - have a 'personality' as well as a brand
 - have staff who are enthusiastic about social media and keen to use Twitter well."
- (Queensland Government, 2015)

Twitter can be dangerous. It may backfire for you, either individually or as a professional. Consider the potential impact on the organisation for each of the below examples:

- [Justine Sacco, who made a racist post on twitter and was fired from her job because of public outcry.](http://www.theguardian.com/world/2013/dec/22/pr-exec-fired-racist-tweet-aids-apology) (<http://www.theguardian.com/world/2013/dec/22/pr-exec-fired-racist-tweet-aids-apology>) (<http://www.theguardian.com/world/2013/dec/22/pr-exec-%EF%AC%81red-racist-tweet-aids-africa-apology>)
- Qantas had a twitter campaign inviting followers to describe their dream luxury flight experience. Some of the tweets were sarcastic and vitriolic. Examples "chartering a Greyhound bus and arriving at your destination days before your grounded Qantas flight" and "Getting from A to B without the plane being grounded or an engine catching fire" (<http://www.traveller.com.au/qantas-makes-hash-of-tweet-campaign-1nsa4#ixzz4EMP5VYgG>). These became 'self-feeding', with other followers coming up with silly suggestions
- Tom Waterhouse (betting company) asked Twitter followers to provide a name for an Easter Monday race. The Tweets included "One broken leg and you're glue" and "The dog food dash"

Because of its public nature, organisations shouldn't forget that it is somewhat out of their control. [Viral campaigns can backfire](http://edition.cnn.com/2014/04/22/tech/nypd-twitter-fail/) (<http://edition.cnn.com/2014/04/22/tech/nypd-twitter-fail/>) (<http://edition.cnn.com/2014/04/22/tech/nypd-twitter-fail/>), for example when the New York Police tried to use a hashtag promotional campaign and [many twitter users posted photos of individuals appearing beaten by Police.](http://www.nydailynews.com/new-york/nypd-twitter-campaign-mynypd-backfires-article-1.1765159) (<http://www.nydailynews.com/new-york/nypd-twitter-campaign-mynypd-backfires-article-1.1765159>) (<http://www.nydailynews.com/new-york/nypd-twitter-campaign-mynypd-back%EF%AC%81res-article-1.1765159>)

Communicating through social media

Any social media platform requires careful consideration in terms of communication. Unlike paper documents, email, newspaper or magazines, social media is instant and we cannot control who accesses it and when. Organisations need to be careful managing their social media communication. Below are 10 guidelines for communicating with social media:

1. Monitoring and updating should be done daily
2. Respond quickly to negative posts; don't just delete comments you don't like.
3. Ensure the language used is appropriate and not inflammatory
4. Develop a contingency plan if a social media campaign goes wrong
5. Remember when an organisation uses social media, this is their public image
6. Don't be afraid to apologise if something goes wrong

7. Be honest
 8. Ensure any posts/tweets are not wrong, misleading, or defamatory
 9. Understand your audience and their views before starting a campaign
 10. Carefully consider what to post
-

10.2.3 Messaging

The final communication tools we will discuss are messaging and chat. These are used in business, but for quite specific purposes.

Instant Messaging

There are many instant messaging systems. All now offer, in addition to instant chat, voice call, video, calls to landlines and mobiles, SMS, etc!

- Whatsapp (<https://www.whatsapp.com/>)
- MSN [msn](http://www.msn.com/) (<http://www.msn.com/>).com (<http://www.msn.com/>)
- AIM [com](http://www.aim.com/) (<http://www.aim.com/>)
- YIM (<http://messenger.yahoo.com>)
- Skype [com](http://www.skype.com/) (<http://www.skype.com/>)
- Facebook Messenger (<https://www.messenger.com/>)
- Google Hangouts (<https://hangouts.google.com/>)

SMS

While widely used in a personal context (think about how many texts you send a day), it is not widely used for workplace communications. Common workplace usages include:

- Reminders (e.g. your next dental appointment, mobile usage, etc.)
- Marketing
- Security (e.g. a SMS might be sent to confirm the identity of the user)

Tone and level of formality vary greatly between personal and workplace usage of SMS.

10.3

Chapter 10 References and Additional Resources

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Additional resources

Email in the workplace: <http://www.youtube.com/watch?v=5iRj67suTLs&NR=1>
(<http://www.youtube.com/watch?v=5iRj67suTLs&NR=1>)

Seven Keys To Effective Email: <http://www.youtube.com/watch?v=FkPzbnDe2yY>

Blogs in Plain English <http://www.youtube.com/watch?v=NN2I1pWXjXI>

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11 Professional issues

Overview

This chapter looks at a number of important issues that relate to the IT workplace. These include:

- Sustainability (also known as Green IT)
- Workplace discrimination
- Harassment and victimisation in the workplace
- Bullying (including cyberbullying)

Learning outcomes

Through this chapter you will:

- Understand what sustainability is in the context of the use of IT and the IT workplace
- Be able to identify the contribution IT can make more widely to sustainability
- Appreciate what discrimination is and be able to identify what it is in a workplace
- Be able to identify the legal side of discrimination
- Build knowledge about harassment and victimisation and what both involve
- Understand what workplace bullying is and the ramifications of cyberbullying

11.1

Sustainability

This section discusses the area of sustainability, which is sometimes referred to as 'green IT'.

