How can project managers reduce the misunderstandings that occur in e-mail communication?

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ABSTRACT

E-mail communication is used extensively by project managers to communicate with stakeholders and complex project teams during the course of a project. Effective use of this communication channel can aid in achieving project success. This research reviews in detail the communication process within an organisational context. It discusses why effective communication is important for a project manager and how it fits their needs. Research is conducted in a real life organisational setting examining samples of e-mail misunderstandings provided by a group of project managers. The analysis of the research results, along with a review of the literature allows the author to provide advice on how project managers can reduce the misunderstandings that occur in e-mail communication. Recommendations are made on how the project manager can improve the effectiveness of their e-mail communication. Finally, implications of these results for further research and practice are discussed.

> "The greatest problem with communication is the illusion that it has been accomplished."
>
> George Bernard Shaw

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Thank you to Peter Quinnell who was there as the idea for the research formed, and the encouragement that this was achievable. Simon Peel and Prue Cruickshank you then took up the cause as my supervisors, and I thank you for your enthusiasm, time and input during the process. A huge thank you to the participants in this research. I know that you were all busy people and I appreciate your efforts to make time for this and your interest in the subject.

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CHAPTER I - INTRODUCTION

For the last 20 years I have worked in Information Technology. Much of this has been on projects, and over the past few years I have become a full time project manager. In 2003 I started my Masters in Project Management (MPM) at Unitec, and in 2005 I started working as a project manager for a major Information and Communication Technologies provider in the New Zealand market. It is in this organisation that the research is based. At the request of my employer their anonymity shall be preserved and all reference to them will be as the ITCO company. ITCO employs 1400 people, in 19 branches over ten locations across New Zealand and Australia, and provides services and solutions to over 2,000 corporate and government clients in both countries. My role as a project manager at ITCO involves working in one of several teams of project management personnel on information technology projects for some of the top 50 companies in New Zealand.

In 2004, during the second year of my MPM, I volunteered to organise a cohort dinner. I sent out a simple e-mail asking two questions: *"Can you make a specific date?"*, and *"Is there any food you do not eat?"*. The responses were varied: two people did not reply, six replied but only answered one of the questions, and seven replied as requested.

This ignited my curiosity about e-mail. I presented a paper at the Project Management Institute Conference in Auckland on 15 October 2005. Primarily, I discussed my findings from a review of the e-mail literature. Project managers showed considerable interest in the presentation and the topic as a whole. Hence I decided to use this as the basis of my final year dissertation for the MPM. The purpose of this study is to research e-mail communication taking place in the real business environment of ITCO, and from the research findings to provide guidelines to project managers on how to reduce misunderstandings in e-mail communication.

The rest of this chapter looks at the history of e-mail communication to provide background on the subject, and describes the research question to be studied.

1.1 An Introduction to E-mail

The first e-mail was sent in the late 1960s (Bälter, 1998). In many respects it was an adaptation of the internal memo as can be seen by the use of the header which contains the same information (Williams, 1998). Current estimates are that around 31 billion e-mails are sent daily (McShane & Travaglione, 2003).

E-mail is also referred to as Computer Mediated Communication (CMC) (Barnes & Greller, 1994). When looking at e-mail, it is important to recognise that the communication is text based and asynchronous (staggered time element), as these are distinct properties (Cheney, Christensen, Zorn, & Ganesh, 2004; Kuehn, 1994; Olaniran, 2004).

Various authors note a number of positive factors for using e-mail (Angell & Heslop, 1994; Barnes & Greller, 1994; Cheney et al., 2004; Cleary & Freeman, 2005; Compton, White, & DeWine, 1991; Extejt, 1998; Krizan, Merrier, & Jones, 2002; Minsky & Marin, 1999; Tunstall, 1999). The positive aspects include: the speed of delivery, ease of use, the cost-effectiveness, it can be saved and provides accountability, you can include file attachments, it can be edited, copied and forwarded to one or many, it provides a consistent message, and is a status equaliser. E-mail is available 24 hours a day, 7 days a week and has global access. It can be sent at the convenience of the writer and read at the convenience of the reader.

This is offset by the potential difficulties (Bälter, 1998; Cheney et al., 2004; Olaniran, 2004; Tunstall, 1999). Issues raised include: getting no reply, information overload, unsolicited e-mails (spam), a lack of visual and audio cues, a lack of privacy or confidentiality, cultural issues and that the delivery of the message is not 100% reliable. There are complaints that additional time is used organising and filing e-mail messages which in turn leads to problems of adequate computer disk storage. E-mails are often seen as impersonal, and can be difficult to create for those with limited typing and writing skills. Alongside these there are also legal concerns particularly as e-mails contain no signature to guarantee authenticity.

There is an abundance of advice about basic e-mail etiquette and how to compose a good e-mail. Most of this falls into the popular psychology ('pop psychology') literature as the advice is mostly unsupported by any analysis of literature or research. This dissertation aims to look at the topic in depth and review academic studies. However, a summary of the e-mail etiquette advice can be found in Appendix A.

1.2 The Research Question

Project managers find themselves communicating with a variety of stakeholders, each of whom has their own needs and views (Turner, 1999). The people the project manager communicates with may be individuals, groups, teams operating within the same organisation or client and third party organisations (Burke, 2003). The rapid increase in the growth of e-mail communication will have impacted this profession along with the rest of the world.

This research looks at the use of e-mail by project managers. The proposition is that reducing misunderstandings in e-mail communication will lead to greater efficiency for the project manager. It is important that misunderstandings are minimised, but in order to do this the nature of those misunderstandings needs to be investigated. The primary research question is:

How can project managers reduce the misunderstandings that occur in e-mail communication?

This leads to three sub-questions which guide the search of the literature, and help answer the main research question:

Q1: Why is effective communication important for a project manager?

Q2: What is effective e-mail communication in the organisational context?

Q3: How does e-mail fit the needs of the project manager?

The first sub-question will identify the importance of effective e-mail communication for the project manager. This will guide the researcher towards the nature of the project manager's best use of this communication medium, and therefore help to identify where misunderstandings may occur.

The second sub-question looks at e-mail in the organisational context. This is the environment in which the project manager communicates, and answering this question will provide the context and an understanding of the process involved in this type of communication. The final sub-question will explain how e-mail fits the needs of the project manager. This looks at the reason the project manager uses e-mail and the benefits for this particular profession. This will provide more insight into the nature of the e-mail communication for the project manager, and where misunderstandings may occur.

It is anticipated that the outcome of this research can be used to guide practice for project managers. Improving the project managers' effective use of e-mail will lead to faster and more complete answers to questions. It is hoped that, ultimately, this will aid the project manager in ensuring greater project success. E-mail is a fantastic tool but it must be clearly understood in order to achieve the maximum benefit (Cunningham & Greene, 2002).

The next chapter reviews literature on the subject of e-mail communication with particular emphasis on the e-mail communication process, the organisational context in which the project manager operates, and the role of e-mail in the communication of project managers. Chapter 3 provides details of the methodology used for the research undertaken. The results of the research are given in Chapter 4. Chapter 5 discusses the implications of these findings in relation to the literature reviewed, and what answers are found to the research questions posed here. The final chapter gives the conclusion to this dissertation, and summarises the findings.

CHAPTER II – LITERATURE REVIEW

The aim of this research is to investigate the misunderstandings that occur in e-mails sent and received by project managers, and provide guidance for reducing them. This chapter reviews the relevant literature to gain insight into this issue.

In order to understand e-mail further, the literature on e-mail communication in the organisational context is reviewed in the first section. This looks at the nature of the organisational context for the project manager. It then goes on to provide general background on the communication process, how people choose the right communication channel, and the communication environment.

The second section looks at the importance of effective communication for the project manager, and discusses how e-mail fits their specific needs. It is at this point that pointers emerge from the literature to where these misunderstandings may be found, and how or why they may be happening. The final section in this chapter looks at previous research, the limitations and gaps that exist. From this, a proposal is made for how this research will be performed in order to answer the key research question and provide guidance to project managers on how they can reduce the misunderstandings that occur in their e-mail communication.

> "I didn't say that I didn't say it.
> I said that I didn't say that I said it.
> I want to make that very clear."
>
> G Romney
> (as cited in Robbins, Millet, Cacioppe, & Waters-Marsh, 2001, p. 366)

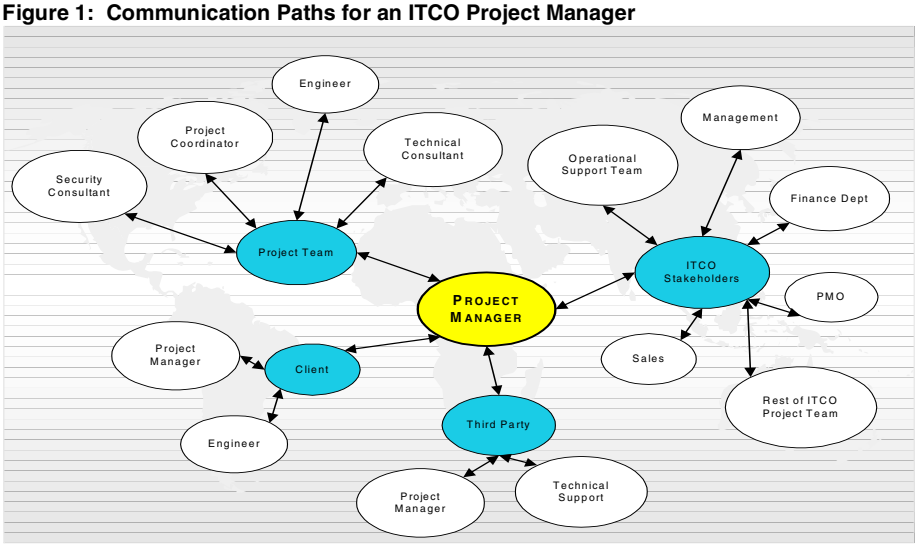
SECTION 2.1: WHAT IS EFFECTIVE E-MAIL COMMUNICATION WITHIN THE ORGANISATIONAL CONTEXT?

This section reviews literature in relation to the second research question:- What is effective e-mail communication in the organisational context? In order to provide advice on how project managers can reduce the misunderstandings in e-mail communication, an understanding is required of the communication process, the communication environment and the impact of this within organisations.

2.1.1 Communication and the Project Manager

Communication for the project manager becomes an essential skill because they will usually deal with a variety of people during the project. They need to convey information appropriately and in a timely manner, and ensure they have been understood correctly (Verma, 1996). The diagram below shows the communication routes for a project manager working in the ITCO organisation on a fairly small project. It clearly demonstrates the complexity and importance of communication.

Figure 1: Communication Paths for an ITCO Project Manager



The project manager is often communicating with many of these people at the same time. Khan (2003) states that as the number of people involved increases, you get an even larger increase in the communication channels. This makes e-mail a great correspondence method as it can be just as easy to e-mail 45 people as it is to e-mail one:

Table 1: Communication Channels (Khan, 2003)

No of People	1	2	3	4	5	6	7	8	9	10
No of Comms channels	0	1	3	6	10	15	21	28	36	45

A further complication is that project managers frequently operate within a matrix rather than functional organisational structure, as people are pulled together to work on what is a one-off piece of work (Henderson, 2004). This increases the need for effective communication as the project manager is often dealing with people who are being pulled in many directions, with work requests from the project and their functional manager (Verma, 1996).

The project manager uses the same organisational communication process as other professions, but there tends to be an emphasis on communicating with a variety of people and professions, and the need to communicate with large numbers of individuals. The rest of this section looks at the communication process in a general organisational context. Whilst this also relates to the project manager, the differences in their communication context as described above will impact the nature of the process for them.

2.1.2 Communication Process Model

Within the organisation people communicate to accomplish tasks, get information, achieve goals, inform, persuade, and entertain (Lehman & DuFrene, 1999). Understanding the process involved and the creation of an e-mail starts by looking

at communication in general. Lehman & DuFrene (1999) state that *"…communication is the process of exchanging information and meaning between or among individuals through a common system of symbols, signs, and behaviour"* (p. 4).

Lehman & DuFrene (1999) describe the stages of the communication process. The first step is the sender selecting and organising the message. The sender will then choose the appropriate channel (or medium) to use. Each channel will change the nature of the message. The most common channels are two way face-to-face (eg conversation), two way not face-to-face (eg telephone) and one way not face-to-face (eg letter, e-mail). The message is then sent. The process now moves to the receiver and their interpretation of the message. Once the receiver has decoded the message they may then respond by providing feedback. Effective communication occurs when the receiver interprets the message from the sender as the sender intended, and then provides feedback to confirm that they have understood.

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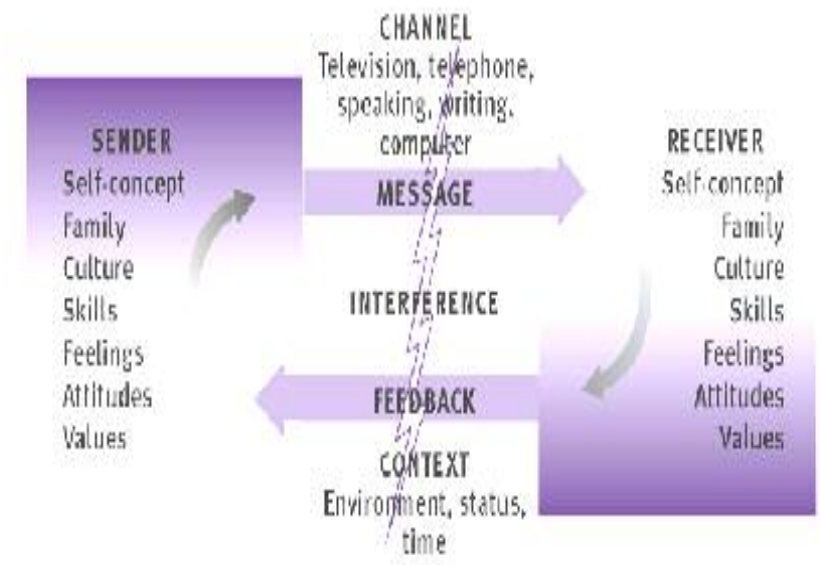
The following diagram (Dwyer, 2004) illustrates this communication process and highlights the issues and perceptions that are involved.

Figure 2: The Communication Process (Dwyer, 2004)



For effective communication to have taken place, it requires understanding to have happened. The receiver must understand what the sender intended them to understand (Lehman & DuFrene, 1999). The sender and receiver have shared meaning (Krizan et al., 2002). Usually confirmation of this process is established when the receiver gives feedback (a response to the communication). The feedback may be positive, neutral or negative and can be conveyed through words, actions or both (Krizan et al., 2002).

Having reviewed the process at work, the context within which the communication takes place must be understood in order to appreciate the senders' and receivers' perspectives. The sender has the greatest responsibility in the process – they have initiated the communication and they must ensure it is successful (Krizan et al., 2002). Robbins et al. (2001) state that *"just as the source must be skilful in writing or speaking, the receiver must be skilful in reading or listening, and both must be able to reason"* (p. 369). The communication process model emphasises the receiver's role as the listener, reader or spectator (Krizan et al., 2002). It is the sender that must concentrate on:

- The receiver's educational level, experience, viewpoints, culture (Krizan et al., 2002; Lehman & DuFrene, 1999). To be successful, every sender must put themselves in the shoes of the receiver and consider both the individual and the environment they are in, including the culture of the organisation (Krizan et al., 2002).
- Choosing the right channel and organising the message (Lehman & DuFrene, 1999).
- Identifying and removing communication barriers (Krizan et al., 2002).

2.1.3 Choosing the Channel

When communicating, consideration must be given to the receiver and then a choice must be made about which channel to use. Each channel has its own merits

and disadvantages. Getting the medium right will help to ensure that the receiver has read and understood the message (Lehman & DuFrene, 1999).

One of the key elements here are the communication cues. McGrath (as cited in Sia, Tan, & Wei, 2002) lists three types of cues: verbal (tone, loudness, speed), visual (orientation, expressions, body language) and textual (written text, printed text, graphics). Rich media are those with a high degree of cues such as facial expressions, body movements, vocal intonations, whilst lean media have far fewer cues, such as no personal focus, non nonverbal cues, no immediate feedback (Dawley & Anthony, 2003; Minsky & Marin, 1999).

Media Richness Theory

Theories of media choice start with the Media Richness Theory (or Rational Choice Theory) (Bälter, 1998; Ducheneaut, 2002; Minsky & Marin, 1999). This was developed from work by Richard Daft and Robert Lengel. They saw media as having a scale from lean to rich as shown below, each related to the information carrying capacity of the medium:

Table 2: Media Richness Scale (Cheney et al., 2004)

Lean Media	←					→	**Rich Media**
Fire alarms or statistical tables	Memo	Fax	E-mail	Real-time Webchat	Telephone	Video Conference	Face to Face

The theory states that people will take a very objective approach to choosing the right channel for the task. They will ask questions such as:

- is a permanent record needed?
- is the message long or complex?
- is timeliness a factor?
- is credibility a concern?
- is this an ambiguous topic?

