Title:

The growth and development of e-mail and its effectiveness as a means of communication. A case study of staff at Pembrokeshire College

Benjamin Silverstone

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Pembrokeshire College

University of Glamorgan

I declare that this dissertation is the result of my own independent investigation and that all sources are duly acknowledged in the bibliography.

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Chapter 1

Introduction

1.1 - Background

Communicating effectively is an essential cornerstone in the execution of effective business activities. Thompson (2003) identified that key activities such as Human Resources, Sales and Marketing and Supervision and Management activities could not be undertaken successfully without effective communication. Modern technologies have given businesses and organisations the opportunity to maximise their ability to communicate on a small and large scale. These technologies have increased the speed and reliability with which communication can take place as well as potentially reducing the cost. Modern business relies on it's ability to communicate and therefore methods of enhancing effective communication and the identification and remedy of activities or events that damage communication should be a major focus of managers (Hargie 2004).

E-mail has developed and become and integral part of business communication over the past 15 – 20 years (Thompson 2003). The use of e-mail has developed from being the reserve of high technology businesses such as IBM and Microsoft, who had the inherent infrastructure to manage e-mail, to being a major means of personal and business communication globally. In this space of time e-mail has grown from a small and exclusive means of sending data to a communication medium with around 210 billion e-mails being sent daily (Radicatti 2008). This works out to be an average of 31 e-mails per person per day globally. However, not all people have an e-mail box. It is estimated that around 1.3 billion e-mail addresses exist (Radicatti 2008). On average each e-mail box handles 162 e-mails daily which is a vast amount of communication. This volume leads to concerns about communication fatigue, information overload and the damage of the effectiveness of e-mail as a means of communication.

E-mail has become embedded within business and social settings for a number of reasons. E-mail is comparatively cheap, many internet companies such as Google and AOL offer free online e-mail addresses that can be personalised to an extent making them more memorable and therefore attractive to consumers. These e-mail boxes can be accessed anywhere at any time effectively providing a fixed point of communication for someone no matter where they go. For a reasonably small fee individuals and organisations can own a domain (an organisation's or individual's unique name or location on the internet). This further provides the idea of a fixed point and can be used as an extension of the individual or organisation. Additionally, to actually send an individual e-mail incurs no extra cost, unlike paying for telephone line rental and each call individually. Therefore large volumes of information can be sent for the same cost as small numbers. This cost to benefit ratio is one of the main reasons that Bengston (1980) viewed e-mail as an important development in business communications.

For organisations embedding e-mail provides an opportunity for management to communicate with the whole organisation as one by generating one message and sending it to them. E-mail was viewed as a means of reducing costs and time spent communicating as it would allow the rapid transfer of data and information between individuals who didn't even have to speak to one another. E-mail also opened up the opportunity for organisations to communicate between one another on a global scale with very little delay thus increasing the potential for generating business activities.

Despite development, positive benefits, and clear popularity there still exists a number of potential barriers to the effective use of e-mail. Studies by authors such as Cunningham and Greene (2008), Hewitt (2006, 2007), Yell (2003), Seshadri and Cartenson (2007) and Curran and Casey (2006) have all identified that whilst e-mail has positive benefits for communication within organisations there are also a number of factors which can reduce it's effectiveness.

All of these considerations raise the following question. Has e-mail resulted in managers and workers in organisations communicating more effectively resulting in better relations and more effective business practices or has e-mail generated barriers to communication resulting in the opposite? This study will seek to consider how and why e-mail has become such an integral part of communication within organisations. The effectiveness of the usage of e-mail within a public sector organisation will also be considered and recommendations will be made on the best use of e-mail as a means of communication in order to reduce the impact of the barriers to its effective use. The study is justified by the fact that e-mail is an increasingly dominant method of communication with educational establishments.

This study will be conducted as a case study at Pembrokeshire College. Pembrokeshire College is a College of Further Education based in Pembrokeshire, West Wales. It employs 550 staff and handles around 10000 students. E-mail has been an integral tool for internal communication for around 15 years. E-mail is widely used to communicate with staff and students.

1.2 - The aims of this study are:

1. **Research the development, positive and negative aspects of e-mail as a means of communication within businesses**
2. **Investigate the role e-mail has within an organisation**
3. **Establish current usage of e-mail within the organisation**
4. **Identify the benefits e-mail provides within the organisation**
5. **Identify the barriers to effective communication provided by the system and culture of e-mail usage within the organisation**
6. **Formulate a set of considerations from which a code of good practice to maximise the potential of e-mail as a communication method within the organisation can be generated**

This study will further the current body of knowledge on the effective use of e-mail by providing applied examples of the benefits and drawbacks of e-mail within organisations. There will be direct benefit to the organisation itself which will be able to use the findings to help inform future policy on e-mail use and expansion. The findings from the study can also be used by other educational establishments to enhance their use of e-mail. Other organisations may be able to benefit from the findings.

1.3 - Dissertation Structure

The remainder of the dissertation will be structured in the following manner

Chapter 2 – Literature Review

This chapter will provide the reader with a critical consideration of the literature that surrounds the topic of e-mail as a means of communication within organisations. The need for effective communication will be discussed along with the ways in which communication in business has changed. It is hoped that the reader will gain a clear understanding of how e-mail within organisations has developed and critically how the positive and negative aspects of communicating through e-mail can affect how effectively e-mail is used within organisations. Examples of best practice and guidelines will be explored to give a background on how some of these issues have previously been identified and measures taken. The findings of this chapter will directly inform the content of the Primary research to follow in this study.

In the literature review the barriers that exist which affect the use of e-mail as an effective form of communication will be critically assessed. It is therefore essential to first consider the existing literature surrounding the subject of e-mail communication, especially the barriers that exist to its effective use. Based on this, primary research can be carried out to assess the impact of the barriers in an organisational setting and to suggest a possible framework for good practice to overcome them.

This chapter is structured to discuss the secondary research that surrounds the subject of effective e-mail usage. An initial introduction to the subject will be provided along with an overview of the need for effective business communication and how businesses and communication methods have changed in order to set the context in which e-mail exists within businesses. E-mail has become one of the most used means of communication within the business environment (Hewitt 2006). Its perceived advantages over more traditional means of communication have rapidly made it very popular with managers. However, as with any means of communication, e-mail communication has its own barriers to its effective use, barriers which have caused many authors to call into questions it’s usefulness as a means of communicating.

Chapter 3 – research methodology

This chapter considers the methodologies that will be used to address the research aims identified in this chapter. The reader will gain an insight into the considerations made when selecting research methods and the justification for the inclusion of methods and paradigms within the study. Each method will be considered based upon its merits and the use of each will be illustrated. Considerations of validity, reliability and bias will be discussed in each case with justifications made. Consideration of the relationship between the researcher and organisation will be shown. An essential issue that will be addressed is to ensure that the views and preconceptions of the researcher do not have any bias upon the research design, implementation and analysis and that impartiality is maintained at all times.