Definition: "[S]ustainability is improving the quality of human life while living within the carrying capacity of supporting eco-systems" (Union of Conservation Scientists, United Nations Environment Programme and World Wide Fund for Nature [IUCN/UNEP/WWF], 1991, p. 10).

In 2005, the UN Summit on social development adopted the following sustainability goals for development:

- Economic development
- Social development
- Environmental protection

Green IT is based on sustainability, with a focus on how IT can raise awareness of issues around sustainability and technology and what contribution IT can make to sustainability (particularly in relation to its design and use).

Definition: "Green IT is dedicated to bringing about awareness, knowledge and adoption of environmentally sustainable practices, policies and technologies in and through the IT industry" (Australian Computer Society 2016)

The Australian Computer Society has a Green IT Special Interest Group (SIG). The objectives of this group include:

- Awareness raising about environmental and social responsibilities
- To raise awareness of how IT impacts on the environment
- Helping businesses develop plans to audit their IT area and reduce the environmental impact of their IT use
- Promoting the impacts of ignoring sustainability issues
- Advising government on legislation and decision making

A key focus for the IT industry with respect to sustainability is understanding and evaluating the environmental impact of products throughout their life-cycle (Stiel & Teuteberg 2013). This includes the production of materials, distribution, use and then finally how products are managed at the end (for example, recycling).

Instrumentation technologies help collect information relevant to sustainability. IT allows sustainability planning in a broader context that enable companies to aggregate, manage and analyse that captured information. As a consequence, they are able to create efficiencies. For example:

- Enterprise sustainability planning (ESP) systems provide a broader context for aggregating, managing, and analysing captured information
- Value-chain-oriented processes, practices, and technologies help organisations extend strategic sustainability efforts beyond internal corporate boundaries. In other words, IT can help organisations extend a strategic sustainability effort beyond what they do internally to actually affect things that are upstream and downstream of them, especially in terms of suppliers. Apple (<http://www.apple.com/au/environment/>) and Samsung (<http://www.samsung.com/au/aboutsamsung/sustainability/report-and-policy/>) are examples of

this, mandating to their suppliers that they will only source materials that meet sustainability goals. In terms of the business model, IT-generated reporting can provide metrics and measurements that allow efficiencies

- Sustainability reporting technologies can take the aggregated information and provide performance metrics to stakeholders

Sustainability is still new, however. Most organisations have minimal experience / mechanisms for measuring environmental and social impact of their products / operations. Data collection tends to remain manual and non-standard. IT can create visibility of consumption or social and environmental resources. Information is imperative to manage sustainable use of resources. In this regard, IT has an integral role in sustainability.

Cases : Green ICT (Qantas and Price Waterhouse Coopers (PWC))

To reach the goal of a 10 percent reduction in their carbon footprint, Qantas:

- Established a baseline measurement of the ICT footprint. This involved identifying metrics for ICT energy use
- Reduced their energy levels, in particular looking at how to better manage ICT equipment power use. This included maximising hot desk work environments and ensuring better management of printing and energy
- Developed policies around ICT equipment life-cycle

The outcome was a significant financial saving from a reduction in ICT equipment energy use and a reduction of 6000 tonnes of CO₂ emissions per year.

<http://www.fujitsu.com/au/Images/Fujitsu-Qantas-Sustainability-Case-Study.pdf>

PWC also measured the impact their ICT use has on the environment. They took action to:

- Lower the power consumption of data centres
- Maximise the use of their servers
- Install more energy efficient servers.
- Change the configuration in rooms to improve airflow to reduce cooling costs
- Change the way printing was managed by introducing a PIN which needs to be entered before a print job is collected. This reduced waste from printing never collected.

<http://www.pwc.com/us/en/technology-forecast/2011/issue4/interviews/interview-chris-peters-intel.htm>

11.2 Discrimination

We are all aware of the issue of discrimination. Discrimination exists in some workplaces, but can also impact on someone looking for a job. It is important for you as a future employee (and possibly employer) in the IT profession to understand the importance of work place policies with respect to discrimination, and to be able to identify discrimination.

Definition: The Fair Work Act (2009) protects against "Discrimination on the basis of race, colour, sex, sexual orientation, age, physical or mental disability, marital status, family or carer responsibilities, pregnancy, religion, political opinion, national extraction, and social origin" (Australian Human Rights Commission, 2016).

Equal Opportunity at Monash University "recognises that honesty, fairness, mutual respect and the responsible exercise of power are fundamental to achieving equity for all ... an environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This will be achieved by:

- requiring all staff, students, contractors and visitors to ensure their conduct complies with the equity principles outlined in this policy;
- providing an inclusive and flexible environment for students and staff by identifying and removing any remaining systemic barriers to equitable access and participation;
- using non-discriminatory, inclusive language and practices;
- developing plans and facilitating programs to successfully increase access and promote success in education and employment for designated under-represented groups in order to overcome disadvantage;
- ensuring that all Monash University students and staff have access to benefits and services in an equitable manner, including assistance to reasonably accommodate a person's disability; developing and promoting processes that support the systematic implementation, monitoring, reporting and management of equal opportunity; and
- providing effective mechanisms to resolve complaints of unlawful discrimination, harassment, vilification and victimization" (Monash University, 2015).