Answers will lead them towards the right choice on the richness scale (Krizan et al., 2002). Situations that are high in uncertainty, ambiguity or have unclear goals would have rich media as a preferred method (Cheney et al., 2004; Dimmick, Kline, & Stafford, 2000). This theory is generally but weakly supported by research (Cheney et al., 2004). The project manager needs to review the type of project they are working on to ensure that the medium is appropriate. Goodman & Truss (2004), looked at communication during a major change initiative. The preferred channel of communication was face to face, meetings, and focus groups/teams. Those affected by the change being put in place felt that this better addressed their concerns and perceived more honesty.

More recent research has questioned whether e-mail can become a richer media over time. E-mail has become a prevalent communication method and as this has happened the formality has lessened (Ducheneaut, 2002). Alongside this, people are starting to express their personalities and use a more conversational style. As a result some studies are finding that e-mail is becoming richer in nature, and people are developing electronic persona to help build relationships (Kuehn, 1994; Tunstall, 1999; Waes, 2003). Whilst e-mail is often referred to as a cues filtered out model, it seems people may be finding ways to make up for the lost bandwidth themselves (Cheney et al., 2004). For instance people frequently use emoticons (☺) to deal with the lack of non verbal cues in the medium (Cheney et al., 2004). Recent court actions have seen legal discussions about whether e-mail can be libel (written matter) or slander (spoken word) (Cheney et al., 2004). Hancock & Dunham (2001), found that although e-mail slowed down the impression people got of one another, the relevant cues were still there over time. This shows us that the nature of this channel has and is continuing to change.

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The Communication Environment

The complexity of the communication environment is not to be underestimated. Many variables impact on the process at any one time, and the message sender needs to ensure that all of these are taken into consideration.

2.1.4 Communication Barriers

Krizan et al. (2002) state that a *"…'communication barrier' is any factor that interferes with the success of the communication process"* (p. 17). These are the 'noises' – psychological, social and structural that can hamper the communication process, and stop any common understanding (McShane & Travaglione, 2003). A detailed summary of these barriers from Lehman & DuFrene (1999) is included in Appendix B.

Gender and cultural differences are not reviewed in depth as part of this research, but certainly play a part in the communication process, and cannot be ignored by the project manager. They are both such large topics that it becomes difficult to include them in the discussion, but to not mention them would be a poor oversight. In an ideal world communication should be bias-free which includes, gender, race, age and religion (Lehman & DuFrene, 1999). Reality may include both conscious and subconscious bias which are likely to impact any research undertaken. This bias need to be acknowledged as it could be critical for anyone working on a diverse team including many project teams.

There are several enlightening differences that when understood can make e-mail more effective. Different cultures have subtleties in their communication and different levels of formality, including their perception of what constitutes humour (Olaniran, 2004). In East Asia, e-mailing superiors is culturally disrespectful, and only acceptable after a considered period of time has passed (Olaniran, 2004). This would be seen as inappropriate behaviour in many Western organisations. Eastern European cultures often have large extended social networks, and will only acknowledge communication from you if you are part of the 'in-crowd' (St Amant, 2002).

Kim, Hearn, Hatcher, & Weber (1999) found styles of e-mail communication were different between Australians and Koreans, but over time both parties made mutual adjustments. Whilst the different e-mail styles remained they were less diverse (St Amant, 2002). Computer Mediated Communication (CMC) literature tells us that

online identity is plastic and easy to create making it possible for people to portray themselves differently via e-mail than they would be perceived in person. For some cultures this quality of e-mail communication makes it an unacceptable medium as their culture requires that the sender and receiver must have a stable and discernable identity in order to have effective communication (St Amant, 2002).

E-mail communication can be a benefit where cultural and language differences exist as it provides the sender and receiver with a chance to look up words, reflect on ideas before sending or responding, and participants may find it less embarrassing to ask a question (Olaniran, 2004).

Some research has also shown differences between the genders when e-mailing, for instance men find flaming (written personal attacks) more acceptable than women (McShane & Travaglione, 2003). Flanagin, Tiyaamornwong, & O'Connor (2002) found in their research, using anonymous participants, that men sought to reveal their gender during e-mail communication. They concluded that the men wanted to regain the male advantage they perceive they have during communication that is not anonymous. They also found that women felt more comfortable with the e-mail communication process and were able to have more trust, cohesion and task-interdependence.

2.1.5 E-mail and the Communication Process Model

In order to make e-mail communication more effective, an understanding of the strengths and weaknesses of the medium is required. Chapter 1 referred to some basic rules of e-mail etiquette which are shown in Appendix A. This section aims to look at the research in more depth than the popular psychology literature. It looks at the communication literature and how this can impact on the complex environment that e-mail communication exists in.

The Changing Organisation

E-mail has made a difference to the organisational structure and behaviour. A general effect of e-mail has been to flatten the hierarchical structure so that it is easier for people to communicate with anyone in the organisation (Tunstall, 1999). There is evidence that employees prefer to deal with their managers via e-mail as it is both easier than trying to meet with them, and provides status equalisation (Sproull & Kiesler, 1986). Some recent research has contested this flattening of existing hierarchies, though it was suspected that this may be in part due to managers showing they can exert power by no longer replying to e-mails and demanding face to face meetings (Ducheneaut, 2002).

Researchers are also seeing the organizational interdependencies change. There are no longer the traditional gatekeepers of communication eg the secretary, so communication is more in the control of the sender (Barnes & Greller, 1994; Cheney et al., 2004; Kuehn, 1994; Sproull & Kiesler, 1986). Many would argue that e-mail is facilitating a change in organizational life (Minsky & Marin, 1999). Research being done at the moment is looking at comparisons between the formal organisational structure and comparing it to the cyberspace infrastructure and relationships that exist (Ducheneaut, 2002).

The 'You-Viewpoint'

Much of the e-mail etiquette advice says e-mails should get straight to the point and be direct in their nature (Angell & Heslop, 1994; Cunningham & Greene, 2002; Extejt, 1998; Tunstall, 1999). The communication process model states that the sender must be aware of the needs of the receiver and encode the message so that it encompasses their needs (Krizan et al., 2002). The message must be receiver centred not centred around the sender. This emphasis is referred to as the 'you-viewpoint' (Krizan et al., 2002). The sender must compose the message in such a way that it makes sense to the receiver, therefore it should refer to 'you' a great deal more than 'I'. In the e-mail research Sproull & Keisler (1986) conducted there

was evidence that reminders of the presence of others was relatively weak and that senders had a tendency to focus on themselves.

Anderson and Blackburn (2004) found that using greater language intensity and issue salience (highlighting the importance and relevance to the receiver) in e-mails resulted in a higher response rate. Sheehan and McMillan (1999), when looking at the response rate in e-mail surveys, found there was a statistically significant better response when issue salience was made clear to the receiver. They found this to be more effective than giving the receiver advance notice, follow-up reminders or monetary incentives.

Verma (1996) advises project managers to be direct about their message at the beginning of the communication. He suggests this will also help to increase an individual's personal effectiveness. The communication literature advises the sender to consider whether the central idea is put forward first or last (Lehman & DuFrene, 1999). It recommends that if the sender believes the receiver will find the message pleasant or is interested (neither pleased or displeased) then the approach should be deductive ie include the major idea at the start of the communication (Lehman & DuFrene, 1999). However, if the receiver is likely to be displeased or has no interest the approach should be inductive ie the detail and explanation is presented before the main idea (Krizan et al., 2002; Lehman & DuFrene, 1999). This will help to persuade the receiver, and win them over to the idea slowly once they have had all the background information.

Effective e-mail communication will ensure that it is written with the receiver in mind and centres on the 'you-viewpoint', whilst also ensuring that a conscious decision is made about whether the e-mail should get straight to the point or work to persuade the receiver before the central idea is given. The purpose of the e-mail will also guide the design of the content. For instance if the e-mail is to attach a copy of the minutes from a meeting it is likely to be direct in its approach. However, if the e-mail is requesting a project resource to work over a coming weekend it is likely to be inductive and aim to persuade the receiver. These factors are not detailed in the

e-mail self-help literature and only come with an understanding of the communication research in combination with the nature of e-mail communication.

No Reply

Getting no reply to an e-mail can be frustrating (Tompkins, 2003). It provides no assurance that the e-mail was received or that meaningful communication took place (Cheney et al., 2004). Whilst the use of 'delivery receipt' and 'read receipt' options from within e-mail applications can help to clarify the situation, communication literature offers us more of an insight. Reviewing the barriers to communication and considering alternative mediums in these situations provides the project manager with strategies to address this problem. Recommendations would include using a medium with more cues, either a telephone or a face to face meeting. This would provide the sender with more cues to understand the nature of the communication. They may discover the person is very busy, is angry with them, or perhaps is away sick. Using a richer medium would also help to build a relationship with the receiver which might make them more willing to respond to future e-mail communication from this person.

Asynchronous Communication

E-mail communication is designed to be asynchronous in nature. The sender can send their message when convenient to them and the receiver can read the message at their convenience. However, in the 21st Century e-mail is often quick and more of a dialogue (Bälter, 1998). This change has impacted on how often people believe e-mail should be checked. In a study done by Bälter (1998), 43% of people were checking their e-mail several times a day, and 50% were checking it continuously allowing it to interrupt other tasks. It needs to be remembered that e-mail is not instant messaging (Pace, 2005).

Most e-mail software can provide process cues to alert the user that e-mail has arrived. The most common of these is a sound, an envelope appearing on the bottom of the screen or the e-mail itself popping up on the screen. Lombard &

Ditton (as cited in Tompkins, 2003) studied what they refer to as 'telepresence'. This is a psychological state in which an individual does not recognize that the current experience is either filtered through or generated by a human-made technology. They found that the higher the number of process cues used, the higher the reciprocity and interactivity. This in turn led to the quality of CMC becoming closer to face to face communication (Tompkins, 2003).

There is a difference of opinion when it comes to the e-mails that say nothing except 'thank you'. On the one hand these are seen as unnecessary and a waste of time (Cleary & Freeman, 2005), but on the other hand they complete the conversational style of e-mail, and provide feedback. It confirms the understanding of the communication and ends the communication flow as part of the communication process model. Often the e-mail thread flows like a conversation and at some point it needs to stop – the 'thank you' can bring closure. Project managers also need to be aware that a 'thank you' e-mail can help to maintain positive relationships with the people they deal with.

E-mail communication is becoming more synchronous. Working time can either be shown as task driven or interrupt driven – e-mail has led to it being more interrupt driven (Bälter, 1998). However, Balter (1998) also found that people perceived e-mails as fun to receive so wanted to interrupt their task, as they felt it provided necessary microbreaks. More effective use of e-mail may mean removing some of the cues of e-mail delivery and choosing appropriate times to check the e-mail inbox (Tunstall, 1999). Alongside this it may be useful to set expectations about how often e-mail is checked – perhaps encouraging people to use the phone if something is urgent.

2.1.6 Information Management

E-mail communication involves information management both in how the e-mail is constructed, and the work involved to ensure effective communication, and in how to manage the information that is received in e-mails.

Information Overload

It takes time to manage the information received by e-mail and many workers feel they are forced to spend extra hours managing this as it is not considered part of their 'real job' (Kaye, 1998). Kaye (1998) found that 1 in 4 employees felt they were suffering from ill health as a result of information overload. Information overload is *"a condition in which the volume of information received exceeds the person's capacity to process it"* (McShane & Travaglione, 2003, p. 368). Australian employees voted e-mail their greatest source of stress at work, and 62% of Australian managers felt that information overload was creating ill-health (McShane & Travaglione, 2003).

This overload can be tackled by increasing a person's processing capacity. This can be done by getting them to read faster, read more efficiently, remove distractions, use good time management, work longer hours, become more effective at communicating, use e-mail software more effectively and choose the right communications channel (McShane & Travaglione, 2003).

Another approach is to reduce the information load (McShane & Travaglione, 2003). Users estimate that they spend between 50-90 minutes per day managing e-mails (Dawley & Anthony, 2003; "Short takes," 2001; Waes, 2003). One suggestion is that this could be reduced by eliminating unnecessary e-mails. Research has estimated that 34% of e-mails are unnecessary (Crowther, 2001; Dawley & Anthony, 2003; "Short takes," 2001; Waes, 2003). However, Bälter (1998) found that unnecessary e-mails only took up 5-19 minutes of an employee's day. He found that unnecessary e-mails took a shorter time to read and discard than the necessary ones, therefore removing them does not significantly reduce the information load. There needs to be another solution to the overload. The concern is that the *"inability to cope with the growing mountains of information may imply a new kind of organisational blindness"* (Cheney et al., 2004, p. 370).

People can be more proactive about reducing the information they receive. They can ensure that they get removed from distribution lists if they do not want the

e-mails they are receiving (Goldhaber, 2001). They can also request others to be responsible about their use of e-mail and ensure that the communication is necessary (Morgan, 2002). There is an overhead to the company-wide e-mail that is sent when it held no relevance for a majority of the people receiving it. Perhaps it is humourous but is it worth the entire company taking the time to read it?

Organisations can make better use of information management systems to reduce e-mails. In particular, project management should be making more use of these systems to share the documents and information required for projects (Back & Moreau, 2001). This would lead to fewer e-mails as people would know where to go to get the information they required via a centralised system. It would also help if e-mail systems made it simpler to send links to documents rather than having to send attachments, so there are not many copies of documents stored in different e-mail systems (Gyampoh-Vidogah, Moreton, & Proverbs, 2003). This would also alleviate the problem of slow retrieval of documents in e-mails (Gyampoh-Vidogah et al., 2003).

E-mail Tools

Organisations can encourage and train employees to take advantage of the tools in e-mail applications. These can include features such as the 'out of office' reply, setting filters so that certain e-mails automatically go into folders to be reviewed together, using address books and distribution lists, creating standard e-mail templates (Bälter, 1998; Cunningham & Greene, 2002; Goldhaber, 2001; Krizan et al., 2002; Tunstall, 1999).

E-mail application developers also need to develop additional assistance for users. Williams (1998) discusses how application developers are working on intelligent programming agents that can learn how users handle their e-mails and then mimic that behaviour. He suggests that the software could also assist in word choices to enhance the rapport between the author and reader including greater use of the three primary senses (visual, auditory and kinaesthetic) to improve the experience and identify the reader's preferred style.

Even simple changes like easier management of e-mail threads, and being able to set the priority for e-mail notification so that it only pops up when e-mails arrive from particular people would be useful (Bälter, 1998; Williams, 1998). The author would suggest that much of the advice gleaned here from the communications literature eg issue salience and where to put the central idea, could be understood by language processing applications and advice offered to the e-mail author to ensure a better process takes place.

2.1.7 Section Summary

This section has reviewed the literature in relation to the second research sub-question. What is effective e-mail communication in the organisational context? It looked at the communication process in general, the communication environment and the impact of this within organisations. It explained the process at work when e-mail communication takes place, and how people choose their communication channel. It has looked in depth at the nature of e-mail within an organisation context and the importance of the 'you-viewpoint', difficulties of getting no reply, information overload, the nature of e-mail asynchronous communication, and the functionality of e-mail application software.

This has set the context to discuss communication from the perspective of the project manager. The next section will focus on the project manager and the importance of effective communication, and how e-mail fits their needs.

SECTION 2.2: E-MAIL COMMUNICATION AND THE PROJECT MANAGER

This literature review seeks to provide background to answer the main research question and give guidance on how project managers can reduce the misunderstandings that occur in e-mail communication. The previous section has provided the background to e-mail communication within the organisational context. This section focuses on the project manager. It concentrates on the first and third research sub-question and looks at why effective communication is important for the project manager, and how e-mail fits their needs.

2.2.1 Project Managers and Communication

Project managers spend approximately 90% of their time communicating (Heldman, 2002; Turner, 1999). Effective communication can be viewed as the most important skill for a project manager to hold and essential to project success (Müller, 2003).

The following quotation from the Project Management Body of Knowledge (Project Management Institute, 2000) sets the scene:

> *Communications planning involves determining the information and communications needs of the stakeholders: who needs what information, when they will need it, how it will be given to them, and by whom. While all projects share the need to communicate project information, the informational needs and the methods of distribution vary widely. Identifying the informational needs of the stakeholders and determining a suitable means of meeting those needs is an important factor for project success. (p. 119)*

Gallivan and Keil (2003) found that communicating with people did not guarantee project success. It needs to be done with an understanding of the communication process which involves a high degree of interpersonal communications.

2.2.2 Project Success

Much of the project management literature refers to communication as being a major factor for guaranteeing project success (Kerzner, 1998; Meredith & Mantel, 1995; Thomas, Tucker, & Kelly, 1999; Turner, 1999). Turner (1999) lists poor communication as one of the pitfalls in organizing a project. The Project Management Institute (PMI) lists communicating as one of the five general management skills a project manager needs and which are "*…highly likely to affect most projects …"* (Project Management Institute, 2000, p.21). The PMI also includes Project Communication Management as one of the nine knowledge areas required for project management (Project Management Institute, 2000).

Kraut and Streeter (as cited in Gallivan & Keil, 2003) state that informal communication is as critical to effective project outcomes as formal communication. They concluded that *"… informal, interpersonal modes of communication were statistically related to successful project outcomes…"* (p. 41).