Chapter 4 – Research Findings

The research findings will be displayed in order to allow the reader to easily see the results of the primary data collection activities. Within the chapter the data will not be directly discussed as various questions link directly to themes to be discussed. Whilst the data collected from the diaries and questionnaires will be displayed here, transcripts of interviews can be found in Appendix B and transcripts of focus groups can be found in Appendix C. The full data set from the questionnaires including extended answers and comparison tables can be found at Appendix A.

Chapter 5 – Discussion of Research Findings and Links to Existing Literature

In this chapter the findings detailed in Chapter 4 will be discussed in detail. Themes that are identified within the literature review will be used to structure a discussion which will draw upon a variety of responses within the primary data. Diary responses, questionnaire data, comments from interviews and suggestions from focus groups will all be used to consider the themes within the context of Pembrokeshire College. The results will also be compared to existing literature in order to illustrate similarities or differences. A variety of discussion points will be introduced that show how this study has added to the existing body of literature either by showing a consistency with the findings or demonstrating how developments have been made. Where key findings are made they will be discussed in more detail

Chapter 6 – Conclusions and Recommendations for Further Study

Having discussed the results in the previous chapter this chapter will focus on drawing out and evaluating conclusions. The study aims will be revisited and the progress made on each will be shown. The main conclusions will be illustrated in the form of key findings which will be discussed to demonstrate their foundation in research and the potential impact that they may have on the organisation. In light of the possible limitations to the study outlined in chapter 3 the real limitations on the study will be demonstrated along with implications for further study which have emerged from this dissertation.

Chapter 2

Literature Review

2.1 - Introduction

This literature review will discuss how the need for effective communication has developed in order to help generate competitive advantage. This will be considered in the context of how business communication methods have developed. A history of the growth and development of e-mail within business will be provided along with a detailed analysis of the positive and negative aspects of e-mail usage. Barriers will be highlighted and finally, suggestions will be made, from existing literature, on ways to overcome barriers and develop a model for best practice in the form of a recommended code of practice.

Communication is a cornerstone of any successful business. Communication is an activity where information is passed between two parties (Montana 2008). Communication is essential for collaboration and co-operation between people and organisations to occur effectively.

Stalker (2000) identifies communication as one of the key elements that must be considered in order for a manager to carry out duties effectively. This discourse requires a transmitter and a receiver who work together to pass information between them. Effective communication is a two way process (Crainer and Dearlove 2001) which is tempered by our views of one another.

The key components of internal communication are laid out by Evans (1979). The process required initially that the message content was conceived. Neisser (1983) identifies this as the first point at which the process can break down. Poorly encoded, ambiguous messages will immediately introduce ‘noise’. Following this the message is encoded and appropriate language selected for its transmission.

Baguley (1994) suggests that communication can be based on language such as written or verbal and non-language based such as tactile means and body and facial language. Importantly, purely written communication often lacks the extra cues that can be provided by facial expressions or tone of voice. Beck (1999) identifies that effective communication refers only to the perception of the message and not the message that was sent. Therefore the language in which it is written must allow for effective interpretation to ensure that perception matches intention. The following three steps are therefore the most important in the communication process. Yates and Orlikowski (1992) observed that the tendency for users of e-mail to use colloquialisms, abbreviations, acronyms, informal language or social specific dialects means that communication can become very exclusive between specific individuals. This can make communication less effective if not everyone shares this approach, for example, not understanding acronyms or social specific dialects.

The following three steps are therefore the most important in the communication process. The medium chosen, the decoding of the message and the interpretation must allow for the intended message to get across. Selecting the medium is a complex exercise and one that can introduce difficulties into communication easily (Evans 1979). Kurtzburg et al (2006) suggests that the response to these will differ from person to person as we carry internal guidelines which automatically decide which type of message resides in which medium. Allowing for a range of communication medium is therefore the most effective way of ensuring effective communication

Baguley, (1994) identifies that the combination of conception, encoding and transmitting has an impact on overall perception of the message. The individual idiosyncrasies of the receiver also have a role to play within the perception of the message. Once perception has occurred the sender should seek confirmation. Feedback allows for the sender to check the message has been understood as well as gaining insight into ways of enhancing their personal communication.

The most rapidly changing influence on the communication model shown above is the speed with which the means of communicating has evolved. Evans (1979) identified the increasing role that technology would play in the enhancement of communication in the future

2.2 - The Need for Effective Business Communication

Effective internal communication can clearly be seen as a means of generating competitive advantage within an organisation as observed by Robson and Tourish (2005) during their study of a large European Health Care Organisation. Effective communication is something that all organisations should or do strive for as a means of enhancing performance Connolly (1996) concluded whilst investigating communication at Sporting Bodymind Ltd. The overall benefits are manifest in behaviours such as reduced absenteeism, increased innovation and a provision of higher quality services (Clampitt and Downs 1993).The need for effective internal communication within the business and public sector environments has increased dramatically in the latter half of the 20th century (Evans 1979) and will continue to do so well in to the 21st century.

One of the catalysts for the need for more effective business communication is the way in which organisations have evolved into multi-site entities that transcend their geographical ties (Daft and Lewin 1993). The changes have been described as cataclysmic and organisations must communicate better in order to compete effectively when faced with the challenges of global competition (Jackson 1993).

A further driver in the need for better communication is the issue of change management. Burnes (1992) points out that change management can be loosely defined by social science and as a result the strategies that would be most effective in easing the organisation through change would do best to focus on interactions such as communication. Kotter (1996) noted that managers tend to under-communicate generally and in times of change this can have a hugely detrimental affect on the smooth running of an organisation. Employees can only work effectively if kept fully informed of developments (Kitchen 1997).

A key factor that causes the need for change management is the idea that the business environment is chaotic and constantly changing. McKenna (1994) showed that business must become more flexible and able to adapt in order to meet the demands of a rapidly changing environment. Brown and Eisenhardt (1997) showed that in order to respond and make organisations flexible people must also adapt as rapidly as possible. Cunha and Cunha (2006) concluded that in order to adapt as rapidly as possible people needed to generate and communicate as quickly, flexibly and effectively as possible, indeed, Cunha and Cunha (2006) pointed out that a business was little more than the sum of it's relationships both internally and externally and in order to maintain these increasingly effective methods of communication must be found.

Beck (1999) discussed further reasons for the need to communicate effectively in an organisational setting. He identified that communication is the life blood of an organisation, ensuring direction is given and feedback is received. Beck (1999) also discussed that communication is, more so than ever, a transactional activity where all parties concerned must have a role in ensuring that it remains effective in an environment that is not standing still in order to allow effective systems to develop over time.

Although not an issue that directly impacts upon communication methodology as a means of generating competitive advantage, Ludlow and Panton (1992) point out that the change in psychological contract has delivered a workforce that want more satisfaction from their job, they crave communication to direct, affirm and reward their working behaviours. Argenti (1998) confirmed this with his conclusion that in order for organisations to maintain happy and effective workforces they must identify and implement effective ways of communicating with them. The nature of the modern workforce has made this difficult to do.