Relevant Commonwealth acts include the following:

- The Equal Opportunity for Women in the Workplace Act 1999 requires private enterprise employers and institutions of higher education to undertake affirmative action programs to promote equal employment opportunity for women. Affirmative action programs are meant to be designed to remove discriminatory employment barriers and take action to promote equal opportunity for women in the workplace. Other disadvantaged groups are not covered by legislation applicable in Victoria, except in relation to acts of discrimination.
- The Victorian Equal Opportunity Act 2010 covers discrimination on a range of grounds and also makes sexual harassment unlawful. This Act also imposes a positive obligation on employers to provide workplaces free from discrimination and harassment.
- The Victorian Racial and Religious Tolerance Act 2001 covers racial and religious vilification and includes criminal sanctions in certain cases.
- The Age Discrimination Act 2004 protects against both older and younger Australians.
- The Disability Discrimination Act 1992 requires that we do not discriminate against people based on their physical or intellectual disabilities (Australian Human Rights Commission 2014 a).

In 2006 Victoria introduced a Charter of Human Rights and Responsibilities to provide a framework for enshrining fairness, respect, equality and dignity in all activities of government, the public service, the courts and public authorities. The Victorian Charter of Human Rights and Responsibilities Act 2006 sets

out freedoms, rights and responsibilities and requires State and local government and other public authorities to take human rights into consideration when making laws, setting policies and providing services. The Charter covers a number of civil and political rights and also provides for the responsibilities that accompany these rights and times where rights can be overridden for the protection of national security, public order, health or morality.

In Victoria, there is a positive duty for employers to proactively prevent discrimination, sexual harassment and victimisation as far as reasonably practicable. The duty requires people and organisations to take measures, and have levels of compliance that are reasonable and proportionate to their size. The outcome that the duty seeks to achieve is to eliminate discrimination as far as possible. The duty holder's size, resources and service priorities may affect the practicability and cost of compliance.

11.2.1

Types of Discrimination

There are two kinds of discrimination:

1. **Direct Discrimination** is treating or proposing to treat a person less favourably on the basis of one of the protected grounds as listed below.
2. **Indirect Discrimination** occurs when there is a requirement, condition or practice that operates to disadvantage a person or group of people on the basis of a protected ground and the requirement, condition or practice is not reasonable in the circumstances.

All forms of direct and indirect discrimination on the grounds listed below from the Monash University website are unlawful.

- "race, colour, national or ethnic origin, nationality;
- sex or gender, sexual orientation, lawful sexual activity;
- marital status, pregnancy or potential pregnancy, breastfeeding, status as a parent or carer; Religious or political belief or activity, industrial activity;
- age, physical features;
- employment activity (meaning a request for information about or expression of concern about the provision of employment entitlements);
- disability, medical record;
- personal association with a person who is identified by reference to any of these attributes, or
- any other attribute protected under anti-discrimination law." (Monash University 2016)

Unlawful discrimination in education covers students who, based on these grounds, experience disadvantage as a result of the actions or omissions of staff or by the policies of the University.

Unlawful discrimination in employment covers actions or omissions by the organisation or its staff which disadvantage a job applicant or member of staff in their application or employment on the basis of a protected attribute. It can also include an unreasonable refusal to accommodate disability or parenting or caring responsibilities.

11.2.2 Discrimination in IT

As in other industries, discrimination also exists in IT. This is a particular concern because of the increasing demand for skilled IT professionals.

Definition: "Workplace Discrimination is denying any person equality of treatment in employment matters for any grounds other than those directly related to the requirements of the job."

In 2016, the ACS commissioned a report on the Australian IT industry (ACS 2016). The survey highlighted areas of discrimination. These included:

- *Age discrimination.* Just 11% of the workforce was over the age of 55. There is evidence that despite years of experience in the IT industry and being highly skilled, workers over the age of 55 face difficulties gaining employment
- *Sex discrimination.* Only 28% of the workforce was made up of women. Women are also discriminated against when it comes to pay with the pay gap between men and women. Women working in IT earn 20% less than men. Only 14% of CIOs are women. Women face discrimination in getting promoted partly because women's skills and knowledge are not always recognised.

It is becoming more widely understood that with respect to women in particular (but also men sometimes) and those from a different racial background, that people are discriminated against because of what is called 'unconscious bias'. This bias is usually on the part of employers. In other words, people are employed or promoted because those making decisions are not aware that they are favouring those similar to themselves.

Discrimination can take other forms. For example, it is against the law to treat someone unfairly based on their race. This includes "a rule or policy that is the same for everyone but has an unfair effect on people of a particular race, colour, descent, national or ethnic origin or immigrant status." (Australian Human Rights commission (2014b, p.2)

11.3 Harassment and Victimisation

These problems are also common in organisations. As an employee (and potential manager), you need to be aware of what harassment and victimisation are. Harassment and victimisation are different from discrimination because they are not based on someone's race, religion or sex.

Definition: "Harassment is any form of behaviour that is unwelcome, unsolicited, unreciprocated and usually (but not always) repeated. It is behaviour that is likely to offend, humiliate or intimidate. It can make it difficult for effective work to be done by the individual or groups targeted or affected by this behaviour." (Australian Government, 2016)

Harassment is unwelcome conduct that might reasonably cause a person to be offended, humiliated or intimidated. Harassment which is offensive conduct based on a person's disability, race or is of a sexual nature is a form of discrimination.