2.2.3 Communication Complexity

The project manager and their general communication environment was discussed in Section 1. This highlighted the complexity of the communication due to the diversity of people the project manager must deal with during a project. It also discussed the matrix organisational structure which the project manager often works in and adds further pressure on the communication process. The project manager frequently has high responsibility and accountability within the project but minimum authority (Henderson, 2004). In order to compensate for this they must influence and negotiate to achieve their goals.

Verma (1996) lists specific communication challenges that the project manager faces: overlapping responsibilities, frequent changes in scope, constraints, complex integration and interface requirements, decentralized decision-making process and potential for conflict. One interesting point is that Verma talks about verbal

communication, written reports and many other forms but makes no specific mention to e-mail communication.

The first sub-question in the research was to understand why effective communication is important for a project manager. The combination of communication complexity, and the link between successful communication and project success, shows us how effective communication is a critical factor for the project manager. This emphasises the value of reducing the misunderstandings that occur in the project manager's e-mail communication.

Literature in relation to the third research sub-question is now reviewed in order to understand the needs of the project manager and how these are met by e-mail communication.

2.2.4 The Project Manager's Needs

We have established that the *"… common management skill of effective communication is crucial to project success because project management involves formal and informal communication at different levels in the organisation"* (Verma, 1996, p. 15). Henderson (2004) also found *"… a significant association between project managers' competencies in encoding and decoding, and their team members' satisfaction and productivity"* (p. 473).

Alongside this, as highlighted earlier, the project manager has complex communication management due to the number of parties involved in a project. Verma (1996) lists the project manager's communication network as including team members, superiors, clients, contractors, functional managers, other project managers and outside personnel. There is nothing simple about the exchanges taking place – they will often be between dyads, teams, groups both within the organisation and to third parties across different organisational and ethnic cultures. Building relationships is a key part of the project manager's role.

2.2.5 Why Does The Project Manager Use E-mail?

There is little reference to e-mail communication within project management literature, yet anecdotal evidence and general statistics for e-mail use in organisations suggest that project managers are opting for e-mail as their preferred medium. Whilst it is hard to know exactly how often they are using e-mail beyond those general statistics, we can still investigate why they are choosing this particular channel.

E-mail offers the project manager a communication medium that can be used at any time and reaches people globally. To meet deadlines and ensure project stakeholders receive information as quickly as possible it assists the project manager in communicating effectively. Often the same message must be communicated to several people, and e-mail can do this easily. It also provides an audit trail of the communication that has taken place.

Earlier we established that e-mail has fewer social cues than face-to face communication (Ducheneaut, 2002). There are several aspects of this that are good for project management communication:

- It is a status equaliser, and allows for easier communication than face to face interactions if the person is shy or has interpersonal issues with the receiver (Compton et al., 1991; Ducheneaut, 2002; Kelly, Duran, & Zolten, 2001).
- It supports impersonal and task oriented forms of communication as it depersonalises the communications, decreasing the awareness of others and inhibiting interpersonal relationships (Hancock & Dunham, 2001).
- You can use distribution lists to communicate to many people at the same time (Tunstall, 1999).

Advantages of the Leaner Medium

Bordia (1997) reviewed 18 studies of CMC and one conclusion was that face to face groups have more tension and argument statements, whereas CMC had more

suggestions, orientation and opinions. E-mail can aid brainstorming, idea generation, and quality solutions as people feel freer to comment, and there is more equal participation due to no status cues (Sia et al., 2002). One side effect of this is that there is difficulty in reaching consensus, so if this is the objective a face to face meeting will be more successful.

There are different views of whether this polarisation effect will continue within the organisational environment. Sproull & Kiesler (1986) found that e-mail enhanced extreme views but this was in an anonymous research environment. Walther (as cited in Ducheneaut, 2002) found uninhibited behaviour infrequent in e-mails within organisations and that it also decreased over time. His hypothesis was that the group history and potential for future work affected the degree of perceived anonymity. Few e-mails are sent in companies which do not have the sender's name shown and therefore total anonymity is rarely achieved. In these situations we can expect to see the reduced effects of polarization (Sia et al., 2002).

Task Completion

The project manager spends time attending meetings, writing reports, presenting information and ideas, explaining and clarifying procedures and work assignments, and coordinating work between departments and employees (Lehman & DuFrene, 1999; Verma, 1996). Since much of this work is task oriented, a key question is whether you can achieve better task completion when communicating through e-mail.

Compton et al. (1991) found in their research that information access and transfer was better using e-mail than face to face interaction, which in turn led to better task completion. However, Bordia (1997), found that CMC groups took longer to complete tasks. Bordia expanded on this to state that CMC groups perform better than face to face groups on tasks involving less social-emotional interaction, and worse on tasks requiring more social-emotional interaction. However, he did find that over time the CMC groups performed as well as face to face groups on tasks that involved social-emotional interaction. This may be in part due to the non verbal

cues which emerge over time in e-mail communication and build a relationship with the sender and receiver. This theory has been supported by Hancock & Dunham (2001) who found no task performance differences between CMC and face to face conditions but that CMC tasks took considerably longer (36.22 minutes versus 7.69).

The project manager will need to consider the nature of the task and whether e-mail is the right medium dependent on the complexity of that task, the existing relationship and the communication environment. Giffin (2002) offers the project manager advice on which tasks are suitable for completion via e-mail (see Appendix C).

Alternatives to E-mail

The phone and face to face meetings are still valuable communication mediums. The particular aspect of e-mail that can be difficult is the lack of audio or visual cues that help to embellish the meaning of the communication (Barnes & Greller, 1994; Bordia, 1997; Cleary & Freeman, 2005; Ducheneaut, 2002; Extejt, 1998; Nicholaou, 2005). This in turn leads to less social presence (Dimmick et al., 2000). Judith Light (as cited in Krizan et al., 2002) says 7% of communication is verbal, 3% is tonal information and 58% is posture, gestures, expressions, breathing patterns and actions.

There are specific times when it is useful to choose an alternative to e-mail. For the project manager, building relationships is a vital part of dealing with people and achieving project goals. A good place to start when dealing with a new person is by phone or a meeting. This can help to cultivate the relationship and will lead to more success when e-mailing that person as they know who you are and they have formed (what you hope to be) a good opinion of you (Tunstall, 1999). People make judgements on a person's characteristics based on physical appearance, behaviour, personality traits, social markers in speech, reciprocation and verbal elaboration (Hancock & Dunham, 2001). Once a relationship forms, the barriers to communication are reduced and e-mail communication will become more effective.

Richer mediums will also help increase the trust and reduce the ambiguities (Bordia, 1997; Compton et al., 1991). Hancock & Dunham (2001) cite the work by Lea and Spears on social identification/deindividuation (SIDE) as demonstrating that when people have had no interpersonal history and have a lack of cues it can lead to increased reliance on the remaining cues. If this communication is purely via e-mail then that means a reliance on role, status, assumptions from word choices, spelling quality etc, and therefore people are more likely to stereotype. A key achievement for a project manager is to build a trusted relationship with people in order to attain the project goals - there will be times where e-mail will not assist them in doing this (Keenan, Ante, Elgin, & Hamm, 2002). Once the relationship is formed through mediums with richer cues, channels with less cues can be used effectively. The project manager must understanding the stage of the relationship and what may be the most appropriate communication medium.

If dealing with a complicated or unclear issue, a phone call or meeting is likely to be quicker than a series of e-mail monologues (Krizan et al., 2002). The audio and visual cues help when resolving conflict, minimizing misunderstandings, dealing with sensitive or confidential information, doing appraisals or job reviews (Goldhaber, 2001). The additional sensory information ensures less uncertainty or ambiguity (Dimmick et al., 2000). If a formal record of discussions is required it can be achieved by following up with minutes for a meeting, or an e-mail confirming the outcome of a phone call (Tunstall, 1999).

Changing Requirements

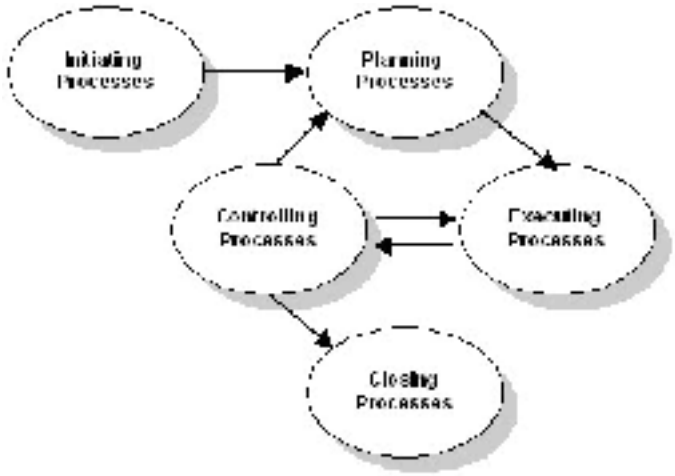
As a project progresses the project manager must recognise that there are different communication needs in each phase of the project (Project Management Institute, 2000). In the initial phase of the project there are requirements to document the project scope, to form and develop the project team, to provide the documents and processes that will govern the project. During the planning and execution phases the requirements are to document and report on progress. The project manager will

create the communication processes at the start of the project but will need to review these processes and adapt them at each new project phase (Kerzner, 1998).

The PMI (2000) states that *"on most projects, the majority of communications planning is done as part of the earliest project phases. However, the results of this process should be reviewed regularly throughout the project and revised as needed to ensure continued applicability."* (p. 119)

The following diagram illustrates the flow of information required during each phase and processes within that phase of the project:

Figure 3: Links among Process Groups in a Phase (Project Management Institute, 2000)



2.2.6 Section Summary

This section focuses on the first and third research sub-questions and provides background into why effective communication is important for the project manager, and how it fits their needs. Effective communications will aid project success. E-mail has become an essential tool for the project manager due to its ability to aid communication in a complex communication environment, the ease of allocating tasks to people, the permanent record it provides, and the easy and quick nature of this communication channel. Combined with an understanding of the organisational

context, this literature provides additional understanding into how project managers may be able to reduce the misunderstandings that occur in e-mail communication.

The next section of this chapter looks at previous research done on e-mail communication. It will discuss how the research was conducted, and highlight any limitations. This will provide guidance for the research methodology and data collection process the researcher will use to answer the main research question:- How can project managers reduce the misunderstandings that occur in e-mail communication?

SECTION 2.3: E-MAIL RESEARCH

The final section in this chapter looks at previous research, the limitations and the gaps that exist. From this a proposal is made for how this research will be performed in order to answer the key research question and provide guidance to project managers on how they can reduce the misunderstandings that occur in their e-mail communication.

2.3.1 Existing E-mail Research

The author has reviewed the existing research into e-mail communication, and whilst the review is not exhaustive it provides an insight into how this topic has been investigated in the past. In the late 1980s there was a sudden burst of research into e-mail communication, and this is likely to be linked with its increased use at this time (Hancock & Dunham, 2001; Kuehn, 1994; Sia et al., 2002; Sproull & Kiesler, 1986). Much of this was aimed at understanding the differences between this new medium and face to face communication.

Hiltz, Johnson and Turoff (as cited in Kuehn, 1994) compared computer mediated tasks to face to face tasks and found there was greater agreement on decisions in the face to face groups. This was supported by other studies at this time, emphasising the increased polarisation found when using CMC (Sia et al., 2002; Sproull & Kiesler, 1986). Rice & Love (as cited in Kuehn, 1994) investigated the nature of CMC and found considerable socioemotional content. Matheson and Zanna (as cited in Hancock & Dunham, 2001) again compared CMC and face to face communication and found that there were no differences in the evaluations of partners in either communication environment.

Whilst Sproull & Kiesler (1986) performed their research within an organisation, most of the other researchers conducted their research on students within the education sector (Bordia, 1997). Research data was primarily obtained either by observations of task performance or questionnaires (Hancock & Dunham, 2001; Kuehn, 1994; Sia et al., 2002; Sproull & Kiesler, 1986).

The early 1990s saw more research published in this field, and a closer inspection of the e-mails themselves starts to emerge through the use of content analysis (Kuehn, 1994). Ahern, Peck and Laycock (1992), McCormick and McCormick (1992), Lea and Spears (1991), Smolensky, Carmody and Halcomb (as cited in Kuehn, 1994) all studied e-mail communication in the educational community. Ahern et al. (1992) found that conversational style e-mails produced the highest levels of participation, McCormick and McCormick (1992) found that CMC served mostly as a social function for the students, Lee and Spears (1991) found the lack of cues in e-mails led to miscommunication in group activities and Smolensky et al. (1990) found that more extroverted people used CMC more, and that the more CMC that was done within groups, the less effective the group outcome tended to be on tasks set.

Lea and Spears (1991) also supported the earlier findings of Matheson and Zanna (1988) that there was no significant difference between making an interpersonal evaluation of their partner on tasks done through CMC or face to face communication. Walther (as cited in Hancock & Dunham, 2001) did however find that CMC participants were unwilling to rate their partners on as large an array of attributes as those participants that had face to face partners.

Rice (as cited in Sia et al., 2002) found evidence to support the previous findings that social presence is reduced in CMC communication compared to face to face communication. Some research was conducted in an organisational setting using semi-structured interviews (Compton et al., 1991). Whilst the findings were that people liked e-mail communication, it provided variable results on how this impacted message structures, task efficiency and information processing in the organisation.

Interest in e-mail research then dies off until around 2000, when again much of it is done in the education sector. The author suggests that this increased interest was in part due to the changes being observed in communication as the medium

increased in use, including changes being seen within organisations (Tunstall, 1999).

A study by Kelly et al. (2001) showed that reticent students preferred to use e-mail to communicate. Another study found that CMC personality impressions were less detailed but more intense (Hancock & Dunham, 2001). This demonstrates the receiver is basing their perception of the sender on the only cues available. Less cues has led to less detail in their perception and therefore a more intense impression has resulted. Both these pieces of research can guide the project manager's choice of channel as they understand the receiver's perspective. If communicating with shy individuals e-mail may be a more effective medium, however it may lead to a more intense personality impression if no existing relationship with the sender exists.

Sia et al. (2002), found more evidence of polarisation in CMC, providing further guidance to the project manager that if the objective of the communication is to reach a decision or consensus e-mail may not be the most effective medium. Another study found that higher issue salience leads to a greater e-mail response (Andersen & Blackburn, 2004). Project managers who consider this when designing their e-mail communication may find that emphasising the relevance of the issue, and considering the 'you-viewpoint' may lead to a more effective communication taking place.

Around this time, some exploratory research starts to emerge. Kim et al. (1999), using interview data, explore how people from two different cultures adapt as they communicate in business. Through an exploratory study, Dawley and Anthony (2003) concluded that people found e-mail highly useful but felt a lack of training or misuse was leading to information overload. Both these studies have begun to show more insight into the real life communication taking place, and the opinions of workers in organisations.

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Some of the first studies on communication in the project management profession have been published in the last few years. A case study by Gallivan & Keil (2003)

looked at a failed software project. The emphasis was on why the communication between the developers and the users was ineffective. The findings showed that whilst both parties believed effective communication was taking place, key issues were not being discussed and this led to project failure. The project team was communicating but due to the nature of the relationships, and the barriers to the communication, the understanding was incorrect. This study demonstrated the complex nature of the communication taking place, and how subtle miscommunications had major consequences for a project.

Henderson (2004) conducted an exploratory study within organisations and looked at the project manager's competency at encoding and decoding messages. She concluded that their competency impacted project performance. A more competent project manager had more productive team members and those team members were also more satisfied in their roles. This study demonstrates how this communication skill can lead to a more effective and therefore successful project team.

Understanding the history of the research into e-mail communication provides guidance for the methodology to be used to discover the misunderstandings that occur in project managers' e-mail communication. The next section explores this further, highlighting the limitations of the research discussed, and choosing the research approach that will ensure the study provides insight and relevance to both the fields of project management and communication.

2.3.2 Proposed Methodology for this Research

The aim of this research is to investigate the project manager's use of e-mail and find out where misunderstandings are occurring and why they occur. Much of the existing research has been done in an educational environment, some of it within laboratory settings, and the participants have been students. In order to gain depth of understanding of the process, this research will be set within a real organisation involved in ongoing project management. This is a major strength in the research

proposed. The research can only provide guidance if it is set in the environment it is researching.

Bordia (1997) reviewed 18 studies of CMC versus face to face communication and pointed out several limitations in the research. These included little recognition that in some instances participants may have been effected by the expectation of future interaction with other participants, participants had varying e-mail experience, and that speed of typing impacted results. The research was limited by the artificial setting impacting the value of the results.

It is questionable whether some of the earlier studies gained true insight into the use of e-mail purely by asking the participants their views on their use of e-mail. Whilst this does provide a degree of insight, it is subjective in nature and does not allow for factual evidence to improve the researcher's interpretation of the data. It is only by viewing the e-mail communication itself and analysing this in the context of the participants' opinions that the reality of the communication process is researched. The views gleaned by some of the studies mentioned may well be what the participants think they do but is it actually what they are really doing?