Although Jackson (2007) identified that effective communication involves the transmission of information from one person to another with the minimum of possibility that the message suffers from confusion, misunderstanding or ambiguity. The possibility of introducing confusion, misunderstanding or ambiguity is increased in the modern organisation (Baguley 1994) and therefore the means of communicating need to try and minimise this. Misunderstanding is caused by a phenomenon known as 'noise' (Shannon and Weaver 1949). 'Noise' disrupts the messages between sender and receiver meaning that the intent is lost or distorted. There are numerous factors that can introduce 'noise' into communication and in the case of e-mail these can be classified as Barriers to effective usage.

Shannon and Weaver (1949) had previously identified that communication between parties suffers from ‘noise’. This construct described anything that may act to introduce the communication difficulties that Jackson (2007) discussed needed avoiding. Baguley (1994) went on to conclude that in organisations improving both the means and skills of communication will help to reduce the ‘noise’ and therefore deliver the improvements in communication that modern organisations demand. Kitchen and Daly (2002) furthered this by suggesting that in order to deliver these improvements in communication each organisation must consider its own structure and organisation, a one size fits all approach is not suitable.

2.3 - How Business Communication Methods Have Changed

Business communication methods have changed significantly in order to meet the demands for more effective means of communication (Young 1995). Primarily, the changes in communication have focused around the use of Electronic Communication Technologies (ECT’s). By introducing these technologies, companies such as Ernst and Young as well as Arthur Andersen have reported savings well into the millions by speeding up their communication methods (Bell 1993).

The number of people working within organisations has increased. These people may be split over multiple sites. For this reason Evans (1979) believes that identifying and integrating effective means of communication are essential for continued success. This idea is furthered by Ludlow and Panton (1992) who discussed that as well as size, organisations are increasingly faced with expanding complexities within their structure requiring faster, clearer and more effective communications. In addition, economic conditions are forcing efficiency and improved quality of output. The way in which employees relate to the organisation has also changed. In order to meet these changes more rapid and effective means of communication have evolved.

Telephones and fax machines had already started to bridge the gap created by larger, multi-site organisations. Fisher and Wright (2001) point out that whilst new technologies are being integrated into the workplace with the intention of enhancing communication, consideration is not fully given to the understanding of the way in which these technologies affect our behaviour. Tucker et al (1996) commented on the rise of integrated, computerised logistics and the role that electronic mail (e-mail) was starting to play in meeting the needs of rapidly changing organisations. E-mail is the up and coming communication method of choice in business (Fieldman and Lehlou 2004).

ECT's have increased organisations abilities to communicate faster, more clearly and more effectively than ever before. Initially telephones allowed people to communicate without being in line of sight of one another. This allowed workers to either communicate with people on site without having to waste time finding them whilst also allowing multi-site organisations such as Microsoft to allow collaborative working between sites much more easily without necessitating travel between them. Collins (1986) pointed out that telephones can be ignored or if the intended recipient is not present then messages cannot be effectively passed. Another limitation of the telephone was that it did not allow for imagery or cues to be passed from person to person.

The advent of the Facsimilie machine allowed users to pass text as well as images to the recipient. Collins (1986) points out that this will increase the volume of information that can be sent in a short period of time, will generate a written record of the communication and will mean that the recipient need not be present for information to be passed. This was such an advantage to organisations that the number of terminals in the UK increased from 20,000 to 50,000 in one 4 year period.

The most recent, and potent, communication method is e-mail. Collins (1996) points out that the speed of delivery, the capacity to deliver information and the relatively low running costs makes e-mail the must have communication method of the future. Development of e-mail was so rapid, and on such a scale that between 1998 and 2004 the number of mailboxes in the Asian Pacific market alone rose to over 50,000,000 indicating its usefulness and general acceptance. By 2013 this number is expected to grow to 998,000,000, a growth of almost 2000% (Radicati 2009).From as early as 1980 (Bengston 1980) it was clear that e-mail could provide the answer to the communication needs of organisations.

2.4 - History and Growth of E-mail as a Means of Communication

E-mail is short for electronic mail which is a communication form that uses the internet as a delivery medium. Although it was conceived in the 1960's, e-mail was not popularised until the beginning of the 1980's. Popularisation was the result of moving onto the ever growing Internet. Initial users were the high technology organisations of the time such as IBM and Microsoft who inherently had the technology to integrate e-mail quickly and easily. Large scale commercial use began in the late 1980's and early 1990's as service providers such as AOL and Demon were established. Uptake allowed organisations to communicate rapidly and with more than one person at a time (Lambert et al 2005). As a result of this, companies such as General Electric, Kodak and American Express integrated e-mail into their infrastructure with good results.

Text was initially communicated between two computers allowing rapid, cheap communication. Now e-mail can be collected by any computer via the use of virtual mail boxes on the internet. These virtual mailboxes mean that e-mails can be accessed anywhere, at any time without the need for access to a specific terminal.

An initial catalyst to the e-mail revolution was the cost benefit argument along with the potential for hugely enhanced message delivery speed. Bengston (1980) viewed e-mail as the means to meet the demands of internal communications needs in businesses. Improved speed, quality and associated cost saving were cited as being the major benefits of developing an e-mail communication network within businesses. Despite not focusing his research on the effect of using e-mail as a means of communications, Bengston (1980) did foresee issues surrounding the correct use of the communications medium. Before the research was concluded he recommended that organisations employing e-mail need to train staff effectively on the use of e-mail especially on how to generate messages.

Biondi and Galli (1992) furthered this by discussing that in order to ensure uptake the social customs, values, and perceptions of individuals must be catered for. This would ensure that universal access and usage could be implemented successfully. However, no guidance on the generation of messages was offered at this point. At this point, only 14% of top businesses, such as Amazon.com, have style guidelines for the generation of e-mail (Cunningham and Greene 2008). As implementation of e-mail grew the issue of lack of guidelines would manifest itself in barriers such as e-mail overload, ineffective use of language, delays in sending or receiving important messages, the feeling that e-mail is taking over and the potential of malicious use of e-mail in the form of electronic bullying.

e-mail has seen a rapid up take because of a massively reduced cost over traditional methods of communication; faster delivery times, meaning a message can be received anywhere in the world in a matter of seconds; increased control over the message by the receiver and a better use of participant time to maximise flexibility (Holliday 1999, Russell and Cohen 1997, Yu and Yu 2001). The high speed and low cost of e-mail make it an attractive method of communicating both within and outside of individual businesses.

The number of e-mails sent every day is huge. Globally, the Radicati group estimate that around 210 billion e-mails are sent every day. In terms of human users there are around 1.3 billion genuine users of e-mail every day. (Radicati 2008). The main reason being given for the exponential growth in e-mail usage is convergent technologies which means that mail can be accessed from anywhere at any time from a mobile device. By removing the last geographical tie, the desktop computer, from the system e-mail will be able to expand without boundaries.

The main application and most useful aspect for businesses is that e-mail allows for the development of teams across larger geographical areas than before due to almost immediate delivery of information. Seshadri and Carstenson (2007) quote examples such as Medicine Sans Frontiers (Doctors without Boundaries) and the International Association for the Advancement of the Arts as a productive use of e-mail as a method of communication. Despite the suggested benefits of e-mail there are still debates that surround the use of this technology as an effective means of communication. Authors such as Hewitt (2006, 2007), Yell (2003), Seshadri and Cartenson (2007) and Curran and Casey (2006) have discussed the possible merits and downfalls of e-mail and their conclusions are varied.