Sexual harassment

Definition: "Sexual harassment is any unwanted, unwelcome or uninvited behaviour of a sexual nature that is likely to offend, humiliate or intimidate." (Australian Government, 2016)

In the field of technology theguardian reported in 2016 that 60% of women working in Silicon Valley have experienced harassment, usually sexual, most women did not report the harassment. Not surprising, then, is the fact that the article continued explaining that most men were not aware that this was occurring.

<https://www.theguardian.com/technology/2016/jan/12/silicon-valley-women-harassment-gender-discrimination>

All sexual conduct, whether verbal, physical or electronically communicated may constitute sexual harassment if it is unwelcome and could reasonably make someone else feel offended, humiliated or intimidated. Sexual harassment might occur as a single incident or a series of incidents and may include:

- personally offensive comments;
- sexual or smutty jokes;
- comments or teasing about a person's alleged sexual activities or private life;
- persistent unwelcome invitation/s, telephone calls or emails on campus or at home;
- being followed home from campus;
- offensive hand or body gestures;
- physical contact such as patting, pinching, touching or putting an arm around another person;
- the display of sexually-suggestive material;
- unwanted declarations of affection;
- sexual assault and rape; and
- use of organisation's computer systems for the retention and distribution of sexually explicit material (Monash University, 2015b).

Sexual harassment can occur:

- between peers (people who have the same role in an organisation), e.g. student to student or staff to staff
- from staff member to student or supervisor to employee

- from student to a staff member or employee to supervisor
- from a member of the public in the course of the organisation's business

Cases of sexual harassment

In 2014, the Federal Court ordered Oracle to pay \$130,000 to a female project manager after it was found she had been harassed by a colleague on 11 different occasions. The harassment included lewd sexual remarks and other inappropriate comments
<http://www.afr.com/technology/enterprise-it/oracle-ordered-to-pay-130000-in-sexual-harassment-case-20140715-jik3s>

In 2013, a female employee of a traffic control services company was awarded more than \$100,000 compensation for harassment she suffered from another employee. The offender made repeated vulgar comments and made inappropriate gestures.
<http://workplaceinfo.com.au/hr-management/eeo/analysis/workplace-harassment-case-studies-extending-liability#.V6BU9bh96Uk>

These examples highlight the importance of organisations having robust sexual harassment procedures and putting them into practice. In a number of cases when the employee reported the harassment, they were ignored. The personal cost can be very high. Despite payouts to those who had been harassed, many chose to leave their employer. Apart from the personal cost to the individual there is also a cost to the employer, the legal costs, the payout and replacing the employee who has left.

Victimisation

Definition: "Victimisation involves treating someone unfairly because they have made, or intend to make, a discrimination or harassment complaint. This also includes those who have supported another person in making a complaint." (Australian Government, 2016 p. 5)

It is not surprising that there are policies relating to victimisation. If someone has a complaint about discrimination or harassment involving a colleague or a supervisor they need to feel able to report this.

Victimisation is when a person subjects (or threatens to subject) another person to a detriment (which can include humiliation and denigration) because that other person has made a complaint or been involved in a complaint of discrimination or harassment. Victimisation also covers unfavourable treatment based on the belief that a person intends to make or be involved in making a complaint of discrimination or harassment.

Victimisation can include physical, visual, verbal and non-verbal behaviour. Examples of victimisation include behaviour such as:

- Refusing to provide a student with information about their assessments because the student has made an allegation of discrimination
- Humiliating a staff member in a meeting because they gave evidence in support of a colleague's complaint of sexual harassment

A person may be found liable for victimisation even though the original allegation is not proven. For example, even if an original complaint of sexual harassment is not substantiated, it may constitute victimisation for a manager to give a staff member a poor performance review because that staff member had made a complaint against the manager.

Victimisation also covers unfair treatment of a person because of their association with someone who has made a complaint. Students and staff may raise concerns about victimisation in the same way as they

would for discrimination or harassment.

11.4

Bullying and Cyberbullying

Bullying is another problem you might encounter in the workplace as an employee or become aware of if you are an employer. Bullying can take various forms. There is evidence that more than 90% of us are likely to experience an episode of bullying in the workplace so it should not be treated lightly. Cyberbullying in particular is on the rise in Australian workplaces.

Workplace Bullying

Definition: "Workplace bullying is the repeated, less favourable treatment of a person by another or others in the workplace. It includes behaviour that intimidates, offends, degrades or humiliates a worker." (Australian Government, 2016, p. 5)

Bullies usually utilise power attributed to their status, skills or position in the workplace, and both men and women can be the targets and/or the perpetrators. Workplace bullying can occur between a worker and a manager or supervisor, or between co-workers.

Bullying behaviour can range from very obvious verbal or physical assault to very subtle psychological abuse. This behaviour may include:

- physical or verbal abuse
- yelling, screaming or offensive language excluding or isolating employees
- psychological harassment
- intimidation
- assigning meaningless tasks unrelated to the job giving employees impossible jobs
- deliberately changed work rosters to inconvenience particular employees
- undermining work performance by deliberately withholding information vital for effective work performance

Cyberbullying

The following material is a reproduction of material provided by the Australian Human Rights Commission (2011).