The proposal is to set this research in a tight context of a particular organisation, and use a holistic approach to add richness within these boundaries. Interviews with the participants will gain insight into their opinions and this will complement an objective investigation of e-mail samples provided by the participants.

2.3.3 Section Summary

Having reviewed the existing research and understood the limitations and gaps that exist, a proposal has been made for how the research will be performed. This will be expanded on in the methodology chapter. It is this research approach that will provide understanding of the activities of the project manager and their use of e-mail in order to identify misunderstandings that occur.

CHAPTER SUMMARY

The aim of this research is to investigate the misunderstandings that occur in e-mails sent and received by project managers, and provide guidance for reducing them.

In order to understand e-mail, the literature on e-mail communication in the organisational context was reviewed in the first section. This provided background on the communication process, how people choose the right communication channel, and the communication environment.

The second section looked at the importance of effective communication for the project manager, and questioned how e-mail fits their specific needs. The project manager has to deal with complex communication and project success is impacted by their ability to communicate effectively. E-mail has many advantages for the project manager in their day to day work, but they must have strategies to help them decide when it is appropriate. The final section took this information and reviewed it in the context of the existing research that has been completed. A research approach is put forward to investigate the key dissertation question:- How can project managers reduce the misunderstandings that occur in e-mail communication?

CHAPTER III – RESEARCH METHODOLOGY

The research aims to answer the question:- How can project managers reduce the misunderstandings that occur in e-mail communication? This chapter describes the research methodology and the method of data collection and analysis used. The research methodology ensured insight into the nature of the misunderstandings in order to provide guidance to the project manager.

3.1 Methodology

This research employes qualitative and quantitative methods within a case study approach. This research had distinct boundaries around a particular group of people, and it was therefore difficult to make large scale generalisations around the results (Bell, 1999). This hybrid approach remained relevant for the proposed research subject as the research concentrated on interactions at a detailed level in a particular context (Anderson, 1990; Cohen, Manion, & Morrison, 2000; Neuman, 1997; Ryan, 1991).

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Key to the approach was the real life setting at ITCO. A mixed method of qualitative and quantitative data provided a depth of insight which added value to the research. Qualitative data was gathered through semi-structured interviews. This provided the opinions of the project managers sending and receiving e-mail communication. A quantitative analysis of the actual e-mail communications provided objective data. This combination of methods allows the researcher to provide real life insight into the communication process taking place in the organisation.

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One of the weaknesses of a case study is that is can be seen as not being robust (Cohen et al., 2000). The researcher wished to ensure there was consistency in the data, and therefore used triangulation by using more than one data collection method. For this research it was achieved by the semi-structured interviews with

the participants and a document review of the e-mails supplied by the participants. This has added weight to the research findings as both data collection methods generated similar results, adding increased reliability to the findings.

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There is evidence in e-mail research that people using e-mail are not able to be objective about their use. Frizell (2002) found that the overall volume of e-mail people received was less than users estimated. Sproull & Kiesler (1986) also found that people estimated they sent 3.9 messages per day when in fact they sent two messages per day. This suggests that e-mail research which looks at the opinions of the senders and receivers alone will not necessarily discover the reality of the communication taking place. This researcher negated this by including an objective document analysis of the e-mail communications.

Quantifying the total volume of communications will not discover whether the communication was successful (Gallivan & Keil, 2003). Successful communication can only be judged by the two participants – the sender and the receiver. For this research the project manager was asked about their experiences in both roles to highlight misunderstandings or unsuccessful communication within the communication process model. The use of the semi-structured interview to provide qualitative data allowed for insight into the misunderstandings taking place in the communication.

3.2 Sample

The convenience sample was taken from a particular team the researcher had access to within ITCO . They were referred to as 'the legacy ITCO Project Management Team'. There were 14 people in this team, including the researcher. It is acknowledged that the researcher had the potential for bias since they were part of this team and had a relationship with the participants. The participants were either project managers, senior project managers or project directors – the researcher was a project manager. Ten team members were involved in the research.

The researcher had agreement from the team members that they were willing to participate in the research and they showed considerable interest in the research topic. The team operated in a 'no blame' culture and all members provided feedback and quality assurance measures to other projects. This open culture helped to lessen any power bias from the researcher. To mitigate this possibility a semi-structured interview was used to ensure there was a consistent and objective approach. The participants primarily accessed their e-mail via company provided laptops, either by using Outlook 2003 whilst connected to the ITCO network, or via offline access. They also had access to their e-mail accounts from any computer by using the web access client through the internet.

3.3 Methods of Data Collection

This section describes the methods of data collection and analysis used. It details how participant consent was obtained, how the e-mail samples were collated and how the semi-structured interview was conducted.

The first contact with the participant was through an introductory discussion. This gave them the background to the research and they were provided with two documents: a Participant Information Sheet and a Participant Consent Form. The researcher asked them to sign the consent form agreeing to participate. As detailed in the Participant Information Sheet they were also asked to forward to the researcher 10 internal e-mails related to projects they were managing.

Researchers have found it difficult to measure communication success as this, by the nature of the communication process model, can only be confirmed by the sender and receiver (Thomas et al., 1999). In order to gain insight into both messages sent and received, the participants were asked to provide five examples of e-mails they had received from internal ITCO staff which they felt were misunderstood (i.e. did not achieve the outcome they desired), and five examples of e-mails they had sent within ITCO which they felt were misunderstood. They were asked to select those which represented their major frustrations with e-mails.

The ethics guidelines obtained for this research stipulated that all other individual and company names were to be removed from the e-mail samples provided to the researcher. The participant was requested to either replace these with generic terms or to use a black marker pen to hide the details.

Following the coding of the e-mails using the Orlikowski and Yates Coding system (described in the next section) the researcher conducted a semi-structured face to face interview with each participant. This was designed to find out what misunderstandings the ITCO project managers had when sending and receiving e-mails. The Semi-Structured Interview is provided in Appendix F. Each interview was tape recorded and transcribed.

During the interview, if the participant found it difficult to describe the issues they had with the e-mail and what it was that led to the misunderstanding, the interviewer used a prompt sheet to suggest possible problems. The e-mail etiquette guide in Appendix A was used as the prompt sheet to provide some guidance if required.

The analysis of the interviews was done by examining themes that emerged from the interviews. The researcher looked for themes through the words and expressions used.

3.4 E-mail Coding

Two coding methods were used. The first, the Orlikowski and Yates Coding System was used to objectively code the e-mail samples provided to the researcher. This coding system had been used in previous research (Orlikowski & Yates, 1994). The second was designed by the researcher, and was used to code the Categories of Misunderstandings that participants gave for each e-mail sample during the semi-structured interview.

Orlikowski and Yates Coding System

The researcher categorised the e-mails using a pre-defined coding system developed by Orlikowski and Yates (1994) (also used in research by Ducheneaut, 2002). Coder reliability was checked by an independent coder taking five random samples and comparing their coding with that of the researcher.

Following the pilot study the coding system was adapted by the researcher to increase understanding for the coder, remove unnecessary fields due to the anonymity of the e-mails and provide additional categories to capture information that had the potential to be relevant during data analysis. The final E-mail Coding System is attached in Appendix D.

A full list of the changes made to the Orlikowski and Yates Coding System can be found in Appendix E. The key changes made were to add a field for the number of threads in each e-mail sample provided, not to include automated signatures or blank lines in the count for the lines of text, to include an additional purpose code of 'A' for e-mails assigning a task to someone, and an additional indicator 'Just Name as Opening' to capture instances where there was an 'Opening' but it only included the name of the recipient.

Categories of Misunderstanding Coding

The Categories of Misunderstanding Coding system emerged from the qualitative data transcribed from the participant interviews. Common themes described by the participants during the semi-structured interviews were used to create categories demonstrating the type of misunderstanding they described.

3.5 Ensuring Rigour

The data collected was both qualitative and quantitative in nature. The qualitative data came from semi-structured interviews allowing for intuitive, subjective and inductive responses (Candy, 1989; Neuman, 1997; Webb, 1990). This type of data

is particularly effective for a small, non-random sample. The qualitative data was insightful about human behaviour, and helped the researcher to understand this specific case study (Bell, 1999; Candy, 1989). The quantitative data came from the e-mail samples provided by the participants. This allowed for triangulation of the findings between the two types of data. Data analysis compared the qualitative and quantitative data to look for similar findings. This approach added rigour to the research.

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3.6 Limitations

This research was based on qualitative data, and although it was supported by a quantitative coding of e-mail samples, the amount of data was not sufficient to provide generalisations for the project management profession. It is, however, the author's opinion that this approach achieved a depth of understanding of the process which would not have been gained from an alternative approach.

Project managers provided the researcher with specific e-mails so the samples may not have been representative of the overall e-mails that were misunderstood. The researcher also knew the participants and therefore possible bias must be acknowledged. It is the researcher's opinion that this existing relationship also allowed the participants to feel at ease with the research process and many spoke openly during the interviews.

Preserving the anonymity of the other parties in the e-mail communication meant there were limitations in understanding the true communication complexity involved as the recipient information was removed so the researcher was unable to see how many other parties were involved in the samples. The researcher was also unable to confirm that all the samples provided were internal e-mails from ITCO. There were also a few instances where the removal of this information also removed other information the researcher was coding.

3.7 Ethics

The researcher followed Unitec's ethics process.

The main ethical issue for this research was ownership and/or privacy of e-mails. All those involved in the research were willing participants and they were asked to sign a document to confirm their voluntary participation. The e-mails they provided were done so willingly, and on the understanding that anonymity was maintained .

The researcher only reviewed internal ITCO e-mails, and the internal company intranet site states that *"All use of ITCO's email systems is subject to monitoring and inspection at any time. ITCO provides no guarantees to ensure email privacy. All messages should be considered to be viewable by a third party."* (http://intranet.ITCO.co.nz/intranet/cda/top/contentPage/0,2964,10274,00.html#privacy accessed 21 November 2005).

Ethics approval was granted on 5 April 2006 (ref 2006.471) to run from that date to 1 December 2006.

3.8 Pilot Study

Prior to the research with the 10 participants a pilot study was done on two volunteers. The volunteers were project managers working in different organisations to ITCO. The aim of this was to pilot the use of Orlikowski and Yates Coding System and the semi-structured interview.

The semi-structured interview timing was shown to be between half an hour to an hour which matched the guidance given in the Participant Information Sheet. One change in the questionnaire was to ask participants about the e-mails they had received before the e-mails they had sent. It was easier to get the responses for the e-mails they had received and for them to provide critical comments on them than it was for them to reflect on the e-mails they had sent. Questioning the

participants on their own e-mails was easier once the interview was underway and they felt at ease with the process.

The Orlikowski and Yates Coding System was also testing during this pilot study. Further clarification of the Coding System was made to ensure the coding method was objective and the process was clear to the coder.

3.9 Chapter Summary

The researcher investigated how project managers could reduce the misunderstandings that occur in e-mail communication. Any findings were only relevant if the research was done with rigour and the method robust. This chapter detailed the process the researcher followed to conduct the research and the reasoning behind the approaches taken.

In combination with the findings in the literature review, the results from the coding of the e-mail samples and the analysis of the participant interviews will provide insight into how the misunderstandings occur in e-mail communications and what the project manager can do to reduce them.

CHAPTER IV – RESULTS

This chapter provides the results of the research done to answer the research question:- How can project managers reduce the misunderstandings that occur in e-mail communication?

There are three sections in this chapter. The first section shows the Categories of Misunderstanding that were assigned to each of the e-mail samples following an analysis of themes given by participants when discussing each e-mail sample during an interview. Section two shows results of the analysis of the Orlikowski and Yates Coding System data for each e-mail including the Category of Misunderstanding. The final section contains the qualitative data from the participant interviews which offer insight into the views of the project manager and e-mail communication. This data is given as quotations both for the Categories of Misunderstanding and the general questions asked during the interview.

SECTION 4.1: CATEGORIES OF MISUNDERSTANDING

A review of the participant interview for each of the sample e-mails provided allowed for a misunderstanding category to be assigned. These were created from the emerging data by using the common words and themes participants used to describe the nature of the misunderstanding. The full list of misunderstanding categories is given in the table below:

Table 3: Categories of Misunderstanding

Category	Description	Detailed Description	Number of Occurrences
A	Emotional Content	Instances of emotional outpouring, including anger, frustration, sadness	6
B	Incorrect Medium	If it was felt that e-mail should not have been used to communicate the message	1
C	Factually Incorrect	The facts in the e-mail were incorrect which led to a misunderstanding	8
D	Long and Detailed	E-mails that were too long and often held a lot of detail	15
E	Incorrect Perception	Situations where the person thought they had an understanding of the background to the communication only to later discover that their understanding was incorrect	8
F	No Response	Getting no reply to an e-mail	6
G	Missing Information Requested	Not all the questions asked in the e-mail were answered, in addition more questions were often asked in response	23
H	Lack of Understanding	The information given was ambiguous or had gaps due to assumptions made about what people would understand – leading to further communication to clarify the missing information	16
I	Task Not Done	A request being made via e-mail for a task to be completed, and that task not being done	5
J	E-mail Read Incorrectly	Person not reading the e-mail correctly – the information was there but they have either missed it or misinterpreted it	3
K	Political	E-mails that are worded in a particular way to allow for	3

		organisational politics, also e-mails where people are covering their backs	
L	Difficult Access to Information	Sender has not included easy links within the e-mail to enable the reader to click on them and find the information referred to	1
M	Caused Upset	E-mails that caused an emotional response for the receiver	2
N	Wrong Recipient	Sent to the wrong recipient either through error or lack of knowledge about who should do a task	2
O	Inappropriate Format	Detail and format of the e-mail is considered inappropriate for a professional environment	1
TOTAL			100

The Categories of Misunderstanding table above was provided to a second independent coder along with 10 sample e-mails and the relevant sections of the participant interviews. They were asked to assign a Category of Misunderstanding to each of the sample e-mails. Reliability was confirmed to 90% accuracy.

SECTION 4.2: THE E-MAIL SAMPLES

This section contains the data collected as part of the Orlikowski and Yates Coding System and contains cross references to the Categories of Misunderstanding.

4.2.1 Sample information

Table 4: E-mails Received and Sent by Participants

	Number of Sample E-mails **Received**	Number of Sample E-mails **Sent**	TOTAL
Participant 1	5	5	10
Participant 2	5	5	10
Participant 3	5	5	10
Participant 4	5	5	10
Participant 5	5	5	10
Participant 6	5	5	10
Participant 7	5	5	10
Participant 8	7	3	10
Participant 9	5	5	10
Participant 10	5	5	10
TOTAL	**52**	**48**	**100**

Participants provided 100 sample e-mails. Nine of the participants provided five samples of e-mails received and five samples of e-mails sent. One participant provided seven samples of e-mails received and three samples of e-mails sent.

4.2.2 Relationship of Participant to the Receiver/Sender

Table 5: Number of E-mails by Relationship to the Participant

Relationship to Participant	**Number of E-mails Received/Sent**	**Definition of Relationship**
Project Resource	54	A person working on the project
Peer	26	Perceived at the same organisational level - they may or may not be working on the project
Manager	8	Direct functional manager
Corporate	4	Corporate e-mail addresses, the participant is unable to tell who manages these e-mails
Subordinate	3	Person managed by the participant
Superior	2	Person seen as above the participant in the functional structure of the organisation

Team Member	2	Someone in the same functional team, unlikely to be working on the same project
Unknown	1	Unknown
TOTAL	**100**	

Table 5 shows that a majority of the relationships with the receiver/sender fell into the category of project resource (54 cases) or peer (26 cases). Other relationships were manager, corporate, subordinate, superior, team member.

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4.2.3 E-mail Composition

Table 6: Analysis of E-mail Samples Provided with Communication Threads Present

Samples of E-mail Threads	
Total Number	63
Average Number of Exchanges	4.9
Number of Samples that were **Sent**	23
Number of Samples that were **Received**	40

Table 6 shows that within the e-mail samples provided 63 had threads showing on-going communication between the sender and receiver. E-mails received provided the largest number of these with 40 samples having communications threads, and 23 samples of e-mails received having communication threads. The overall average number of exchanges in these samples was 4.9.

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Table 7: Table of E-mails by Purpose

Types of E-mail Purpose	
Assigning Tasks	17
For Your Information	42
Questions	63
Replies	7

This table shows that the purpose for most of the e-mail samples was to ask a question (63) or for information (42), with some also assigning tasks (17) or replying to an e-mail (7).

In addition, 93 e-mails were exclusively 'Professional/Neutral' in their Language

4.2.4 E-Mail Format

Table 8: Analysis of Instances of Structure Indicators

Instances of Structure Indicators	
Orlikowski and Yates Coding System Description	
References to Others	43
Citations	3
Heading	1
List	25
Non Standard Text	2
Openings	72
Name Only	27
Signature	9
Sub-titles	13
Subject	99
Emphasis	16
Attachment	12

This table shows the instances of structure indicators taken from the Orlikowski and Yates Coding System. It demonstrates that a majority of the e-mails had 'openings', and nearly all the e-mails had a 'subject'. Nearly a quarter of the e-mail samples used 'lists' to convey the message, with 12 including an attachment.