2.5 - Potential Benefits and Problems Associated with the Use of E-mail – Barriers to Effective Usage

Since its inception, the role and integration of e-mail has grown rapidly (Romm and Pliskin (1999b). However, even as late as 2007 e-mail and effective internal communication were not viewed as being entirely compatible asHewitt (2007) observed at BT. The rise of the use of e-mail within organisations is clear and present problems as well as solutions to communication.

Other literature has sought to investigate the potential positive and negative aspects of the use of e-mail. The aspects may go some way to shedding some light on why e-mail has failed, according to Hewitt (2006), to improve communications within an organisation. Hewitt (2006) identified that the initial research into e-mail usage focused on, linguistics and the reasons for use. The initial research into e-mail linguistics looked into the nature of the discourse providing the e-mail. Yell (2003) discussed whether e-mail was more like verbal communication or written communication or if it was, in fact, a hybrid of the two. This important distinction affects the way in which e-mail is transmitted and the way in which e-mail is received and interpreted. Further studies identified by Hewitt (2006) looked into how well e-mail was integrating with more traditional methods of workplace communication such as face to face meetings and telephone conversations. No strong conclusions have been drawn about the value of e-mail as a communication method in relation to more traditional methods of communicating.

Through his study into the use of e-mail at Parkside Housing Group, Hewitt (2006) concluded that e-mail has little or no significant role to play in the improvement of communication within the organisation and that in a number of cases e-mail actually has a negative impact on communication within the organisation. These key issues and more are discussed in further detail.

However, across available literature there is a pattern of positive comments relating to the use of e-mail. Speed, efficiency and low cost are the main positive elements that are cited by a number of authors such as Holliday (1999), Russell and Cohen (1997), Yu and Yu (2001). These studies tend to follow the pattern identified by Carr

(1998) that the benefits of e-mail are often identified by managers on a cost / speed basis rather than by the users themselves.

Allies (1985) also considered the cost benefits of integrating e-mail communication but also concluded that it combined the best of telephone and written communication, Yell (2003). The ability to communicate instantaneously as well as maintain a written copy would be of benefit to businesses. However, the speed with which e-mail communication can be managed allows for serious faux pas to be committed. E-mails are also considered to be emotionally charged as they are so easy to send and regret at a later date Seshadri and Carstenson (2007). In a face to face situation or during a telephone conversation, this issue could be quickly resolved but as an e-mail can be ignored or read and not responded to the feedback may not be given or received. This could reduce the effectiveness of e-mail communication by damaging relationships.

Collins (1986) pointed out that although e-mail could be an almost instantaneous method of communication it relied on the recipient opening and reading the message. Unlike a telephone call which requires two people to operate and to allow immediate communication, an e-mail can be ignored, forgotten or kept until later. In this way, one of the major benefits that was cited by early supporters of e-mail systems can work against an organisation with important e-mails going unread for whatever reason. However, on occasion a phone call can be perceived as ‘nagging’ and that particular message may be better transmitted using e-mail. The need for correct method of delivery is essential.

It is clear that early on in the process of introducing e-mail barriers to its use as an effective means of communication were being observed by researchers as well as industry. Fulk et al (1990) concluded that where e-mail was seen as a replacement for more traditional means of communicating, issues about effectiveness would always abound. E-mail should be viewed as a complementary system. This was borne out by further research by Fulk and Steinfield (1990) who concluded that regardless of the range of technology on offer, the user will select the medium that will best transmit their intended message and that by using an imposed ‘preferred’ method, ‘noise’ will be introduced unnecessarily. This ‘noise’ would impact on the effectiveness of the communication and this in itself may introduce further barriers.

Considering this issues, studies have been carried out to ascertain how efficient email is as a means of communication, in preference to other means, and how satisfied senior managers were with its performance (Kerr and Hiltz 1982, Crawford 1982). Results were mixed with issues such as ease of integration, cost of initial set up and issues of enticing staff into using the system demonstrating that e-mail was not yet being used effectively. Following on from these studies, Plaisent and Bernard (1993) sought to see how effective e-mail was from the point of view of managers integrating it into their work places. They discovered that, according to the managers in the study, e-mail was effective at ensuring control, co-ordination and planning and that e-mail was primarily used by them to send and receive information and orders.

Plaisent and Bernard (1993) observed that far from being a draw back, the ability for the message to be received even if there was no-one there to read it was a positive point. Messages could be read as time allowed rather than, as in the case of face to face or telephone communication, creating a disruption. However, they also discuss that time between enquiry and response is reduced and therefore decision making is faster. This appears to contradict the initial findings shown. It can be deduced that the benefit to managers of being able to respond at their leisure is not extended to all staff as rapid responses were expected. This would create a system of communication that only allows for control and would not meet the demands of the changing psychological work contract discussed earlier. Romm and Pliskin (1999a) showed that e-mail communication can exacerbate the differences between managers and employees leading to the medium being used to manipulate, control and coerce which are inherently one-way forms of communication. Plaisent and Bernard (1993) finally concluded that, from the point of view of managers, e-mail was effective; it was a preferable method of communicating as it increased manager efficiency by around 10%.

Plaisent and Bernard (1993) were not able to fully observe the ability of e-mail to generate feedback and discussion. Therefore their findings were limited to management applications. Burton (1994) considered how well e-mail could be used to generate multi directional communication which would include applications such as enhanced, effective two way communication between managers and subordinates. Burton (1994) found that e-mail was a better method of communicating between a number of individuals than any other method. Importantly, the idea that e-mail could be used as a more abstract means of communication involving the sharing of complex and varied ideas was explored. Essentially the findings showed that e-mail allowed an open discussion that was not possible in any other way than group based face to face communication, which may not always be possible in the business environment. However, Burton (1994) also found that the quality of stored information as a result was poorer than that found in the formal minutes of face to face meetings as it lacked the structure and guidelines that make them universally accessible. In terms of generating feedback, Kurtsburg et al (2006) found that e-mail was not the best means of generating feedback from staff, especially on sensitive or personal matters.

In many larger organisations, conducting all communication using face to face meetings is unfeasible, possibly due to either time or geographical constraints. In these cases e-mail has come to be seen as the best method to use. The issue of the use of e-mail versus face to face communication is one of the biggest areas of discussion in academia (Young 1995). In one organisation 70% of all communication was through e-mail. A sizeable minority reported that the majority of their interaction with work colleagues was via e-mail (Young 1995). Far from being a draw back, this study suggested that e-mail was a better alternative to face to face communication as it removed some of the barriers to meeting new people and actually enhanced working relationships.

These conclusions were supported by Carr (1998) who identified the benefits of e-mail in terms of the factors that contribute to successful businesses, speed, flexibility and teamwork. The main contributor to which, is successful communication between work colleagues as well as between managers and subordinates. In terms of gaining feedback from superiors, King and Xia (1997) found that many staff perceived that e-mail was not the right means of communicating information especially personal information to staff. They suggested that communication should focus on face to face interaction.