Cyberbullying is bullying that is done through the use of technology. For example, using the Internet, a mobile phone or a camera to hurt or embarrass someone is considered cyberbullying. Images can be shared widely with many people quickly, which is why it is so dangerous and hurtful.

A Queensland University of Technology study in 2015 found that 72% of public servants in Australia had experienced or witnessed cyberbullying. The study identified the cost to the Australian economy to be \$36 billion per year.

(<http://theconversation.com/cyberbullying-widespread-amongst-public-servants-53281>)
(http://theconversation.com/cyberbullying-widespread-amongst-public-servants-53281)

What happens with cyberbullying?

- Many people can view or take part in it
- It is often undertaken in secret, with the bully hiding who they are by creating false profiles or

- names, or sending anonymous messages
- It is difficult to remove. This is because it is shared online, so can be recorded and saved in different places
- It is hard for the person being bullied to escape if they use technology often
- The content (photos, texts, videos) can be shared with many
- This content may also be easy to find by searching on a search engine like Google

What does cyberbullying look like?

- Being sent malicious or hurtful text messages from someone you know or even someone you do not know
- Receiving nasty, threatening or hurtful messages through social networking sites like Facebook and Twitter, or through sites where people can ask / answer questions like Formspring or Internet forums
- People sending photos and videos of you to others to try and embarrass or hurt you
- People spreading rumours about you via emails or social networking sites or text messages
- People trying to stop you from communicating with others
- People stealing your passwords or getting into your accounts and changing the information there
- People setting up fake profiles pretending to be you, or posting messages or status updates from your accounts.

Each state and territory in Australia has different laws for bullying.

In Victoria in 2011, "Brodie's law" was implemented to punish those who bully people into self-harm. This was spurred by the suicide of 19 year old Brodie Panlock, which came after vicious and continuous [bullying in](http://theconversation.com/suicide-and-workplace-bullying-a-father-a-daughter-and-thirty-years-7694) (<http://theconversation.com/suicide-and-workplace-bullying-a-father-a-daughter-and-thirty-years-7694>) [her place of work](http://theconversation.com/suicide-and-workplace-bullying-a-father-a-daughter-and-thirty-years-7694) (<http://theconversation.com/suicide-and-workplace-bullying-a-father-a-daughter-and-thirty-years-7694>). The Victorian Crimes Act was amended as a result, to include "acting in any other way that could reasonably be expected to cause a victim to engage in self-harm".

Cyber bullying in Victoria

The following material is taken from material provided by Lawstuff (2009).

Cyber bullying is illegal when it becomes harassment that is illegal or when someone makes threats against a person that are illegal. In Victoria, it is illegal to stalk a person. Stalking occurs where a person intentionally causes another person to fear physical or psychological harm for themselves or others. If found guilty of this offence, the offender can be imprisoned for up to 10 years or if the matter is heard in the Magistrates Court, a maximum penalty of 2 years imprisonment.

Conduct that may be considered stalking is:

- telephoning or contacting someone electronically be email, chat rooms, SMS, or messenger, where the intention is to cause another to fear for their own safety or the safety of another or to cause another physical or psychological harm; or
- giving offensive material to another or leaving it to be found by a person (this would include posting offensive photos or messages via email, on networking pages such as Facebook or YouTube or on chatrooms or message boards)
- Using text messaging, emails or telephones to make a threat or to harass or menace someone can also constitute a range of other crimes

Where cyber bullying involves comments that injure the personal and professional reputation of an individual or exposing that person to ridicule or causing other people to avoid them, it may amount to defamation. A person who has been defamed may be able to sue the other person.

Given the statistics, why is bullying (including cyberbullying) not reported more? Among the reasons are because the victim does not want to raise the matter for fear of retribution, or because they believe management will not act or they should just cope with the impact of the attack.

11.5

Chapter 11 References

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Additional Resources

- RAC07 Race: Harassment and victimisation <https://www.youtube.com/watch?v=Katv6zmMN7M>
- Workplace Bullying <https://www.youtube.com/watch?v=MC32nbGVujM>
- Types of Discrimination https://www.youtube.com/watch?v=_TbvuqRMUO4

Schenk, L (2012). *Employers Beware: Cyber-Bullying Could Wreak Havoc in Your Workplace*, Frost Brown Todd. Retrieved from <http://www.frostbrown todd.com/resources-1520.html>

12

IT Security and Risks

Overview

Chapter 12 covers IT Security and Risks. It covers the following key points:

- Types of security threats, both human (whether intentional or accidental) and physical
- The costs involved when IT security is not adequate (this includes the potential revenue loss)
- Threats relating to Malware and the different forms these can take
- What actions we can take to mitigate the threats

Learning outcomes

Through this chapter you will:

- Be able to identify the range of threats to technology
 - Understand the different types of threats and their potential impact
 - Learn what organisations need to do to mitigate these threats
-

12.1 IT Security and Risks

IT systems are fundamental to an organisation's survival. Poor management of IT systems can expose the organisation to a wide range misuse. Failure to protect systems from intentional misuse (for example, an employee deliberately or knowingly using a system for something they should not) can be a serious issue. Accidental misuse (which may include dropping a laptop, spilling a cup of coffee on a computer, or theft from inside or outside an organisation) can also lead to disaster.