4.2.5 E-mail Size

Table 9: Analysis of Lines of Type in E-mail Samples

Analysis of Lines of Type in Samples	
Category	**Average Number of Lines**
Total Sample	15.96
Received E-mails	22.43
Sent E-mails	9.17
E-mails Not Part of a Thread	25
E-mails that were Part of a Thread	12.73
Category of Misunderstanding D – Long and Detailed	53.67
Category of Misunderstanding G – Missing Information Requested	12.39
Category of Misunderstanding H – Lack of Misunderstanding	9.25

Table 9 shows that the average number of lines of text in the sample was 15.96. However, the average number of lines of text in e-mails received was considerably higher than e-mails sent at 22.43 lines and 9.17 respectively.

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E-mails that were described by the participants as too long and detailed and therefore formed the Category of Misunderstanding D were significantly longer than the overall average at 53.67 lines of text. Both the other Categories of Misunderstanding shown in the table, G and H, are shown to be shorter than the average lines of text with 12.39 and 9.25 lines of text respectively.

Table 10: Analysis of E-mail Samples by Category of Misunderstanding

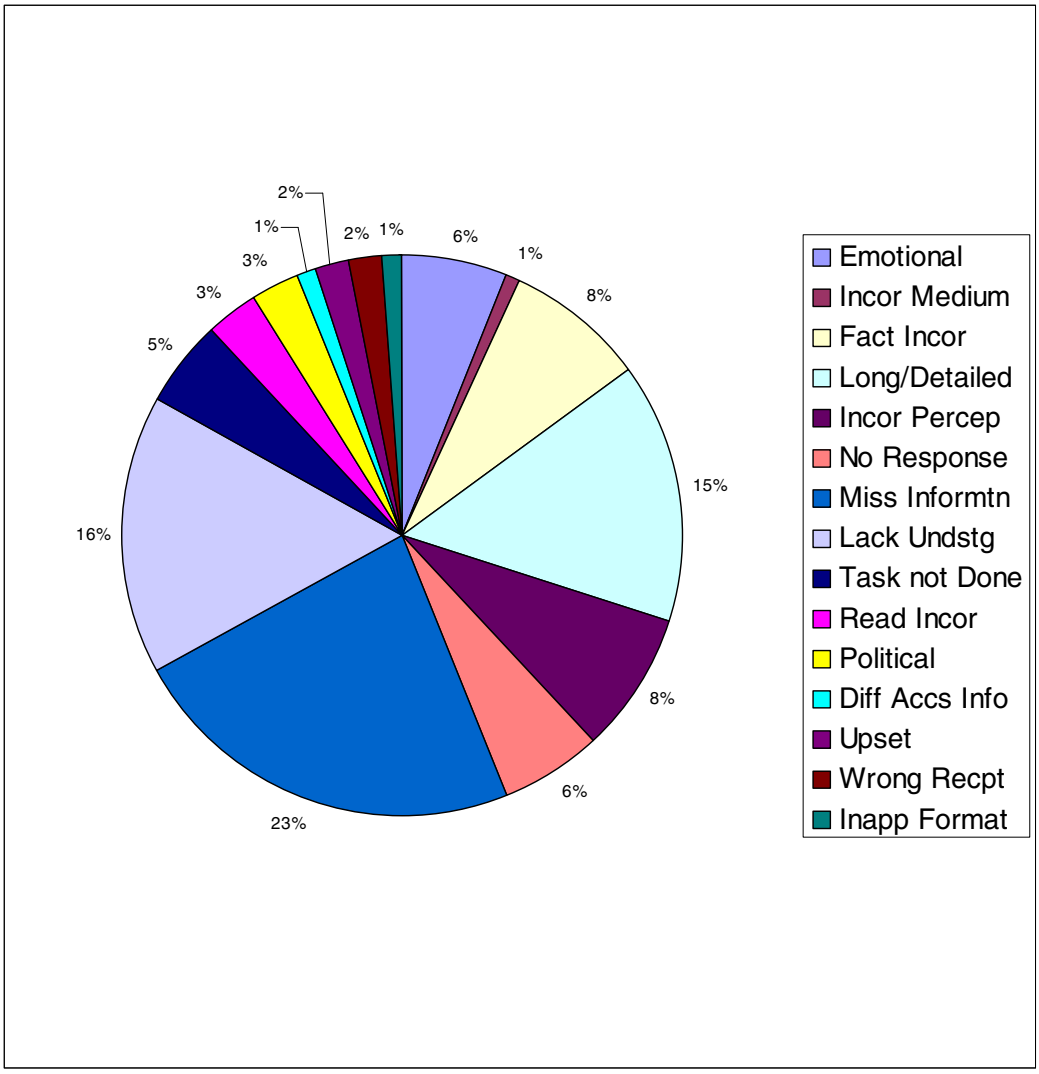
Analysis of Lines of Type in Samples				
Category of Misunderstanding	**Sample Total**	Number of E-mail Samples that were part of a **Thread**	Number of E-mail Samples **Sent**	Number of E-mail Samples **Received**
D – Long and Detailed	15	4	1	14
G – Missing Information Requested	23	20	17	6
H – Lack of Misunderstanding	16	7	7	9

It can be seen from the table above that a majority of the e-mails in Category of Misunderstanding D were examples of e-mails received. For Category of Misunderstanding G a majority of the e-mail samples were parts of a communication thread, and a majority of the samples were e-mails sent. Category of Misunderstanding H was evenly spread between the e-mail samples sent and received, with no significant number of communication threads.

4.2.6 Analysis of E-mail Samples by Category of Misunderstanding

The following pie chart shows the percentage of each Category of Misunderstanding for the 100 e-mail samples supplied.

Figure 4: E-mail Samples by Category of Misunderstanding

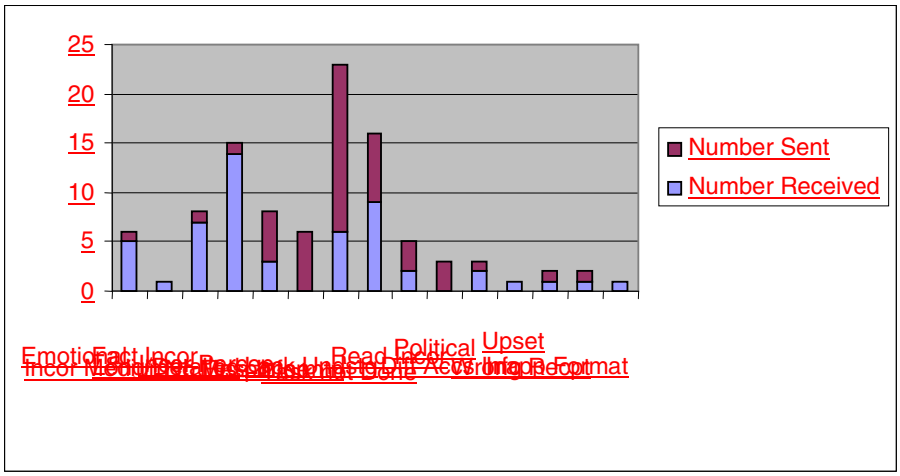


Three Categories of Misunderstanding occurred most often in the e-mail samples provided. They were the ones missing information (23%), lacking understanding (16%), or too long and detailed (15%). The other categories were fairly evenly spread amongst the remaining samples.

4.2.7 Send/Received E-mails by Category of Misunderstanding

The following column chart shows the different proportion of sent and received e-mails for each Category of Misunderstanding.

Figure 5: Sent and Received E-mails by Categories of Misunderstanding



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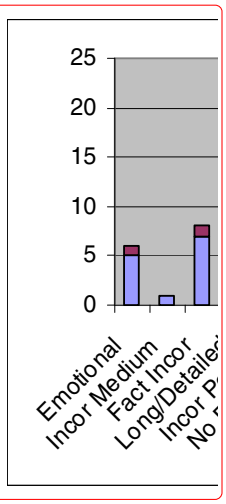

This table demonstrates that some Categories of Misunderstanding are not evenly split between samples of e-mails received and e-mails sent. Most of the samples showing emotional content were e-mail received, as were those where an incorrect medium was used, they were factually incorrect, long and detailed, there were difficulties accessing the information, of it was an inappropriate format. E-mails that has no response, were read incorrectly or were missing information were mostly e-mails sent.

4.2.8 Coder Reliability

Coder reliability was verified when a second independent coder used the same Orlikowski and Yates Coding System to code a sample of 5 e-mails. Reliability was confirmed to 93% accuracy.

4.2.9 Section Summary

The analysis of the e-mail samples collected have been shown, including cross referencing to the Categories of Misunderstanding. The next section documents selections of the interviews conducted with the participants to demonstrate insight into the e-mail communication process.

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SECTION 4.3: THE INTERVIEWS

This section provides details from the transcriptions of the participants' interviews. The quotations provided offer insight into the project manager's process of e-mail communication. The first section of the data gives quotations organised by the different Categories of Misunderstanding. Only the categories with key points and valuable outputs have been selected. The second section provides quotations pertinent to the general questions asked as part of the interview.

4.3.1 Qualitative Data by Category of Misunderstanding

Category A – Emotional Content

Respondents typically provided examples of e-mails they had received where the sender had been emotional in their e-mail. In general, they felt these e-mails were inappropriate within an organisational context.

"… he feels a level of confidence in sounding off to me so … that could be why I was sent that particular type of e-mail from him."

"Emotional stuff you don't put on e-mail. Yes I know some people process emotion better when they start writing things down, … sometimes they don't even send it, it's a self therapy."

The participants recognise they are receiving an emotionally charged e-mail, and whilst one suggests there may be a level of trust in receiving this sort of e-mail, the other clearly feels it is inappropriate to send emotional e-mails.

Category C – Factually Incorrect

These samples contained factually incorrect data. The following response was interesting as it referred to the footer found at the bottom of e-mails requesting that you do not read the e-mail if you think it may not have been meant for you. The participant points out that these messages almost always appear at the bottom of the e-mail so you have already read it in order to get to the message.

"… it says, should not read this but delete it immediately, and of course it's at the end of the e-mail, so you probably have read the e-mail before you get to that direction."

Whilst several respondents gave examples of e-mails which were factually incorrect, this participant raised an example which can be seen in many e-mail communications.

Category D – Long and Detailed

Typical responses from the participants were complaints that these e-mails were too long and detailed. They felt the details should have been in an attachment, or another medium should have been used to convey the message. Most of the time their response to these e-mails was to delete or ignore them.

"Too many instructions... I kind of never did anything about it."

"Well if he was really serious about it he should have followed it up obviously."

"So even if he'd built it in Excel or something, at least it would have been able to be easily developed a bit further."

"I think it needed a meeting for clarification of many issues, it was too much to send by e-mail."

"They shouldn't have tried to cover so much in one e-mail… specifically because some of the issues that came out of it were quite complex and we needed to pick off some of the precursor issues and not try and address them all."

"… this possibly should have been a document attachment. It's two pages of very very large paragraphs… a lot of it is comments and examples and it's not as clear if I looked through it initially what action he's after."

"This is a typical techo mail where it's got no background, it's got no body, it's got no conclusion it's just absolute technical data."

"They just keep responding to something that was right in the beginning so you have to go up down up down up down so these mail trails become very confusing and the interpretation becomes fuzzy because you don't know … which end result they're trying to get to."

The participants explain their confusion and frustration with e-mails that are too long and detailed. They often delete these e-mails and expect some follow-up in a different format from the sender, or they suggest that the detail should be in the form of an attachment so it can be developed and reviewed outside of the e-mail communication.

Category F – No Response

Participants complained that they received no response to some of their e-mails. In many of these instances they kept sending the e-mail and would talk about becoming increasingly frustrated at still getting no response. A few participants, as shown below, suggested different communication channels would have got a better response.

"So, arguably my first follow up by e-mail was probably OK, the second follow up by e-mail … I would have been smarter if I'd just gone and sat down with him and said I sent you this, I haven't had a response, what's the scoop."

"So this one because of their deadline pressures I've ended up calling him to get the information."

Participants have recognized that when they receive no response they need to choose another communication medium to get a response, and at times the schedule constraint is pushing them to use an alternative medium.

Category G – Missing Requested Information

Participants described e-mails that did not address information that had been requested. This took a few different forms within the e-mail communication. The most common instance was that several questions were asked in the e-mail but the sender did not receive answers to all of the questions only some of them. A variation on this was that sometimes more questions were generated in the reply instead of answering the original questions. At times it was felt that this was a stalling tactic to avoid answering the original question. A common theme with this type of misunderstanding was that the e-mail communication would bounce backwards and forwards between the sender and receiver taking a long time to resolve the issues.

"… so it's almost like I don't really want to deal with this so I'm going to put it back into the ether, and by answering a question with a question."

"… something goes out, maybe some of it gets answered and all of a sudden 14 new questions get thrown into the mix, and you think … we're going in the wrong direction…"

"[E-mailing] one question at a time, boy that's painful. I certainly wouldn't advocate that."

"… it just got too long and complicated, and my concern is that by the time it actually got to the person who was actually able to do something … they had too much verbiage in front of them and missed the point."

"… from that point onwards they kept sort of going round in circles of why don't you do this, why don't you do that, … why don't you look at moving the whole environment into another environment altogether."

"So it's just one of those things that because of probably distances, or where the people are located, we take e-mails as being … a quick and easy way to … get people to communicate, but I think in the end it takes you longer … relaying the message backwards and forwards and there's all this sort of confusion that it would be just as easier to get the people in a room and sort it out once and for all."

"… the subject matter now doesn't bear anything in relationship to what it started off as …"

"… there's an answer here that completely fails to address the question because effectively they don't know and haven't tested so the dancing around the question has put lots of words on the page which maybe close to having a relationship with the issue, but not actually having a relationship with the issue. So, … that's really just guess work and it's just nonsense, this pathetic answer."

The participants have expressed frustration when trying to ask several questions in an e-mail, although one also expressed concerns at the time it would take to limit e-mails to one question. They say they feel the e-mails can go round and round in circles, sometimes in the wrong direction or bearing no relation to the original questions asked. They question whether their intention to ask a few quick questions via e-mail can result in it taking longer to get the answers through this medium.

Category H – Lack of Understanding

Recipients typically described this misunderstanding as e-mails where insufficient information was provided because the sender assumed the receiver knew what they were referring to.

"Like in a exam you go through and do the answers you can do quickly, then you go back over and spend time on the ones that take more effort. A lot of these could be a lot easier."

"I should probably add a bit of explanation to some of this stuff because … to some of the recipients this will make perfectly good sense, to some of them it won't."

"A five minute e-mail needs about 15 minutes of planning…So in this instance I should have planned slightly better that's exactly right. Said break it down, the logistic is that it should go from there to there, these people have to do this work - where's the work, where's the physical stuff, and … detail it more. So what happened subsequent to this, I had to answer a couple more mails from people…"

The participants understand the need to include sufficient detail in the e-mail so that all the recipients have enough information to understand the requirements.

Category O – Inappropriate Format

One example was provided of an informal e-mail style which the participants felt were inappropriate for the business environment. This included decorated backgrounds, and quotations as part of signatures.

"… in the old days you didn't send a perfumed letter to your boss with minutes on it, you shouldn't be doing it now.".

This participant felt it inappropriate to diverge from a formal business style within organisational communication.

4.3.2 Qualitative Data - The General Questions

Question 1 (a) – Importance of Effective Communication

On a scale of 1-5 with 5 being 'very important', and 1 being 'no importance', all 10 participants ranked the importance of effective communication for the project manager as 5, 'very important'.

Question 1 (b) – Reasons Why Effective E-mail Communication is Important

Participants were asked to comment on why effective e-mail communication is important for the project manager. The most popular reason was that it provided an audit trail, with seven participants raising this. Some of the comments were:

"The other thing about e-mail and why it is effective particularly for a project manager is it's a wonderful means of establishing an audit trail."

"Theoretically that shouldn't be the way but it's becoming more and more of the way… just be covering yourself."

"An e-mail is termed as non repudiation and that's essential, it's the second best thing to a contract, and it actually provides you with an audit trail so there can be no debate. You pull up a mail thread and I have used that just recently in resolving a number of issues and if it was done by any other method it would have caused contention."

Other reasons given for effective e-mail communication being important to the project manager were that it is quick, efficient, the same message is sent to many, allows for geographical spread, it is a useful time management tool, and allows attachments to be distributed.

Question 2 – What Makes a Good E-mail?

Features highlighted the most for a good e-mail were the use of bullet points, being short and concise, being clear, and using headings. The following is a comment by one participant which demonstrated an understanding of the communication process:

"I believe that good e-mails need to recognize the audience and answer questions that the audience might have. So I think people when they've got the time creating the e-mail that they can think if I'm writing this and the person's got a question, a reasonably obvious question, if I answer it then they don't need to come back to me to answer straight forward questions… that also clarifies the communication process really."

This demonstrates a requirement in the e-mail communication process to understand and write for your audience. This participant emphasises this may help to reduce the requirement for further communication.

Question 3 – How Does E-mail Help You Do Your Job?

In support of the issues raised under Question 1 (b), participants again highlighted the audit trail as being by far the greatest assistance in doing their jobs (raised by six participants). Other factors mentioned were managing more work, managing work faster, aiding communications in general. Comments included:

"…working without it … I don't think you would be able to do it. You would, but it would slow down."