On balance, Keil and Johnson (2002) favoured e-mail over face to face communication as it allowed the information to be internalised over a longer period of time and in an order that suited the recipient rather than the sender. This echoes the findings of Kluger and DeNisi (1996) who concluded that e-mail allowed for an extended reflection period which did not require the immediate response required by face to face communication. There was less of a chance of the recipient becoming defensive and more time could be spent considering a reply.

Seshadri and Carstenson (2007) investigated the perils of e-mail usage. A critical shortcoming of e-mail, according to their research, was that it negated the effects of non-verbal cues, found in face to face communication, which can lead to the misinterpretation of a message. This in turn would generate 'noise' and impact upon the successful transmission of the message and receipt of useful feedback. The lack of cues is a key factor in a number of the other barriers including e-mail overload and linguistics.

Rice et al (1998) concluded that for the reasons of potential misinterpretation, e-mail cannot be considered as a 'Rich Communication Method', a category into which face to face communication falls.

The theory of communication richness was initially proposed by Draft and Lengel (1986) and Draft et al (1987). The choice between communication media should be made on the how rich or lean the method is. Richness is concerned with the provision of immediate feedback which O'Reilly and Anderson (1979) point out is possibly the most important part of communicating. According to the Richness Theory face to face communication is the richest method with immediate feedback being provided. E-mail is considered less rich than telephone conversations. Connolly (1996) suggested that the ability of e-mail to generate communication feedback was so poor that a manager may perceive that they are communicating well by regularly e-mail staff but the staff themselves do not perceive this to be the case. With the lack of other communication clues this problem can go unsolved.

However, Sproull and Kiesler (1991) argued that e-mail added value to the communication process in other ways such as multiple address and message manageability. Adams et al (1993) and Zack (1994) performed further studies and concluded that e-mail was a richer method of communicating than first assumed. They also concluded that the majority of the feedback problems were as a result of issues of symbolism, social context and perception. Rasters et al (2002) found that although e-mail is a lean means of communication it need not lack the richness of other forms of communication. Owens et al (2000) furthers this by considering that it should be the content not the medium that should be focused on. This opinion was considered by Baron (1998) who concluded that rich communication could be achieved through e-mail if the content is well composed. How well or not the content of an e-mail is composed is linked to the guidelines that are put in place to guide the user. As these are often lacking it is clear that the ability for most users to add richness to e-mail communication is lacking.

Stevens and McElhill (2000) identified that there is often a pay off between richness of communication and its potential reach. This means that the benefit of being able to send an e-mail over a long distance or to a large number of recipients is tempered by the lack of richness within that communication. It could be argued that within an individual organisation sharing a geographical position that there is no payback for using e-mail as the reach, or distance, is too short to balance the loss of richness within the communication. Users should consider very carefully whether a message that needs to be conveyed to all members should be done so using an e-mail or would a large staff meeting be a better option. In some cases, such as staff briefings, both may be the most effective option.

Richness is considered an individual level of communication research as they take the issue in isolation. Collective levels of communication research consider the structure, environment, culture and politics within a workforce. These theories seek to further explain why different communication methods are either successful or fail within an organisation. Markus and Robey (1983) concluded that the structure of the organisation could lead to barriers to including e-mail as a means of communication. If the implementation or expansion of use was seen as a threat to the status quo it would be resisted. However, as Argenti (1998) identified, it is the responsibility of the organisation to foresee this risk and to negate the effects where possible. Leifer et al (1994) identified the need to match the communication methods with the culture of the organisation. The closer the match is, the better the implementation. If an organisation has been built on the importance of close collaboration and face to face discussion of issues then implementing a wide-scale e-mail communication policy would be likely to fail. An effective method to help the integration of e-mail is to develop a policy that helps staff to understand where its use fits in with their day to day operation.

In this area, Romm et al (1996) whilst studying staff at a large university, concluded that whilst e-mail is not a rich form of communication based on a communication medium, it is the multitude of organisational factors that will have the biggest impact on its possible effectiveness.

In relation to collective levels of research Seshadri and Carstenson (2007) also discussed the issue of culture as a shortcoming of the use of e-mail. In a large organisation different cultures can exist between departments and individuals. Poor understanding of culture can result in a negative reaction to e-mail. Cultures will affect the way in which messages are received. These cultures can be a product of people’s belief systems, working environments, moral codes and general attitudes and can make e-mail communication a dangerous thing. Different working cultures may manifest in communication through different use of linguistics, preferred methods of communication and the depths in which information is shared. By generating a uniform approach to using e-mail to pass information it is possible to reduce or negate these effects.

E-mail cannot easily be classified due to its written and spoken influences. This is termed as Netspeak (Hargie et al 2004). Netspeak comprises unique qualities that need mastering in order to use the communication method effectively. Hargie et al (2004) discuss that the qualities differ enough from other means of communication that special consideration is required. Stemming from this issue of difference in perception, one must consider that the issue impacts heavily on the effectiveness of e-mail due to its hybrid nature. Bains and Haslam (2002) explain that language is split into 3 components, Phonology, Grammar and Lexicon. Phonology concerns the hearing and speech elements of communication. Lexicon and Grammar consider the written components of communication. E-mail is seen as combining the two by including written components that follow the general structure of speech. However, speech is mediated by visual cues that are lacking in e-mail.

As explained, e-mail lacks the richness of face to face communication and the immediacy of a telephone conversation. It does, however, deliver a potentially instantaneous communication channel that carries with it the benefits of traceable written communication. Peckham (1997) picks up on this issue through his study of CLS, an American engineering company, by discussing that the conversational tone in which e-mails are written can lead to misunderstanding or ‘ruffled feathers’. This is further considered by Christmas et al (2000) who concluded that due to a lack of facial expression and tone of voice an e-mail is more likely to be misinterpreted than any other means of communication. This will have a detrimental affect on internal communication and can be considered as one of the biggest barriers to effective e-mail usage.

Munter et al (2003) pointed out that the potential lack of understanding leads to the sender ignoring the needs of the reader, stating messages bluntly or possibly being insensitive. This is generated by the lack of visual cues. Simms (1996) also noted that e-mail lacks all of the cues that one would normally associate with either the face to face meeting with someone or a formal written communication from them such as a memo. These cues and written conventions may negate the possible damaging effects shown by Munter et al (2003)

An example of misunderstanding would be a formal message from a superior transmitted via e-mail. Hansen (1996) points out that because this message looks and reads just like any other it’s effectiveness, i.e. its ability to convey the intended message, is greatly reduced. Brady (2006) concluded during a study at PBD Worldwide Fulfillment that as few as 50% of recipients grasped the intent of an e-mail correctly and this figure was reduced when it was sent by a superior. Peckham (1997) also found that a danger of e-mail in the workplace stems from its increased use in social settings. Users are increasingly blurring the divide between social and work communication when using e-mail which is leading to inappropriate usage and reduced quality of communication and effectiveness. Despite this Owens et al (2000) concluded that the informal nature of e-mails was one if it’s definite strengths because it may be used as a hierarchy levelling tool. This effect may or may not be desirable and needs to be considered during implementation and use of e-mail systems in the workplace.