The potential costs of poor security include:

- inconvenience to business users, customers, partners
- loss of revenue
- lost market capitalisation - decrease in the value of shares in the market
- loss of reputation

The risks of poor IT systems security for a business need to be understood. The following sections will explore these risks in more detail.

12.1.1 Human and Physical Threats

Human and Physical Threats

A survey by the Australian Institute of Criminology (2009) found that 64% of Australian businesses they surveyed were victims of some type of computer security incident (p. xi). Of these, 11% involved a security incident within their organisation. Corruption of software or hardware was the most common impact of the security breach. In this section we look at some of the data risks faced by organisations.

Accidents and Mistakes

Accidents cause approximately 50% of damage to systems and data (Bocij, Chaffey, Greasley & Hickie, 2006). Natural disasters (for example, fire, earthquakes, floods, storms, etc.) cannot be controlled, but need to be planned for (Bocij et al. 2006). An accident can also include something as simple as dropping a laptop with important company information on it. Examples of mistakes could be:

- Inaccurate data entry - entering the wrong thing can significantly impact systems
- Employee ability - where employees are not able to use a system correctly, wrong data can be entered or actions taken
- Procedure compliance - employees fail to follow procedures, including failure to carry out and verify backups
- Leaving a USB containing sensitive material on a train
- Disposing of a laptop or desktop and not properly wiping information from the hard drive

Cases of missing data

- In 2009, Royal Air Force (RAF) data was lost. The data included 500 very sensitive files relating to RAF employees.
- Also in 2009 a health worker in Britain lost a USB which had files and medical details of 6000 prisoners. Although the data were encrypted, the password was a note with the files.
- In 2008 a computer hard drive containing names, addresses and phone numbers went missing. The data were not encrypted.

<http://news.bbc.co.uk/2/hi/uk/7449927.stm>

Sabotage

Definition: "*sabotage of network or data: intentional destruction of, or damage to, a computer network or to data stored on a network or standalone computer.*" (Australian Institute of Criminology, 2009 p. 46)

Sabotage (Bocij et al., 2006) is another kind of risk. Individual sabotage could be caused by disgruntled employees. Sabotage was reported by 3% of Australian businesses (Australian Institute of Criminology, 2009 p. 60). Industrial sabotage, though rare, is conducted usually for competitive or financial gain, and is generally highly organised. One instance of this was when British Airways gained access to Virgin's customer database and used it to poach customers. Unintentional sabotage can take place when employees feel threatened by new systems and bypass them or actively seek to discredit them. Finally,

vandalism (damage to physical hardware or damage to data, software, defacing of websites) can significantly hinder the organisation's ability to function.

Theft

Definition: Theft is "The unauthorised access to, and/or, use, viewing, duplication, distribution or theft of, proprietary or confidential information" (Australian Institute of Criminology, 2009 p. 97)

Theft (Bocij et al. 2006) can include data theft. Stolen data can significantly impact on a company if that data gets into the wrong hands, especially if it includes items such as banking or credit card details. Similarly, the physical theft of hardware and software by criminals can cause major problems.

Most often it is employees rather than hackers involved in security breaches. Sometimes this is unintentional, where the employee does not realise information is restricted. At other times it can be deliberate and for personal gain. In Australia theft of, or loss of, hardware is a major issue (Australian Institute of Criminology, 2009 p. xii). It was also found that around 4% of businesses had had data or confidential information stolen.

Hackers

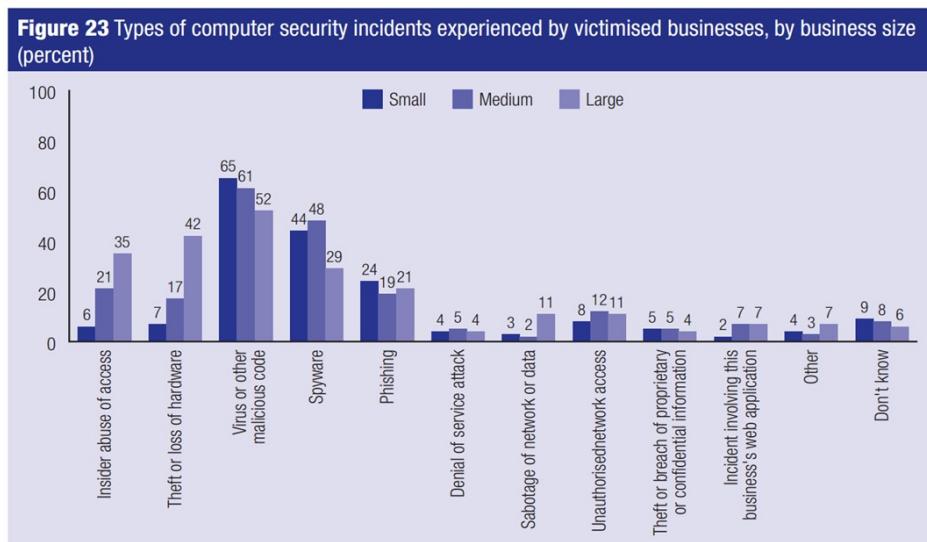
The original meaning and role of hackers developed in the 1960s at MIT: "They borrow their name from a term to describe members of a model train group at the school who "hack" the electric trains, tracks, and switches to make them perform faster and differently" (Gelbstein & Kamal, 2002, p. 48). Hackers began as explorers, risk-takers and technical virtuosos. However, at the dawn of the Internet malicious acts such as destroying databases and stealing confidential personal information soon gave hackers a bad name. We have all heard news reports of companies whose data has been hacked. For example, in April 2016 Gumtree was the target of a hack with the hackers stealing email addresses of some users.