"If e-mails are answered and acknowledged they're a great asset, it means I can put the information on more than one person's desk at one time. You cover an enormous amount of work."

"Helps me keep records of conversations, which is very good in this job. If I get an e-mail I can save it, if they talk to me over the phone I can't save it."

"… being able to initiate and manage non highly critical tasks at more convenient times."

"It enables you because you're not reliant on people being at their desks and by their phones and all those sorts of things."

Participants see the audit trail of e-mail as a great asset for this communication medium. They also highlight the advantages of managing smaller, non-critical tasks and the speed at which you can communicate with people.

Question 4 – How Does E-mail Hinder You?

Six participants raised information overload as hindering their work, and five participants highlighted issues with spam and irrelevant e-mails. Other issues were no reply, the reduction in personal contact, people assuming you always have access to e-mail, and managing your inbox and e-mail storage. Comments included:

"Like when people ask questions in e-mail when they work round the corner."

"It's just that people assume that you … always have access to it."

"It's people using e-mail as an excuse to not talk to people and that's a hindrance. I mean there's a time to send an e-mail, there's a time to pick up the phone, or walk across the floor and talk to somebody. And too many people in business nowadays hide behind e-mail."

"You get bombarded with them… it's just one e-mail after another… you spend more time trying to read e-mails and responding to them than to get on with what you're doing."

"I'm spending a lot more time mucking around with e-mail thinking Oh do I need to keep that, do I need to delete that… and those decision I wouldn't normally bother making as long as I had them. I don't like deleting e-mail… especially as a project manager."

"And then the filing of such and management of it, you know, glorious systems we have, for whatever reason, you rely on e-mail and use it, need to store it for … amounts of time, yet they cap e-mail box limits."

Information overload and managing the e-mails received is seen as a burden by the participants. They feel there is an expectation for them to always have access to their e-mail. They also raise concerns about e-mail making the working environment more impersonal and reducing the use of richer communication methods.

Question 15 – Which is the Most Frustrating Misunderstanding?

Three participants chose receiving no reply as the most frustrating misunderstanding, and three chose those where the question was not answered in full. Two participants chose the political and emotional e-mails, one chose times when the message is ambiguous and not understood, and one chose information overload. Comments included:

"So it's rather than using it as a vehicle to get to a conclusion, it's using it as a vehicle to… add to the work rather than get to the answer."

"…it elicits a large number of exchanges to follow on and I would prefer to see those subsequent exchanges not being required."

These participants demonstrate their frustrations at e-mails which are not answered in full, and result in e-mail threads to resolve issues.

Question 16 – Training Undertaken

Three participants had never had training in creating e-mails, communication skills or effective writing. Six participants had attended some form of training at least ten or more years ago. One participant had attended some recent training on communication skills.

Question 17 – Other Insights into how the project manager uses E-mail

The participants were asked if there were any other issues they would like to discuss that might provide insight into how the project manager uses e-mail. Comments included:

"… how you can be accountable in court. I don't think a lot of companies address that. Because I delete a truck load of e-mail, just delete it, the fact that we don't file it… I can't be bothered to…"

"Another thing that a lot of people don't understand is the ability to send a url, send shared information."

"Only company policy. Policy on answering e-mails, some sort of guidance throughout the company so that you knew what was going to happen when you send an e-mail. So something that … sets an expectation of when we would expect you to get a reply within so many days…"

"I mean I can't imagine life without it."

"For all its shortcomings it's arguably one of the most effective, probably is the most effective communication tool ever, work related or anything else, that mankind has seen in a long, long time."

"I use e-mail as, I've got a bit of spare time, there's something I need to address within the work that I'm doing, it's not time critical at all, I can therefore manage that

piece of information in that way. I do that consciously, I'm not sure that the recipients do that consciously."

"I think there should be a recommendation somewhere within the PMI, Prince, whatever, that project managers get half a Gig of storage space for their inbox."

"… I think it should be incorporated into the project management methodology that there is actually templates provided for different e-mail use especially around projects …"

"There should probably be e-mail folder standards or standards around… how you save those e-mails. And, what should you save? Based on we are all being told to minimize your Outlook … box. Maybe if we knew that we didn't have to save every thread of every e-mail that there were specific things …"

"I mean e-mails weren't supposed to be, or e-mails weren't like a legal document but I think that's becoming more and more acceptable now. And people are using it more and more and that's why you see all these e-mail stores getting bigger and bigger."

"Whereas you used to plan to phone somebody or you used to plan to write somebody now it's because we live in such a hectic world, it's … I don't have to plan, or I will get you on your cellphone and I'll go hey … what about this. The same with e-mail, as soon as something flashes into my head I can quickly, on a machine anywhere in the world, and go what about this and put you under tremendous pressure and cause a lot of stress …It's called on demand. You know you're always on demand via mail, via cellphone, our electronic communication in our time is just an incredible amount of pressure, you could be on Barry Island, you could be in the States, … somebody mails you, somebody phones you and they expect an immediate answer … it's that very on demand stuff, nobody plans anymore."

"Because e-mails do create an expectation of people being available because you've sent it to them therefore they've got it. Well it's not the case, especially with a project manager, we spend an awful lot of time in meetings … writing an e-mail should be a considered thing. It shouldn't be something you just dash off, because if you just dash them off you, it's going to come back, it just tends to in project management."

The participants are keen to have guidance provided both by their organisation and by the professional bodies to help with the legal accountability, storage, templates and response expectations when using e-mail communication. Whilst they are concerned about the belief that they are always available via e-mail, they also recognize that it is a very effective communication medium and cannot imagine life without it.

CHAPTER SUMMARY

This chapter provided the results of the research done to answer the research question:- How can project managers reduce the misunderstandings that occur in e-mail communication?

Categories of Misunderstanding were assigned to each of the e-mail samples following an analysis of themes given by each participant when discussing each e-mail sample during the interview. The e-mails were also analysed following the coding done via the Orlikowski and Yates Coding System, including references to the Category of Misunderstanding where relevant. This allows additional insight into the objective characteristics of the samples of e-mail misunderstandings.

The final section provided the quotations from the transcripts of the interviews done by the researcher with the participants. This provides qualitative data to support deeper understanding of the misunderstandings provided as samples. Feedback from the general questions provides qualitative data demonstrating the opinions of the project manager around effective communication and e-mail communication for the project manager, and how e-mail fits the needs of the project manager.

In the next chapter, the discussion, these results and the analysis will be combined with the background from the literature to examine how project managers can reduce misunderstandings that occur in e-mail communication.

CHAPTER V – DISCUSSION

In this chapter the results and the analysis of the data collection will be combined with the background from the literature to examine how project managers can reduce misunderstandings that occur in e-mail communication.

The first section looks at effective e-mail communication in the organisational context. The second section looks at why effective communication is important for a project manager and how it fits the needs of the project manager. Each of these discussions will review the findings from the literature alongside the results of the research.

These discussions will lead to the final chapter which makes recommendations on how a project manager can reduce the misunderstandings that occur in e-mail communication.

SECTION 5.1: EFFECTIVE E-MAIL COMMUNICATION WITHIN THE ORGANISATIONAL CONTEXT

This section looks at effective e-mail communication within the organisational context. It compares the findings from the research with the background from the literature review. It will focus on the research question:- What is effective e-mail communication in the organisational context?

5.1.1 The Communication Environment

The project manager, like many other business professionals, is using e-mail communication extensively in their day to day work. It has been suggested that this use of e-mail in organisations had led to a flattening of the organisational hierarchy (Tunstall, 1999). In this research it has been difficult to indicate if this is the case, and in the author's opinion this is because of the nature of the project manager's project organisational structure (Henderson, 2004). The participants listed project resources and peers as 54 and 26 of the people they communicated with in the e-mail samples. The interpretation of peer for some of the participants may well mean that these individuals were also project resources, but that the participants felt they were on the same level in the organisational structure as themselves. This is in keeping with a matrix management structure as only two people were referred to as superiors, eight as managers, and three as subordinates. For the participants a majority of the people they deal with are linked to the project structure rather than a functional organisational structure.

There is strong support for the idea that the communication environment for the project manager is a complex one dealing with many different project resources via a matrix organisational structure. Examples of the complexity of these relationships could be seen in the few e-mails coded into the Category of Misunderstanding A as instances of emotional outpouring. Whilst all of the samples provided were done so because participants felt it inappropriate to show those levels of emotional

outpouring (anger, frustration or sadness), there was still a recognition that the process at work was not a simple one. One project manager commented that:

"… he feels a level of confidence in sounding off to me so … that could be why I was sent that particular type of e-mail from him."

The samples provided were anonymous for all parties except the participant. Each participant was asked about their relationship with the person they were communicating with. On only a few occasions were there any comments that the person had deliberately worded something in a particular way because of the person they were sending it to, so most of the influencing factors appear to have been general issues seen in the communication process model and the barriers to communication. This research will not have answered whether individuals had any conscious barriers they did not want to discuss with the researcher or even any subconscious barriers or biases.

One thing the project manager must be clear about is that both the sender and receiver in the communication process model has a responsibility to ensure good communication takes place. This should not just involve the sender of the e-mail. The receiver should see themselves as the sender even when they are encoding and providing feedback to a message – they must consider the same communication barriers and aid understanding as the original sender. Recognising the communication problems can be done by either party, and the sooner it is established the more efficient the communication taking place becomes.

5.1.2 The 'You-Viewpoint'

From the literature review it was anticipated that evidence might be found of project managers writing from a 'you-viewpoint'. Previous research had shown this by demonstrating greater instances of e-mail signatures than openings (or salutations), demonstrating that the person writing the e-mail was more centred around themselves (Sproull & Kiesler, 1986). The difficulty in this research was there were many instances of an automated signature being used on the e-mails. Whilst 91 of

the e-mail samples had signatures, only 72 had an opening salutation, and of these 27 were the name only. There is an indication that the e-mails are not being written from a 'you-viewpoint', but it is difficult to generalise.

Whilst many of the Categories of Misunderstanding point to a failure to understand the 'you-viewpoint' it is still difficult to make any generalisations from this data. However, the researcher did discover that participants found it quite difficult to consider misunderstandings in e-mails they had sent. Several of the participants came back to ask the researcher to explain this aspect again before providing sample e-mails. In the first instance their natural desire was to show the researcher what they felt were examples of good and bad e-mails – an indication of them looking at the process from their world rather than considering the process as a whole including the other party. Secondly, once the researcher had explained what the samples were to represent, the participants found it much harder to find examples of e-mails they sent. When they did consider the e-mails they were sending, and took a more objective look, they were able to find samples and were quite animated by the things they found. The final total of 53 sample e-mails received and 47 sample e-mails sent reflects one particular participant who was unable to find five samples of e-mails sent that were misunderstood.

5.1.3 No Reply

The literature review suggested 'no reply' would be a frustration for the e-mail users (Tompkins, 2003). There were six samples of no reply given to the researcher, and three participants gave this as the most frustrating misunderstanding in e-mail communication. In general the feeling was that this was people not doing their jobs properly, although one participant did recognise that there is some responsibility on the sender to manage their communication in a more proactive manner:

"So, arguably my first follow up by e-mail was probably OK, the second follow up by e-mail … I would have been smarter if I'd just gone and sat down with him and said I sent you this, I haven't had a response, what's the scoop."

There were some comments that certain individuals were more likely not to reply than others, and recognition that behaviour was adapted when dealing with these people.

5.1.4 Asynchronous Communication

E-mail has been seen as becoming more synchronous with people expecting responses quicker and quicker (Bälter, 1998). Several comments from the participants supported this possibility:

"It's just that people assume that you … always have access to it."

" You know you're always on demand via mail, via cellphone, our electronic communication in our time is just an incredible amount of pressure, you could be on Barry Island, you could be in the States, … somebody mails you, somebody phones you and they expect an immediate answer … it's that very on demand stuff, nobody plans anymore."

There was also evidence that the use of e-mail may vary between individuals and their expectations of the medium. There were comments from project managers that they liked to use e-mail to assign many non urgent tasks and questions, with an expectation that the replies could come at some point within the next couple of days. Often that is not the case, and the replies are almost instant, the following participant questioned whether this is a good thing:

"I use e-mail as, I've got a bit of spare time, there's something I need to address within the work that I'm doing, it's not time critical at all, I can therefore manage that piece of information in that way. I do that consciously, I'm not sure that the recipients do that consciously."

Several participants suggested having a way of showing an expected response time would be advantageous in e-mail. The author suggests that the subject line could be used to include an indicator R1: Subject, R2: Subject, R3: Subject etc where the

R1 would indicate an reply was requested in 1 day, the R2 in two days etc. Other indicators could be used like A for Action, FYI etc. This would also allow the project manager to set filters in their inbox to copy all e-mail with for example an R3 into one directory where they could be dealt with together at one time. Project managers need to evaluate the merits of allowing their work to be interrupt driven by e-mail and removing the cues of e-mail delivery (Bälter, 1998; Tunstall, 1999)

5.1.5 Information Overload

Decades ago it would have been easy to spot someone drowning under mountains of paperwork piled high in their office, now this same overload is 'invisible' to the organisation – not addressing this is a large risk to any organisation (Bälter, 1998; Frizell, 2002). The literature review detailed user frustrations and stress due to this overload (Kaye, 1998; McShane & Travaglione, 2003). Six participants said information overload hindered them from doing their job, and five participants also said spam and irrelevant e-mails hindered them. However, only one participant chose this as the most frustrating misunderstanding. The author suggests this may be because project managers, by the very nature of their job qualifications, may be managing information well and able to put systems in place to cope. One participant commented:

"You get bombarded with them… it's just one e-mail after another… you spend more time trying to read e-mails and responding to them than to get on with what you're doing."

Ways of reducing information overload are to become more efficient at managing the information coming in, or to reduce the amount of information (McShane & Travaglione, 2003). 63% of the samples given were part of a larger e-mail thread. Where there were e-mails threads, the average thread length was 4.9 e-mail exchanges within the sample. The author suggests that improving the quality of e-mail communication and reducing misunderstandings may reduce the number of e-mail exchanges required. Even a reduction of 10% in these samples would have

been a significant reduction. This does not take into consideration that many of these e-mails may have included other recipients and distribution lists.

When used well, information is a great asset for any organisation, as described by one participant:

"If e-mails are answered and acknowledged they're a great asset, it means I can put the information on more than one person's desk at one time. You cover an enormous amount of work."

5.1.6 Section Summary

This section has shown the research findings that address the research sub-question asking what is effective e-mail communication in the organisational context. It discussed the communications environment, evidence of the 'you-viewpoint' impacting e-mail communication, frustrations with no reply and evidence of asynchronous communication. Advice is given to manage the e-mail communication and suggestions to become more efficient and reduce information overload. In order to complete the advice on how project managers can reduce the misunderstandings that occur in e-mail communication, the next section will review the research findings that answers:- Why is effective communication important for the project manager and how does e-mail fits their needs?

SECTION 5.2: E-MAIL COMMUNICATION AND THE PROJECT MANAGER

In order to complete the advice on how project managers can reduce the misunderstandings that occur in e-mail communication, this section will review the research findings that answers why effective communication is important for the project manager and how e-mail fits their needs.

5.2.1 The Project Manager and Communication

All 10 participants rated effective communication as very important for a project manager, and therefore linked to project success. They supported the strengths listed in the literature review, emphasising the advantages of the medium as the speed, efficiency, that the same message can be sent to many people, it allows communication with those geographically remote to the sender, it is a great time management tool and allow attachments to be sent. They supported the disadvantages of the medium anticipated, emphasising information overload, no reply, reduction in personal contact, and issues managing the inbox and storage.

It has been suggested that good communication skills are a key competency for project managers (Henderson, 2004). McShane & Travaglione (2003) describe communication competence as *"a person's ability to identify appropriate communication patterns in a given situation and to achieve goals by applying that knowledge"* (p. 364). Two of the participants in the research were senior managers within the project team. These were the only two people to make reference to the process taking place when communicating. They highlighted the need to put yourself in the recipient's shoes and understand their world in order to communicate with them well. One of these participants said:

"I believe that good e-mails need to recognize the audience and answer questions that the audience might have. So I think people when they've got the time creating the e-mail that they can think if I'm writing this and the person's got a question, a

reasonably obvious question, if I answer it then they don't need to come back to me to answer straight forward questions… that also clarifies the communication process really."

Whilst this study cannot claim confirmation of communication skills as a core project management competency as a finding, it does show an indication that understanding the communication process is a key skill for a project manager and their ability will aid their competency. This would be a strong driver for project managers as individuals and organisations to train and increase their communication knowledge.

5.2.2 The Project Manager's Needs

The literature review suggested that the project manager's need for e-mail was due to the strengths of the medium aiding the communication process and ultimately leading to project success. The research supported e-mail's role as a status equaliser, the benefits for task management, and the ability to distribute to many people in the complex communication environment. In addition, one other factor shown as one of the good aspects of e-mails was the aspect project managers highlighted most. Seven participants listed the e-mail audit trail as the reason why effective e-mail communication was important for the project manager, and six listed it as an aspect that helps them do their jobs.