To enhance the information that is sent neither in a fully spoken or written way, Curran and Casey (2006) recommend the usage of imagery within e-mails to enhance meaning. They argue that this imagery can help to reintroduce some of the formal cues seen in face to face communication. These images can help to better transfer the sender's intent and reduce the chances of misinterpretation. At present the inclusion of emotion in e-mail is primitive. The recommendations from Curran and Casey (2006) are to consider carefully the message and select an appropriate means of conveying it. If e-mail is able to include the emotional cues required and may cause offence then do not use it.

Despite the drawbacks seen so far, the use of e-mail has increased exponentially in the workplace. Primarily due to the benefits identified by Bengston (1980). This increase has caused an increase in e-mail overload as observed by (Goodwin 1999) at the University of Texas. More and more e-mails are sent leading to people finding it harder to identify which are important and need attention and which don't. Although e-mails can be marked as important, the nature of e-mail communication may mean that what the sender deems as important the receiver may not view in the same way (Goodwin 1999). For example a PSA Research Study found that workers received around 22 e-mails per day on average of which only 27% actually required immediate attention. The reasoning behind the other 73% of e-mails has, therefore, not been clearly thought through. (Pitney Bowes 2001) found that on average 39 e-mails were dealt with per day and Lyons (2002) found that around 49 minutes per day were used dealing with e-mail.

Brady (2006) identified organisations where mangers were actively attempting to reduce the volume of e-mail being sent by staff. Brady (2006) found that overuse of e-mail fostered introvert behaviour where staff had become entirely reliant on e-mail for their social as well as professional interactions. In this case, this situation was viewed as being damaging to the organisation. Connolly (1996) suggested that a minimum of 20% of all communication needs to be made using personal means such as face to face or telephone communication. Another management tool suggested by Kimble et al (1998) is to remove the copying tools from e-mails so that they are only sent to the intended recipients. Parker (1999) suggests that the majority of e-mail overload issues can be dealt with by establishing a policy for the usage of e-mail within an organisation.

Ingham (2003) considered the possible direct implications of e-mail overload. Too many e-mails may lead people to fail to respond to them. This creates the situation where feedback is missing and two way communication fails. The e-mail may also be responded to incorrectly or in a way that lacks detail. Again this reduces the effectiveness of the e-mail. Importantly e-mail overload may lead to messages being systematically filtered to remove communication from unwanted parties. This may damage the effectiveness of e-mail badly as important information may not get through. Despite the potential for e-mail overload, Adam (2001), whilst studying City University, points out that it is no worse than the telephone which has become the conduit for idle gossip, social activities and unsolicited communications in much the same way as e-mail. In 2003 the mobile phone company Phones4U banned the use of e-mail entirely stating that it would save £1.6million every year in wasted time.

It is clear that the majority of shortcomings identified in relation to e-mail are benign, they are the result of the method and lack of understanding rather than of damaging intent. Indeed, Mahoney (1998) commented that the majority of managers simply assume that e-mail will be used in such a benign manner. However, Carr (1998) discovered that not only might e-mail be damaging as a result of it’s shortcomings but also as a result of malicious use by workers. Politicking, bullying and undue pressure placed on workers by the language within e-mails cannot simply be put down to a lack of education on e-mail etiquette but must also be attributed to abuse of the systems put in place as a means of communication. Utley (1997) found during a study that over half of users surveyed had received abusive e-mails, 54% of which were from managers. The possible damage to internal communication that can be caused by abusing a communication method like this would be disastrous.

Fieldman and Lahlou (2004) investigated the links between e-mail bullying and blood pressure. Their findings showed that an e-mail designed as a reprimand can be perceived as an aggressive and bullying communication simply by the way it is worded. Some of this pressure can be attributed to senders simply lacking an understanding of the etiquette involved in e-mail. For example the use of capital letters indicates shouting. In addition the way the e-mail is addressed can have an impact on the interpretation of tone.

Fieldman and Lahlou (2004) found that using more ‘traditional’ means of addressing and signing off reduced the perceived pressure further indicating that the loss of some of the rules of written communication could, inadvertently, cause problems. Sussman and Sproull (1999) discovered that communication sent via e-mail tended to be altered less to make it more palatable to the recipient. In this way the sender’s uncensored feelings may come through more easily potentially leading to misunderstanding by the recipient. The issue of deliberate misuse of e-mail for the purpose of bullying others was addressed by Glendinning (2001) who found that the issue of e-mail bullying had such an effect on workplace dynamics that it altered the organisational effectiveness to such a degree as to damage strategic advantage. St Amant (2001) discovered that the recorded nature of e-mail has little effect on the use of the medium to bully workers.

It is, however, extremely difficult to ascertain the extent of bullying via e-mail. Studies have proven inconclusive in this area and generally conclusions have tended towards a lack of understanding on behalf of the sender and a distorted perception on the behalf of the recipient. However, whilst investigating the UK branch of a large multi-national organisation, the work of Baruch (2004) concluded that e-mail will exist as another conduit for the carriage of abusive or bullying behaviour. The link between this and the perceived effectiveness of the e-mail medium was also made. As with any means of communication, it is open to those who wish to abuse it. However, as Kiesler et al (1984) discussed, the social anonymity of e-mail communication may lead to those who would otherwise not commit this sort of behaviour bullying their peers.

The barriers that exist have the potential to damage the effectiveness of communicating through the method of e-mail. As shown, e-mail has rapidly established itself as the preferred means of communication due to its potential for almost instantaneous communication, accountability, and cost benefit considerations. Despite this there are clearly a number of barriers that impact upon its use. Users who expect others to read and respond immediately and do not do so themselves, are generating a command by e-mail environment in which the needs of staff are not being met. It has also been shown that due to this e-mail fails as a means of generating feedback and shows limited use for two way communication where the expectations and demands of both sides are not equal.

E-mail has also been show to have richness limitations. It is not as rich as telephone or face to face communication. Despite this, it can outweigh these limitations with its ability to reach a greater number of people over larger distances in a shorter space of time. The issue of linguistics and culture within e-mail is also a concern. Lacking the rigours of traditional written communication and the cues of face to face communication e-mails are potentially damaging to social and work relationships. This would have a very damaging effect on communication effectiveness.

E-mail overload has also been shown to have a damaging effect on communications. It is too easy for people to ignore e-mails when they feel that they are inundated with them and so might miss out on key information. There has also been shown to be a proportion of people who simply delete e-mails without even checking to see if they are important. Finally the issue of e-mail bullying has been highlighted. This has arisen due to the impersonal nature of e-mails and has a damaging impact on the effectiveness of e-mail usage.

It is clear that e-mail is not the answer that theorists such as Bengston (1980) considered it to be. These barriers will impact on how effectively e-mail can be used as a means of internal communication. However, it has also been shown that by educating people about its correct usage the impact of these barriers can be reduced or negated and e-mail can be used more effectively. Importantly, a code of conduct that reflects the individuality of organisations and the people that constitute them can be used to ensure that e-mail is as useful as possible.