Today hackers involved in activities such as identity theft are known as 'black hat' hackers, while 'ethical' hackers are often called 'white hat' hackers. Hackers employ a range of techniques to obtain their targets. Many of these techniques involve the use of malware, which will be explained in the following section.

12.1.2 Malware

Definition: "Software designed specifically to damage or disrupt a system, such as a virus or a Trojan horse. May be either self-replicating or non self-replicating code (any statements and/or declarations that are written in a computer programming language) to change the way a computer operates without the consent or knowledge of the system owner or user." (Australian Institute of Criminology, 2009 p. 97)

In Australia between 2006-07 more than 14% of businesses experienced some malware incident. The impact was usually corruption of hardware and/or software. The financial losses however were estimated to be over \$600 million (Australian Institute of Criminology, 2009 p. iii). The following chart from the Australian Institute of Criminology (2009) details the types of security incidents experienced by businesses of different sizes.



From Australian Institute of Criminology, (2009 p. 59)

Malware can be broadly categorised as follows:

Viruses

A virus is a piece of self-replicating code embedded within another program (the 'host'). Since it is capable of self-replication, it can spread from one machine to another. Viruses are transmitted by a range of means, usually as a result of employees transferring software and data. They are associated with program files, hard disks, portable drives/USB sticks and CD-ROMS. Viruses spread via email, portable storage devices and files downloaded from the Internet. There have been many well-known viruses such as Love Bug and Heartbleed, as well as huge numbers of less well-known ones.

Viruses are the most common malware, impacting businesses of all sizes. The good news today is that commercial antivirus software can cope with most viruses. The bad news is that 30% of small and

medium sized business have not spent any money on detection and monitoring software (Australian Institute of Criminology, 2009).

Worms

Worms are self-contained programs. The primary difference between a virus and a worm is that a virus must attach to something, such as an executable file, in order to spread. Worms do not need to attach to anything to spread and can tunnel themselves into computers. Worms spread through a computer network, exploiting security holes in networked computers. Some famous worms (Quinn, 2011) have included WANK, Code Red and Sapphire.

Trojans

Trojan horses or Trojans are programs with benign capability that mask a sinister purpose. The Trojan presents itself as a legitimate program in order to gain access to a computer system. It is used then to gather and deliver information to its owner. It effectively acts as a remote control application, hiding inside other software, usually as an attachment or a downloadable file.

DOS/DDOS Attacks

Definition: "denial of service attacks: attacks aimed at a specific website by flooding the web server with repeated messages, depleting the system resources and denying access to legitimate users." (Australian Institute of Criminology, 2009 p. 46)

A denial-of-service attack is an intentional action designed to prevent legitimate users from making use of a computer service, with the goal being to disrupt the ability of a server to respond to clients. According to Quinn (2011), about 4,000 websites are attacked each week using this method. Distributed Denial-of-Service Attacks take place when an attacker gains access to thousands of computers and launches a simultaneous attack on target servers. In Australia 4% of business have experienced a denial of service attack (Australian Institute of Criminology, 2009 p. 60)

Defensive measures that can be taken against them include securing computers to prevent hijackings and checking for forged IP addresses. See denial of service case studies in Quinn (2011), where Blue Security, Fourth of July Attacks, Attacks on Twitter and other social networking sites and Satan are examined.

Bots

A bot is a software program that responds to commands from a program on another computer. Some bots support legitimate activities such as multiplayer internet games. Other bots, however, support illegitimate activities like distributing spam, collecting personal information for ID theft or denial-of-service attacks.

Further Examples

Some other examples of malware are:

- Spyware: software intended to collect and transmit confidential information. Spyware comes

hidden in free downloadable software and tracks online movements, mines the information stored on a computer, or uses a computer's CPU and storage for some task the user knows nothing about. More common than is often realised

- Adware: Internet users' online activities are monitored so advertising can be targeted
- Backdoor programs: viruses that open a way into the network for future attacks
- Elevation of privilege: a process by which a user misleads a system into granting unauthorised
- Spoofing: forging a return address on an email so that the email message appears to come from someone other than the actual sender. This is not a virus, but rather a way by which virus authors conceal their identities as they send out viruses
- Sniffer: a program or device that can monitor data travelling over a network. It can show all the data being transmitted over a network, including passwords and sensitive information
- Packet tampering: altering the contents of packets as they travel over the Internet or altering data on computer disks after penetrating a network. For example, an attacker might place a tap on a network line to intercept packets as they leave the computer. The attacker could eavesdrop or alter the information as it leaves the network