The audit trail feature of e-mail may be a more significant factor for project managers because of the nature of their jobs. One participant said:

"An e-mail is termed as non repudiation and that's essential, it's the second best thing to a contract, and it actually provides you with an audit trail so there can be no debate. You pull up a mail thread and I have used that just recently in resolving a number of issues and if it was done by any other method it would have caused contention."

An issue of concern related to this was the lack of guidance from organisations on how to file and store e-mail. Many of the project managers were struggling with new mailbox size limits implemented by ITCO. They were under pressure managing these new restrictions yet also saving all their e-mail communication as a record of their project work. ITCO have provided no guidance on what the project managers should keep, or where to store the information, so many different methods were being used by individuals. Due to the importance the participants put on this particular issue, three quotations are included below to illustrate their views:

"I'm spending a lot more time mucking around with e-mail thinking Oh do I need to keep that, do I need to delete that… and those decision I wouldn't normally bother making as long as I had them. I don't like deleting e-mail… especially as a project manager."

"And then the filing of such and management of it, you know, glorious systems we have, for whatever reason, you rely on e-mail and use it, need to store it for … amounts of time, yet they cap e-mail box limits."

"… how you can be accountable in court. I don't think a lot of companies address that. Because I delete a truck load of e-mail, just delete it, the fact that we don't file it… I can't be bothered to…"

The project manager needs guidance from employers on how to manage and store their e-mail communications. The audit trail that the medium provides is a key way that e-mail fits the project manager's needs, but they are clearly struggling with a lack of process on how to manage the information.

5.2.3 Choosing the Right Channel

The audit trail and having a permanent record was key in guiding channel choice as supported by the peer group and the organisational behaviour. The concern is that the project managers are not looking at the medium closely to consider other

factors that should influence their choices eg is the message long and complex, is it ambiguous etc.

The main Categories of Misunderstanding may relate to the incorrect medium being used. 15 of the e-mails were considered too long and detailed – the author suggests these might have been better addressed through a richer medium. 23 of the e-mails were missing information, where not all the questions were asked or more questions were generated – again perhaps these needed a richer medium. The project manager needs to be aware that if they are confused about an issue and try to resolve it via e-mail, the recipient may also be confused and so there is potential for a time consuming e-mail thread.

Previous research had conflicting findings regarding polarisation and whether it would occur in an organisational context where there is no anonymity, and an expectation participants would be working together in the future (Ducheneaut, 2002; Sia et al., 2002). This research suggests that polarization may be an issue with some of the e-mails, and there was evidence that e-mails would generate more ideas rather than assist in reaching conclusions or answers to questions. 63% of the e-mail samples were questions indicating that project managers are using this medium to clarify issues when perhaps it is not the most appropriate medium. This may be support for complicated or unclear issues needing a richer medium (Krizan et al., 2002). An example of this is described below by one participant:

"… something goes out, maybe some of it gets answered and all of a sudden 14 new questions get thrown into the mix, and you think … we're going in the wrong direction…"

One of the strengths of e-mail for the project manager is the ability to manage smaller tasks, and participants acknowledged this:

"… being able to initiate and manage non highly critical tasks at more convenient times."

Another issue raised was that e-mail had reduced the amount of personal contact, and at times e-mail is inappropriate as a medium in this respect. Whilst the following quotation is interesting it may be the impact of reticent people preferring to use e-mail as their communication tool as previous research has shown (Kelly et al., 2001):

"It's people using e-mail as an excuse to not talk to people and that's a hindrance. I mean there's a time to send an e-mail, there's a time to pick up the phone, or walk across the floor and talk to somebody. And too many people in business nowadays hide behind e-mail."

The author did not find any indicators that the language in the e-mails had become more conversational (Tompkins, 2003). Perhaps due to the organisational setting, 93% of e-mails were exclusively professional or neutral in their tone. It must be recognised that this was not an investigation done over time which would see changes in correspondence as relationships developed, and participants may also have chosen to show the more formal e-mail samples to the researcher.

There was evidence that people still expect to see a degree of professionalism in business communication with one participant feeling that personalised backgrounds and quotations on e-mails were inappropriate:

"… in the old days you didn't send a perfumed letter to your boss with minutes on it, you shouldn't be doing it now.".

The project manager can use e-mail to meet their needs but they must understand the communication process and the barriers to communication. Consideration must be given to the effects of polarization, the ambiguity of the issue concerned, and the appropriateness of the channel in order to take gain from the strengths of the medium for instance the audit trail. The choice of channel will change during the phases of the project, and whilst relationships develop.

5.2.4 Categories of Misunderstanding

Three Categories of Misunderstanding stood out as the most frequent occurrences in the samples provided. The author will concentrate on these aspects. Due to the nature of the research, it is difficult to generalise the findings. However, these types of misunderstanding have shown strong indications that they may be significant issues within the communication process.

The three categories to be reviewed are the long and detailed e-mails (Category C), the e-mails with missing information requested (Category G) and e-mails with a lack of understanding (Category H).

Long and detailed (Category D)

15 of the samples provided were assigned this category based on the common themes in the participant interviews. The average length of each e-mail was 15.96 lines of text. The average length of the e-mail samples provided for Category D was 53.67 lines of text. The Orlikowski and Yates coding of the e-mails supports the themes seen in the interviews that these were long and detailed e-mails.

Almost all of the samples were of e-mails received by the project manager (14 out of the 15). The author would suggest that the project managers may not realise or be willing to acknowledge times when they have sent e-mails which fall into this category, rather than that they do not exist.

Feedback from the participants provides insight into what happens to these e-mails and whether they are successful communication:

"Too many instructions... I kind of never did anything about it."

The recommendation for these instances is that either the information sent should be in the form of an attached document to enable amendments and a different

approach to the information, or this is the wrong medium and a meeting is perhaps the wiser choice:

"I think it needed a meeting for clarification of many issues, it was too much to send by e-mail"

Missing information requested (Category G)

The highest Category of Misunderstanding was the missing information category. 23% of the samples were in this category. These were samples where either the questions asked by the sender were not all answered in a response, and/or more questions were generated in the response. Three participants also chose this as the most frustrating misunderstanding.

Message composition, format, consideration of the 'you-viewpoint' and barriers to communication may help alleviate some of these instances to ensure the recipient answers all the questions. Certainly the sender appears to be the start of the chain of questions with 17 of the samples being e-mails that were sent.

Another possible cause of this category is the polarization effect discussed earlier. It is possible that this medium is not good for asking people to make decisions, but it is good for getting people to brainstorm and generate ideas. The results show that of the 23 total e-mails in this category, 20 were parts of e-mail threads generated, suggesting that brainstorming may be occurring (Sia et al., 2002). Participant comments provide insight:

"… from that point onwards they kept sort of going round in circles of why don't you do this, why don't you do that, … why don't you look at moving the whole environment into another environment altogether."

"… the subject matter now doesn't bear anything in relationship to what it started off as …"

The project manager needs to recognize that it may be quicker to make decisions in a richer communication environment like a face to face meeting. Once communication is taking place, especially when a long thread is being sent and continues, the project manager needs to make sure this is not being caused by a difficulty in reaching a decision – if it is they need to stop this communication and take it to a different medium in order to reduce the misunderstanding.

Lack of understanding (Category H)

16% of the samples provided involved a lack of understanding. This is where incorrect assumptions are made about the other person's knowledge and it later becomes clear this caused confusion and a delay in obtaining the correct answer. The problem with this category is that 'people don't know what they don't know'. The main thing the project manager can do is to understand the communication process model and consider the receiver's environment to predict what information they do know (Krizan et al., 2002; Lehman & DuFrene, 1999). The risk is that not doing so will create more questions as a result of the receiver's confusion over the issue. One participant's comments were:

"A five minute e-mail needs about 15 minutes of planning…So in this instance I should have planned slightly better that's exactly right. Said break it down, the logistic is that it should go from there to there, these people have to do this work - where's the work, where's the physical stuff, and … detail it more. So what happened subsequent to this, I had to answer a couple more mails from people…"

5.2.5 Section Summary

This section has looked at why effective communication is important for the project manager. It has also highlighted how e-mail fits the needs of the project manager with evidence of extensive use of it as an audit trail.

CHAPTER SUMMARY

This chapter compared the research findings with the literature review to examine how the project manager can reduce the misunderstandings in e-mails. The first section looked as effective communication in the organisational context. It reviewed the communication environment, the 'you-viewpoint', frustrations at 'no reply', evidence of asynchronous communication and problems of information overload.

The second section looked at why effective communication is important for a project manager and how it fits their needs. There is some evidence that effective communication is a key competency for the project manager. The importance of the audit trail for the project manager and the impact that has on choosing the right communication channel was discussed. Finally, the three key Categories of Misunderstanding were reviewed.

The next chapter combines these discussions and provides advice for how the project manager can reduce the misunderstandings that occur in e-mail communication.

CHAPTER VI – CONCLUSIONS AND RECOMMENDATIONS

This chapter takes the discussion from the previous chapter about the importance of effective communication in the organisational context, the importance of this for the project manager and how it fits their needs, and provides guidance for how the project manager can reduce misunderstandings in e-mail communication. Efficient e-mail communication may assist in achieving project success and be a key competency for project managers, so working to improve this skill is vital for the project manager's performance. Project managers must understand the strengths and weaknesses of the medium in order to use it most effectively.

6.1 Channel Choice

Indications from this research are that project managers are using e-mail extensively as their channel of choice because of the audit trail it can provide for a project. Employers need to assist in providing company guidance on storage and management of the e-mail information to support this usage.

The author suggests that using this reason alone to choose this channel may lead to misunderstandings as sometimes the wrong channel choice is made. E-mail is a good medium for simple tasks, but more complex issues often need a richer medium with added visual and audio cues to achieve clarification. Awareness of this has the potential to lessen the amount of e-mail traffic as long e-mail threads are reduced. The findings supported earlier research suggesting e-mail can be a useful medium for brainstorming and generating ideas and if used correctly this can be a strength for the project manager.

The project manager must reflect on the phase of the project and their relationship with the individuals to ensure the correct medium is chosen and with an

understanding that as these change so to the different mediums become more appropriate.

6.2 The Communication Environment

All participants in the research felt effective communication was very important for the project manager. To achieve this they need to ensure they are aware of the communication process. Considering the receiver's environment, removing ambiguities and reviewing barriers to communication may assist in reducing the number of misunderstandings. The project manager's communication is complex due to the number of people they communicate with and the matrix organisational structure found within the projects.

Project managers also need to remember that this medium is not synchronous communication. More efficiency can be achieved in managing incoming mail in a constructive fashion rather than responding to every incoming mail immediately. The author would recommend removing the envelope and incoming mail prompts from the e-mail applications – evidence is that project managers are aware e-mail is arriving all the time. Alongside this they must manage the expectations of a response time with their project teams, and ensure they are encouraging effective use by making expected response times clear in e-mail communication they send. The project manager must also actively strive to ensure effective communication is taking place whether they are in the role of sender or receiver.

6.3 The You-Viewpoint

The communication literature advises that composing an e-mail from the viewpoint of the recipient will make the communication more effective. The project manager can reduce misunderstandings by ensuring they recognise this approach and write their e-mails from the 'you-viewpoint'. This approach will also mean that they are considering the receiver's perspective and this will help to reduce the ambiguities and misunderstandings that have been observed in this research. It will ensure that

higher issue salience is a factor in their communication helping to achieve higher responses.

6.4 The Style

Evidence is that a formal business style is still expected within business. Project managers can reduce misunderstandings by ensuring their e-mails are formal, factual, concise and make use of fonts and styles like bullet points to help clarify their message.

6.5 Organisations

Some of the misunderstandings can be reduced with assistance from organisations and guidance on e-mail strategies. One example of this is the legal message often seen at the end of the e-mail message. A comment from one participant illustrates the problems with this process in that the person is likely to have read the e-mail before they reach the paragraph that tells them not to read it if they are not the correct recipient:

"… it says, should not read this but delete it immediately, and of course it's at the end of the e-mail, so you probably have read the e-mail before you get to that direction."

Organisations can implement information systems to help information management and the sharing of information. This could reduce the number of e-mails required as people collaborate on projects, and also make it far simpler to send links to information. They must recognise that information overload is a major issue for e-mail users. A lack of e-mail strategy in the ITCO organisation has led to confusion. Project managers require guidance on how to manage the storage of their e-mails. They would also like to see expectations set on how people should deal with e-mail. Strategies can include how to file and store e-mails, and guidance for filtering common e-mails to allow them to be managed in blocks. Project managers are using e-mail as an audit trail and need guidance from organisations

on the legal requirements they need to meet along with a process for managing the information in order to preserve the audit trail and meet limits on mail boxes.

Project managers require training in the communication process and how misunderstandings can occur. Nine of the participants had received no training on communication and writing skills in over ten years. Organisations must recognise the costs of poor communication – a small reduction in the number of misunderstandings will have significant gains in efficiency. Information overload is a problem and this will also help to alleviate it.

6.6 Professional Bodies

Professional bodies like the Project Management Institute can also assist by developing e-mail guidelines in the project management body of knowledge. This could include e-mail templates and recommendations for e-mail storage and management.

6.7 Recommendations for Further Research

This research was based on a small sample from within one organisation. Further research could expand this to a larger sample across more organisations and even to include other professions and investigate potential differences.

Ethics approval for this research was given on the basis that all parties would remain anonymous other than the participant. This meant it was difficult to objectively code the other party, their job role and their relationship with the participant. It also meant that it was sometimes difficult to tell whether the e-mail had involved one person, several or distribution lists as the other names were blacked out. Further research could be conducted having obtained organisational support to remove the anonymity of the parties and allow for further investigation into how these variables affected the communication taking place. This might provide the opportunity to interview both the sender and recipient of the same e-mail to obtain insight into the two different views of the e-mail. It also might mean

the researcher could choose random e-mail samples to investigate rather than being reliant on the samples provided by the participant.

It would be an interesting, if challenging, research project to investigate the e-mail threads generated and try to find common issues as each thread progresses. Whilst this research did consider the thread, the main concentration was on the specific sample that generated the misunderstanding as observed by the project manager.

As suggested earlier there is an indication that an understanding of the communication process model is a key competency for the project manager. This could be investigated further. Further research could also look at e-mails that have been successful and what qualities they contain. There is also considerable research that could be done to investigate cultural and gender issues within each of these areas.

6.8 Conclusion

This research set out to provide strategies for how project managers can reduce the misunderstandings that occur in e-mail communication. In order to gain true insight the study was conducted in a real life organisational context, and achieved rigour by using a mixed qualitative and quantitative method to add weight to the findings.

The first question reviewed was:- Why is effective communication important for a project manager? Effective communication will aid project success, and increase the efficiency of the project manager. The project manager works in a complex environment, often with a matrix structure within project teams and a requirement to communicate with many different stakeholders. Project success is linked to the competency of the project manager when communicating.

The second question was:- What is effective e-mail in an organisational context? Effective e-mail within organisations is achieved with an understanding of the communication process in general, the communication environment and the impact

of this within organisations. The project manager needs to understand the process at work when e-mail communication takes place in order to make the right choices about the strengths and weakness of e-mail as a medium and choose the appropriate communication channels.

The last question was:- How does e-mail fit the needs of the project manager? E-mail has become an essential tool for the project manager due to its strengths as a communication medium. Key strengths are that simple tasks can be allocated with ease, updates and documentation can be quickly copied to many people at any time around the world, and it provides an audit trail.

Each of these provides insight on how project managers can reduce the misunderstandings that occur in e-mail communication. Misunderstandings are reduced by ensuring the correct communications channel is chosen. This decision must be based on the complexity of the issues, whether decisions need to be made rather than brainstorming, the phase of the project and the relationship with the receivers. Alongside this the project manager needs to understanding the communication process model and barriers to communication. E-mail is a tool and project managers should use this efficiently by reviewing their e-mail cues and whether they are interrupt driven by e-mails arriving. They should use filters and rules to help manage the information. Key to effective e-mail communication is to ensure they are composed with a 'you-viewpoint' and capture issue salience for the reader.

Organisations and professional bodies can also assist by providing strategies and guidelines for e-mail management, and ensuring training programs are in place to increase communication competency in project managers. They must recognise that efficiencies gained ultimately save time and money within projects.

The last word is left to one of the participants:

“For all its shortcomings it’s arguably one of the most effective, probably is the most effective communication tool ever, work related or anything else, that mankind has seen in a long, long time.”