2.6 - Developing Good Practice for Effective E-mail Use

A suitable starting point for developing good practice is to consider the codes of practice and e-mail tips that have already been developed. Suitable codes of practice have been offered by Morgan (2002) and Parker (1999). Parker (1999) explains that a policy is good practice as it ensures that all staff is provided with a set of guidelines to follow, compliance is ensured and that users are clear about acceptable and unacceptable practices. The policy suggested by Parker (1999) focuses on trying to ensure that e-mail activities are for the benefit of the organisation and that no false representations on behalf of the organisation are made. It does not deal directly with issues such as language, overuse or misuse, length or any of the other barriers identified. Parker (1999) does go on to provide some short guidelines on usage that include message size (physical memory occupancy rather than length, prioritisation, recipients and considering if e-mail is the best way to communicate. These guidelines emphasise the need for good use of judgement and prudence when using the system and considering alternatives where possible.

The good practice guide suggested by Morgan (2002) take a slightly different tack as it specifically targets the issues of user fault. For example consideration of all communication options before e-mail, not using e-mail to gossip and not sending e-mails when angry are key components of this code of practice. Issues of legal responsibility and ownership are still covered but Morgan (2002) makes the suggestion that the hierarchy of communication should always be face to face meeting, phone calls, voice mails and then e-mail. Connolly (1996) further suggests that where e-mails are sent to people who are geographically close together they should be backed up by face to face communication at the nearest opportunity. In addition it is suggested that a minimum of 20% of all communication is conducted face to face.

Seshadri and Cartenson (2007) use specific examples from their study of the International Association for the Advancement of Arts to show where good practice can be included. Targeting the perceived lack of social norms is important and this can be achieved by creating signature files that ensure that correct greetings are always included in an e-mail. Check the construction of e-mails to ensure that there is no room for misunderstanding and attempt to put yourself in the shoes of the person reading the mail before you send it. If the e-mail could be perceived as emotionally charged, save it, re-read and get it proof read before sending. Write e-mails in a passive voice that cannot be perceived as impolite and finally, where possible avoid using e-mail in favour of face to face communication. Through their case study, Seshadri and Cartenson (2007) have generated a short but useful code of good practice. Some components may not be easily incorporated such as waiting for a day before sending but others could be very effective.

There are other components that could be incorporated into a good practice model of e-mail usage. Connolly (1996) suggests that an effective training programme that deals with communication skills is a good way to enhance e-mail effectiveness. An integration of technical skills and people skills into a combined training package is suggested. This idea is echoed by Adam (2007) who suggests that training is an essential component in maximising the effectiveness of e-mail usage. Bergren (2001) suggests that a fixed maximum time for message turnaround should be incorporated in a model of best practice to ensure that lag between messages is kept at a minimum. Bergren (2001) also suggests that no e-mails should be forwarded without the express permission of the sender. These ideas will introduce control and order into the e-mail system but may be viewed as too invasive by putting strict demands on people for example a lecturer who is unable to check their e-mail and respond within the time constraints.

Kato et al (2006) suggested that it is important to be aware that different people perceive emotional cues in different ways, some are better at it than others. Sending neutral e-mails that do not rely on the recipient being able to decode the emotional cues will help to improve effectiveness. Ingham (2003) also considers the emotional element of good practice by concluding that maintaining social norms helps to reduce the emotional content of e-mails. Whilst considering the issue of e-mail abuse, Baruch (2005) concludes that managers need to recognise the possible avenues for abuse of e-mail systems and to adopt a zero tolerance policy towards it. This must be balanced by respecting the privacy of users. In terms of feedback, Kurtzberg et al (2006) conclude that feedback should never be given via an e-mail and that face to face backed up with written communication is the most effective.

E-mail and sustainability are also important considerations. E-mail does not use paper in the same way as other traditional means of communication. Codes of practice proposed by authors such as Morgan (2002) and Parker (1999) include the idea that e-mails shouldn't be printed and kept and that moves towards electronic filing and storage are essential. Despite this, e-mail required technology to work and due to the ever changing demands of the working and social environments (Kitchen and Daly 2002) technology must develop rapidly. This speeds up the process of obsolescence and the need to upgrade. It could be argued that this process alone generates a level of waste that could call into the question the sustainability credentials of e-mail communication.

It can be seen that there are many useful suggestions on how to overcome the barriers that affect how effectively e-mail can be used. Although it is possible to introduce a set of guidelines to generate a code of best practice it is important to note that not all e-mail systems can be governed by a single, fixed set of guidelines (Carr 1998), an individual approach should be generated in each case by a careful process of investigation, generation, testing and perfecting in order to find what works best in a given situation.

2.7 - Conclusion

It has been shown that communication is a complex and multi-faceted activity that can be influenced in a number of conscious and unconscious ways. Introducing unwanted distractions into communication has been shown to produce change in meaning and interpretation that may negatively influence the transmission of the message.

The need for effective communication has also been demonstrated. The research shows that effective communication can be used as source of competitive advantage which in the current business climate is all the more necessary for the prosperity or the very survival or an organisation. The pace of change in the need for communication has changed and continues to grow ever faster. Change management and desire to develop good and effective working relationships also have a bearing on the speed with which the need for effective communication has changed. It has also been shown that effective communication can suffer from ‘noise’ interference where messages are interrupted.

Business communication methods have altered in order to meet the need for more effective communication. Due to the increase in size of organisations, including the use of multiple sites, utilising rapid and effective means of communication is more important than ever. Initially telephones and fax machines helped to bridge the gap and increasingly now, e-mail is carrying out the job of bringing staff closer together. However, it has been shown that little consideration was given to the impact that these technologies would have on the behaviour of those using them. It is clear that ECT’s have allowed an increase in the speed of communication but the cost of this speed increase has not been fully considered.

It has been shown that the development of e-mail was catalysed by the uptake by big businesses such as IBM and then the popularisation of home providers such as AOL. The argued benefits to organisations were clearly a factor in the rapid uptake with benefits such as speed, reduced costs and automatic filing of communications being a draw for organisations. Future development along with convergent technologies shows that e-mail usage will continue to develop in both the professional and personal contexts.

Analysis of positive and negative aspects of e-mail usage has demonstrated mixed results. Whilst the benefits initially proposed appear to hold true there are numerous detractions which affect how effectively e-mail can be used. Some of the possible benefits can also be seen as possible detractions depending on how well the use of e-mail is monitored and executed. For example the ability to communicate with someone who is geographically distant would be a benefit, however, if this is used instead of richer methods of communication on a regular basis it may become a detraction. The analysis has shown that there are numerous benefits to the use of e-mail and it appears that many of the pitfalls can be avoided.

Research into the possible solutions for e-mail has yielded numerous suggestions. It is however, clear that there is little combined thinking on this subject. The policies researched appear to give greater consideration to the administration of an e-mail communication network rather than its effective use. There are also numerous suggestions for developing different elements of effective e-mail usage but little connects them all.

Chapter 3

Research Methods

3.1 - What is research?

Research is an activity that seeks, in a systematic way, to investigate materials from a variety of sources (Bailey 1997). Considering these materials and working towards new conclusions in an effort to either establish new ideas or to collate old ones is a core component of research. Having considered and posed a question research methods need to be considered that will allow the question to be answered in a way that seeks to add to the existing body of knowledge. This chapter will consider the research methods that will be used in this study. The case study itself will be overviewed and the ways in which each of the aims of the study are to be met will be laid out. The theory behind each of the methods will be considered to include any potential limitations.