Cases of malware

- In March 2016, malware was detected in Australian banks' mobile banking applications. The virus pointed customers to a fake page and invited them to log on, whereupon passwords were stolen.
<http://www.news.com.au/technology/online/security/sophisticated-malware-detected-that-steals-online-banking-passwords-thwarts-text-authentication/news-story/afa5cf65dfcd350acc069af41545e39>
- Australia Post reported in July 2016 an email scam which advised customers that they had missed a parcel delivery and invited them to log into a website for more information. The fake site then harvested personal details from the users. Worse still, the program installed the CRYPTOLOCKER virus on business computers resulting in businesses losing all their data.
<https://www.choice.com.au/electronics-and-technology/internet/internet-privacy-and-safety/articles/designer-malware-targets-australia>
- Malware can affect government agencies as well. In 2015 the Australian Federal Police broadcast a warning to the public regarding a fake email requesting payment to the AFP for a traffic offence
<http://www.arnet.com.au/article/575195/australia-top-destination-ransomware-websense/>.
- Australian Government websites were subjected to Denial of Service attacks in 2009
<http://www.itnews.com.au/news/australian-government-websites-blitzed-by-ddos-attack-166860>

12.1.3 Defensive Measures

There are a number of measures businesses can take to protect businesses and their data. System administrators play an important role in a number of key areas:

- Security policies: these will identify who is responsible for security, policies for how people manage their data, etc.
- Acceptable use policies (such as those at Monash:
https://www.monash.edu/_data/assets/pdf_file/0009/1092699/Information-Technology-Acceptable-Use-Policy.pdf)
- Authorisation: determining that a user has permission to perform a particular action
- Authentication: confirming that people are who they claim to be
- Firewall: a computer program which monitors packets of data entering and leaving a local area network
- Encryption: of data (particularly sensitive data)
- Keeping software up to date, e.g. virus detection software

Continuing with defensive measures, other areas that need to be considered are the physical security of the server and restrictions on access, various bench-marking and quota systems, disabling unused network devices and turning off routers' amplifier network capability. One consideration rarely considered by organisations is whether it is always necessary to be connected to the internet.

12.1.4 Computer and Data Reliability

Definition: Computer reliability is the " [ability](http://www.businessdictionary.com/definition/ability.html) (<http://www.businessdictionary.com/definition/ability.html>) of a [computer program](http://www.businessdictionary.com/definition/computer-program.html) (<http://www.businessdictionary.com/definition/computer-program.html>) to perform its intended [functions](http://www.businessdictionary.com/definition/function.html) (<http://www.businessdictionary.com/definition/function.html>) and [operations](http://www.businessdictionary.com/definition/operations.html) (<http://www.businessdictionary.com/definition/operations.html>) in a [system's](http://www.businessdictionary.com/definition/system.html) (<http://www.businessdictionary.com/definition/system.html>) [environment](http://www.businessdictionary.com/definition/environment.html) (<http://www.businessdictionary.com/definition/environment.html>), without experiencing [failure](http://www.businessdictionary.com/definition/failure.html) (<http://www.businessdictionary.com/definition/failure.html>) ([system crash](http://www.businessdictionary.com/definition/crash.html) (<http://www.businessdictionary.com/definition/crash.html>))" Business Dictionary (July 2016).

Definition: Data reliability is "a state that exists when data is sufficiently complete and error free to be convincing for its purpose and context" (Office of the City Auditor 2004).

Businesses today rely heavily on technology. Therefore, both the reliability of computers and the data therein is critical. In terms of computer reliability, the hardware can be impacted by a malfunction of one or more hardware components such as the processor, fans, drives, etc.

Data reliability can be impacted on by:

- Erroneous information in databases
- Misinterpretation of database information
- Missing information such as part of a name in a database.
- Inconsistency of data
- Data entered into the wrong field
- Software errors

The effects of computer errors can range from inconvenience, through to bad business decisions, up to fatalities in the case of hospital or military computers and networks. In terms of Data-Entry or Data-Retrieval Errors, a computerised system may fail because incorrect data were entered into it or because people incorrectly interpreted data they retrieved. Other costs include:

- Finding and fixing errors
- Lost revenue because unable to track customers or customer preferences
- Unable to identify selling opportunities
- Mail not delivered

Case Study: Telstra Reliability

In 2016, Telstra had a string of problems and failures with its network. One crash was the result of human error with a technician not restarting a piece of equipment properly. Another was a fault with a device which manages interactions between networks and another related to a fault in signalling nodes.

The costs of the failures were not just a loss of customers and reputation of the company but also the businesses who found they could not make calls on their mobiles, or had lost internet access. Telstra also were forced to pay some compensation to all customers.

<http://www.news.com.au/technology/gadgets/mobile-phones/telstra-offer-reasons-for-network-outages-after-performing-initial-review/news-story/4508306dac03e769a6d00e1b1085e764>

Another case study relates to automatic licence plate readers. In one case a driver was pulled over by police and detained at gunpoint as a result of a mistaken reading from an automatic license plate reader. This is an example of the way system and human error can combine. For details, see:
<http://arstechnica.com/tech-policy/2014/05/after-being-held-at-gunpoint-due-to-lpr-error-woman-gets-day-in-court/>
(<http://arstechnica.com/tech-policy/2014/05/after-being-held-at-gunpoint-due-to-lpr-error-woman-gets-day-in-court/>) [in-court/](#)
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