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APPENDIX A: SUMMARY OF E-MAIL ETIQUETTE

E-MAIL DESIGN

E-mail design needs to be competent, and this includes a mixture of effective and appropriate communications (Olaniran, 2004). They are seen as more successful in the hands of skilled interpersonal communications (Compton et al., 1991). Having good communication skills as a personal attribute will help you succeed as a project manager. Below are guidelines for e-mail design:

Structure

- Bcc - this is only really acceptable if you are sending to lots of people and you use it as a way to keep their e-mail addresses private (Nicholaou, 2005). Using 'bcc' to copy the boss on information can be seen as bullying (Angell & Heslop, 1994; Cleary & Freeman, 2005).
- Subject line - ensure this is informative, clear and concise (Angell & Heslop, 1994; Cunningham & Greene, 2002; Extejt, 1998; Goldhaber, 2001; Heineman, 2003; Tunstall, 1999).
- Signature - use a signature at the bottom of your e-mail - include name, position, organization, contact information (Nicholaou, 2005; Tunstall, 1999).
- If you are quoting someone – copy them (Nicholaou, 2005).
- Attachments - where possible put a link in rather than an attachment (Tunstall, 1999).
- Check people can receive large attachments (Cleary & Freeman, 2005; Goldhaber, 2001; Nicholaou, 2005; Tunstall, 1999).
- Is it really urgent or important? (Angell & Heslop, 1994; Cleary & Freeman, 2005; Tunstall, 1999).
- One topic per message (Krizan et al., 2002; Lehman & DuFrene, 1999).
- To/cc - only include people who will action the e-mail in the 'To' line and 'cc' those who need it for information or interest only – some people filter on whether they are a 'cc' or a 'To' in the e-mail (Tunstall, 1999).
- Write top down - this is the inverted-pyramid technique. Each inch should be less important than inch before (Angell & Heslop, 1994).

Formatting

- Use paragraphs (Cunningham & Greene, 2002).
- It helps to use fonts creatively, colour, bullet points, emoticons etc. Beware though as not everyone can read them, they may only be able to receive text based e-mail (Angell & Heslop, 1994; Cunningham & Greene, 2002; Lewis, 2002; Tunstall, 1999).

- Limit the e-mail to a PC screen size, otherwise it's an attachment (Cunningham & Greene, 2002; Extejt, 1998; Krizan et al., 2002; Tunstall, 1999).
- In replies put answers by the questions (Cunningham & Greene, 2002; Tunstall, 1999).
- If replying put the original e-mail text below your reply (Nicholaou, 2005; Tunstall, 1999).
- Do not type in CAPITALS – this is seen as shouting (Angell & Heslop, 1994; Extejt, 1998; Krizan et al., 2002; Nicholaou, 2005; Tunstall, 1999).

Style

- Depends on the recipient – ask them what they prefer (Cunningham & Greene, 2002; Lehman & DuFrene, 1999; Tunstall, 1999).
- Create and maintain a professional image. Readers will judge you and your organisation through your e-mail (Krizan et al., 2002).
- Ensure you state the action you want, by whom and when (Lewis, 2002; Tunstall, 1999).
- Nothing offensive or embarrassing (Cunningham & Greene, 2002).
- Only use abbreviations if you are sure the recipient understands them (Angell & Heslop, 1994; Nicholaou, 2005).

Before Sending

- Proof read, check spelling and grammar – even send it to yourself (Cleary & Freeman, 2005; Cunningham & Greene, 2002; Lewis, 2002).
- Is it relevant to everyone you are sending it to?
- Beware of 'reply to all' (Angell & Heslop, 1994; Cleary & Freeman, 2005; Cunningham & Greene, 2002; Goldhaber, 2001; Krizan et al., 2002).
- NEVER write in anger or frustration (Cunningham & Greene, 2002; Krizan et al., 2002). This is often referred to as flaming, meaning personal attacks on others via e-mail. An idea is to reply with "*disagree – let's discuss*". Don't even draft angry replies as they can get sent accidentally (Tunstall, 1999).
- No rumour or innuendo about people or companies (Morgan, 2002).
- Is this the right medium for the message?
- Ensure you are not sending confidential, private or security information (Bordia, 1997; Cleary & Freeman, 2005).
- Are there any ethical or legal implications to what you are sending (Lehman & DuFrene, 1999)

APPENDIX B: BARRIERS TO EFFECTIVE COMMUNICATION (Lehman & DuFrene, 1999)

- physical distractions
  - noise
  - interruptions
  - uncomfortable setting

- differences in sender and receiver
  - education
  - age
  - culture
  - background/experience

- sender/receiver hindrances
  - various interpretations of verbal/nonverbal message
  - lack of trust
  - lack of feedback (verbal and nonverbal)
  - intimidate or fear caused by position/status of sender

- mental distractions
  - differences in sending and receiving messages
  - preoccupation with other matters
  - developing a response rather than listening
  - inappropriate timing

- sender characteristics
  - unclear, non-specific message
  - lack of sympathy for listener
  - distracting appearance, mannerisms, expressions, voice etc
  - suspect motive (coersive or brownnosing)

- receiver characteristics
  - poor listening habits
  - unreceptive to new and different ideas
  - lack of empathy for sender
  - negative feelings about the speaker
  - lower interest level
  - unwilling to concentrate

APPENDIX C: PROJECT MANAGEMENT TASKS SUITABLE FOR E-MAIL COMMUNICATION (Giffin, 2002)

The following table is an adaptation of Tables 3 and 4 from (Giffin, 2002). E-mail is recommended as the medium of choice for items highlighted in green.

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Type	1:1	1:Few	1:Many	Many:Many
One-way (Providing information/Records)	- Meeting notes; - Backup for proposal (cost, schedule, technical performance elements); - Daily record.	- Project schedule; - Project budget; - Task descriptions; - Status reports on same, e.g., timesheets, formal reports, etc.; - Project tracking records.	- Announcement of contracts/Reports for Proposal/etc.; - Organizational chart, directory; - Project plans, specifications, project/System requirements; - Public announcements.	- Bulletin board; - Industry standards; - Regulations; - Central project file; - Training/Reference material, e.g., standards, templates, etc.
Two-way/Asynchronous (Offline communication)	- Contract execution/Procurement; - Approval of individual expenditures/Requests; - Task assignment/Status of individual task.	- Development of information elements listed above prior to project e.g., plans, specs, requirements, etc., and maintenance during the project.	- Bidding/Request for Proposal process; - Status of projectwide schedule, budget, expenditures, etc.	- Development of project documentation; - Development of regulations or standards; - Industry or project forum.
Two-way/Synchronous (Meetings)	- Negotiation; - Interviews; - Conflict resolution	- Status update meeting; - Pre-proposal meeting; - Project/proposal presentation	- Training session; - Pre-project briefing; - Conference/lecture.	- Informal meeting, e.g., watercooler; - Free-form meeting e.g., brainstorming or problem-solving.

APPENDIX D: E-MAIL CODING SYSTEM

The following tables form the coding system used by Ducheneaut (2002) who expanded on the previous work by Orlikowski and Yates (1994).

Items added by the researcher to provide guidance during the coding process, and capture additional data are shown as underlined.

Items which the researcher was unable to use due to the ethical requirement of anonymity for the person the participant was communicating with are shown with strikethrough.

If the information required for one of the data codes is not available due to the nature of the sample provided – mark it as **Not Known**

~~Table 1: Senders categories~~

~~Senders~~	~~Description~~
~~EPHD~~	~~PhD students~~
~~EMSC~~	~~MSc students~~
~~EBAC~~	~~BCom. students~~
~~ExMSC~~	~~Former MSc students~~
~~ExPHD~~	~~Former PhD students~~
~~SDOB~~	~~Direction's secretary, Org. Behaviour department~~
~~SPHD~~	~~PhD programme secretary~~
~~DPHD~~	~~PhD programme director~~
~~DirMSC~~	~~MSc programme director~~
~~SDUN~~	~~University's president secretary~~
~~SDBAC~~	~~Direction's secretary, BA programme~~
~~R~~	~~Registrar's office~~
~~TI~~	~~Information Technology department~~
~~SERP~~	~~Employees' services department~~
~~CO~~	~~Colleagues (professors)~~

~~CRCH~~	~~Research centre~~
~~AR~~	~~Research assistant~~
~~F~~	~~Family member~~
~~FRND~~	~~Friends~~
~~EXT/INC~~	~~Other or unknown~~

Table 2: Other factual data

Factual data	Description
Date	Date the message was sent
Time	Time the message was sent
~~Audience~~	~~Number of recipients: 1, 2, 3, many (more than 3), DL (Distribution List)~~
~~Location~~	~~Sender's location~~
Sent/Received	Whether the e-mail was sent by the participant or received by them
Thread	Was the e-mail sample provided by the participant part of a thread of e-mails?
E-mail Quantity in the Thread	Total number of individual e-mails making up the e-mail thread of which the e-mail sample provided is one part.

Table 3: Purpose indicators identified in the e-mail archive

An e-mail sample can have more than one purpose assigned to it.

Purpose	Code	Description
Broadcasting	*FYI*	For Your Information – the message gives factual information to the recipient.
Task-related	*Q*	Question – the message contains a work-related question and solicits an answer
	R	Reply – a follow-up to a question
	A	Assignment of a task

Social	*SOC*	Socialization – the message contains friendly or personal information, rumours… The information is at best indirectly related to the professional context
Other	*EXC*	Excuses

Table 4: Language indicators

An e-mail sample can have more than one language indicator assigned to it.

Language indicators	Description
Emphatic	The sender uses grammatical forms denoting insistence (e.g. 'Your extraordinary work')
Humour	The message contains humorous references
Informal/friendly	The message uses casual, friendly language
Sarcasm	The sender employs scornful language
Professional/neutral	The message contains professional, literate language
Authoritative	The message contains orders ('You must…', 'It is imperative…')
Sadness	The sender shows sadness
Anxiety/Fear	The sender expresses fear or anxiety

Table 5: Structure indicators

The structure indicators are coded as either present or not present.

Structure indicators	Description
Reference to other(s)	Another organizational member is referred to This is not considered to be present if the reference is to another company or a person by their job title

Citation	All or parts of a previous message are re-used in the body of the message This is considered to be present if a part of a previous e-mail has been re-used in the sample provided, it is not considered to be present if previous threads of the e-mail are included with the sample.
Heading	The message contains, before salutations, one or many lines of text (date, address, reference). This is information added by the sender, not the one automatically generated by e-mail software
List	The message contains a series of points arranged in a *precise order* This includes the use of bullet points
Non-standard text	The text contains irregular works, signs or use of grammar (e.g. smiley, slang)
Openings	The message starts with a form of salutation ('Dear Prof. X', 'Hi there!')
Just Name as Opening	This is where an opening is used but it is just in the form of the recipient's name and no other information
Signature	The message ends with a signature This must include the sender's name being present Automated signatures are counted as the signature being present
Sub-titles	The text is decomposed into distinct sub-sections
Subject	The sender filled out the 'subject' line of the message This is considered as present if there is a relevant entry in the subject line The automated completion of the subject line when a reply is done is considered as the subject being

	present if it is relevant to the e-mail content
Emphasis	The sender uses a graphical form of emphasis (e.g. boldface, high-case) Do not include any emphasis done as part of an automated signature. The automated signature can be recognised as it uses a more greyed print as the font colour.
Attachment	A file is attached to the message
Size	Size of message (in lines of text) Do not count the lines in automated signatures, but do count lines typed by the sender Do not count blank lines Do not count the legal messages within e-mails Do not count lines in any other part of the e-mail thread other than the sample the participant has provided

APPENDIX E: CHANGES MADE TO THE ORLIKOWSKI & YATES CODING SYSTEM

Changes to the E-mail Coding System that provided additional guidance to the coder were:

- to enter Not Known if information required was not available on the e-mail sample provided;
- the purpose indicators are not exclusive, for instance an e-mail can be coded as a reply and a question – clarification provided from Orlikowski & Yates (1994)
- the language indicators used in Table 4 are coded to be either present or not present – clarification provide from Orlikowski & Yates (1994)
- where e-mail threads were provided by the participant the researcher asked the participant to confirm which particular e-mail within the thread generated the misunderstanding.
- The indicator 'Reference to other' is not considered to be present if the reference is to another company or a person by their job title.
- The indicator 'Citation' is considered to be present if a part of a previous e-mail has been re-used in the sample provided. It is not considered to be present if previous threads of the e-mail are included with the sample.
- The indicator 'List' includes the use of bullet points.
- For a 'Signature' to be present it must include the sender's name, and automated signatures are counted as the signature being present.
- the coding field 'Emphasis' was any text bolding on the parts of physical type done by the e-mail sender and did not include any emphasis that formed part of an automated signature.
- guidance on the 'Lines of Type' category: an automatic signature shows as grey on the print outs so was not to be included as the lines of type – only actual lines typed by the e-mail sender were to be included in this count. In addition, blank lines are not counted in order to obtain total type rather than preferences for paragraph formation, standard legal messages are not counted as lines.
- The 'Subject' is considered present if there is a relevant entry in the subject line. The automated completion of the subject line when a reply is done is considered as the subject being present if it is relevant to the e-mail content.

The following fields were removed from the E-mail Coding System:

- Table 1 of the original E-mail Coding System could not be used because the researcher will only be provided with information about the participant which is consistent and must remain anonymous.
- Similarly the Audience and Location codes in Table 2 cannot be used.

The following fields were added to the E-mail Coding System as they had potential to provide insight into the data collected:

- A code to say whether the e-mail was sent or received by the participant.
- A code to say whether the sample provided was part of an e-mail thread.
- If the sample was part of a thread, a code to enter the total number of e-mails that form the thread.
- An additional purpose code ‘A’ for e-mails assigning a task to someone but not expecting a reply.
- An additional indicator ‘Just Name as Opening’ was added to capture those instances where an Opening is present but it is only formed by the name of the recipient.

APPENDIX F: SEMI-STRUCTURED QUESTIONNAIRE

How can Project Managers Reduce the Misunderstandings that Occur in E-mail Communication?

Questionnaire for Semi-Structured Interview
Duration: Approximately 1 hour
February 2006

Introductory Statement:

Thank you for participating in this research. This interview should last approximately 1 hour. It will be recorded, although you can ask for this to be turned off at any time during the interview. You can also withdraw from the interview if, for any reason, you want this.

The researcher will be completing this questionnaire during the course of the interview. You may view this at any time.

Researcher: _____

Participant: _____

Date: _____

Start Time: _____

SECTION I: GENERAL

Question 1:

a) On a scale of 1-5, with 5 being very important, how important do you think effective communication is for the project manager? (please circle below)

1 2 3 4 5

No importance Very important

b) Why do you think effective e-mail communication is important for the project manager?

_____

_____

_____

Question 2: What do you think makes a good e-mail?

_____

_____

_____

Question 3: How does e-mail help you to do your job?

_____

_____

_____

Question 4: How does e-mail hinder you from doing your job?

_____

_____

_____

SECTION II: REVIEWING SAMPLES OF E-MAILS *YOU RECEIVED*

Question 5:

a) Describe why you didn't understand the e-mail you received labelled as **SAMPLE 1**

_____

_____

_____

b) How did your relationship with this person affect the communication taking place?

Deleted: does

_____

_____

_____

c) Researcher question following coding review of **SAMPLE 1**:

Question:

_____

_____

Answer:

_____

_____

Question 6:

a) Describe why you didn't understand the e-mail you received labelled as SAMPLE 2

_____

_____

_____

b) How did your relationship with this person affect the communication taking place?

Deleted: does

_____

_____

_____

c) Researcher question following coding review of **SAMPLE 2**:

Question:

_____

_____

Answer:

_____

_____

Question 7:

a) Describe why you didn't understand the e-mail you received labelled as **SAMPLE 3**

_____

_____

_____

b) How did your relationship with this person affect the communication taking place?

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_____

_____

c) Researcher question following coding review of **SAMPLE 3**:
Question:

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_____

Answer:

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_____

Question 8:

a) Describe why you didn't understand the e-mail you received labelled as **SAMPLE 4**

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 4**:

Question:

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Answer:

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Question 9:

a) Describe why you didn't understand the e-mail you received labelled as **SAMPLE 5**

_____

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 5**:

Question:

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Answer:

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SECTION III: REVIEWING SAMPLES OF E-MAILS *YOU WERE SENT*

Question 10:

a) Describe why you felt the e-mail you sent labelled as **SAMPLE 6** was misunderstood (ie did not achieve the outcome you desired)

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_____

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 6**:

Question:

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Answer:

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Question 11:

a) Describe why you felt the e-mail you sent labelled as **SAMPLE 7** was misunderstood (ie did not achieve the outcome you desired)

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 7**:

Question:

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Answer:

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Question 12:

a) Describe why you felt the e-mail you sent labelled as **SAMPLE 8** was misunderstood (ie did not achieve the outcome you desired)

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 8**:

Question:

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Answer:

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Question 13:

a) Describe why you felt the e-mail you sent labelled as **SAMPLE 9** was misunderstood (ie did not achieve the outcome you desired)

_____

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 9**:

Question:

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Answer:

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Question 14:

a) Describe why you felt the e-mail you sent labelled as **SAMPLE 10** was misunderstood (ie did not achieve the outcome you desired)

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b) How did your relationship with this person affect the communication taking place?

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c) Researcher question following coding review of **SAMPLE 10**:

Question:

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Answer:

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SECTION IV: CONCLUSION

Question 15: You've highlighted a number of misunderstandings – which of these is the most frustrating?

_____

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Question 16: Describe any training you have been provided to assist in creating e-mails, communication skills or effective writing…

_____

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_____

Question 17: Is there anything else on this topic that you would like to discuss, and feel might provide insight into how project managers can best use e-mail?

_____

_____

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Thank you for your participation.

Finish Time: _____