3.2 - The Case Study

The organisation used for this research is a medium sized College of Further Education. Pembrokeshire College employs 550 staff and caters for up to 10,000 students per year. It is located in Pembrokeshire, West Wales. The College has a main campus with smaller, specialised satellites around the county. Pembrokeshire College has used e-mail widely since it moved to the current campus and now every student and member of staff has access to an e-mail account provided by the College. As a method a case study is an excellent way of exploring concepts within an applied framework. The results and findings can be applied in a working environment and tailored recommendations can be made to the organisation. A downfall of the method is that it can be difficult to generalise for other organisations and the findings can be of limited value. Yin (1984) favours the case study model as it provides a framework in which issues or factors can be observed in a practical setting.

3.3 - Methodology – Paradigms

Identifying and selecting the correct research method is essential in ensuring the success of a piece of research. In this case the requirements of the research methods will be to meet the aims laid out in the introductory chapter. The initial consideration is which of the main research paradigms will be used to gather information.

For the purposes of this study both quantitative and qualitative paradigms will be used to gather data and information to meet the aims. Due to the nature of the research aims it is necessary to gain statistical findings to support the opinions expressed by those involved. Opinions and suggestions are important in order to develop a workable action plan. By employing methods that allow for the collection of both quantitative and qualitative data and information it will be possible to justify the data and make recommendations.

Quantitative methods are concerned with the gathering of data that can be easily analysed by statistical means to give answers to questions. (Bailey 1997) points out that quantitative design allows the researcher to draw tangible conclusions based upon hard facts. There is a clear end point and the contribution to the existing knowledge base can be easily measured. However, a key drawback is that this method does not produce understanding or meaning. Raw data is open to manipulation and interpretation. For this study quantitative methods will be incorporated into e-mail diaries and a questionnaire in order to gather information on issues such as e-mail usage and time spent.

Yerxa (1991) points out that qualitative approach may be considered less precise but ultimately more real in its findings. Qualitative information is not easily analysed in a statistical way and is sometimes considered weak due to its subjective and opinionated content. It does, however, produce insight and give meaning to statistics (Dixon-Woods et al 2004). Qualitative research allows the researcher to gain insight into experience, feeling and opinion which can add colour and texture to pure statistical analysis. An example of where this happens is where a question asks for a yes or no answer. On its own the answer means little, however, if asked why the answer was given, the qualitative information can give insight into the reasons behind answers.

For this study qualitative approaches will be incorporated into e-mail diaries and a questionnaire. In addition, focus groups and interviews will also be used to further gather opinions, feelings and experiences. These approaches take a phenomenological perspective which considers lived experience and seeks to find meaning in events, processes and structures. The qualitative information will also consider the Ethnography of Communication within the organisation by considering communication within the culture.

3.4 - Research Techniques and Bias

All objectives will be considered within the context of a case study. As a method a case study can be considered as a means of investigating relationships within a specific environment. Yin (1984) considers that a case study comprises an investigation into a phenomenon within its real- life context. The relationship between these two is an important consideration when carrying out a case study. Within the case study multiple sources of information should be included in order to develop as full a picture of the case as possible. A potential drawback of this method is the volume of data that may be gathered through the multiple methods being used. However, these are clearly outweighed by the benefits, especially the usefulness of a case study in real-life situations and the ability of findings to be transferred into other contexts.

For the purpose of this case study the organisation to be used is the same as the organisation in which the author works. In this case there is the potential for bias to be introduced into the work. It is essential that the research remains independent of organisational aims and that the organisation does not exert influence upon the findings. Similarly it is important for the researcher to be comfortable in the workplace and not feel the need for censorship of the findings.

Objectives 1 and 2 will be met through the use of a literature review. McNeill (1994) describes a literature review as the reading of other people's work within a given area. The benefits of this method include the provision of a sound background from which research design can be developed. It also provides a good background into what other people have discovered about a subject allowing the researcher to build on this work rather than repeat it. On the downside literature reviews can become a catalogue of work that may only briefly relate to the original subject area preventing a suitable level of focus being achieved. It is also essential that the literature review is analytical, discussing the relevance and merits of the work of others. A literature review can also be limited by the choice of texts used by the author. This can introduce an element of bias as the author may chose literature that suits their needs rather than a range of sources on a subject.

For this study a wide range of resources concerned with e-mail will be gathered. Journals will form the majority of the research used but these will be supported by research using books, newspaper articles, relevant websites and television documentaries.

Objectives 1 and 2 will be met using a document search. A document search differs from a literature review in that it looks to investigate documents directly relevant to the organisation (Bowen 2009). For the purpose of this investigation documents such as Internet and e-mail policies will be used to find information to develop a clear context in which the research is to take place. The majority of the policies are open to staff and therefore can be accessed without permission. Future planning documents or strategic documents will be requested but access may be denied. There may be limited information upon which to base the document search so it may not provide much insight. A limited document base may be considered an overall limitation of the study. However, it will not severely limit the overall findings of the research.

Objectives 3, 4 and 5 will be met using a questionnaire. This will be the single largest research activity to take place. A questionnaire is a list of questions that is produced by the researcher and administered to the sample group (McNeill 1994). A questionnaire is a quick and inexpensive way of asking a number of people the same questions, especially if done as a postal survey. As all respondents are asked the same questions there is the potential for comparison between answers. Closed questions provide quantitative data that can be compared whilst open ended questions provide qualitative data that gives meaning to short answer questions. There are a number of contributing factors to the development of the questionnaire to be used. The findings of document search and the literature review will have the greatest effect on the construction and content of the questionnaire. Further information gathered during interview and through the completion of the e-mail diaries will also have an impact on the questionnaire. The main areas of consideration for the questionnaire are as follows:

- E-mail usage – how much is e-mail used how many e-mails, on average, are sent and received. How much time do respondents feel is wasted using e-mail?
- Positive and negative experiences – how do respondents feel about e-mail and the way it is used in the organisation? What experiences can they share
- E-mail as a means of communication – how does e-mail fit into the respondents working routine. How does it compare in efficacy to other forms of communication in the workplace.
- E-mail behaviours – how do people manage their e-mails? What information is stored within the system? In what cases will people use e-mail and in what cases will they use another communication method.
- Idiosyncrasies – what individual quirks do respondents have when using e-mail? What quirks have they noticed in others? Are these beneficial or a draw back to communicating effectively?
- Cutting down – would respondents cut down the use of e-mail and what effects might this have?
- Suggestions – what suggestions could respondents make to enhance the effective use of e-mail?

- Opinions on best practice suggestions – gather opinions on best practice suggestions identified during research. Would respondents find these beneficial?

The questionnaire itself will be designed and administered using Survey Monkey (www.surveymonkey.com). This software will gather responses and produce basic statistical analysis. Importantly it will help to enhance anonymity. Paper and Welsh versions will also be available to cater for the needs of all respondents. A return that represents 10% of the total number of staff at Pembrokeshire College which stands at around 500 is the target for this study.

Whilst questionnaires are a strong method of gathering data and information, Stevens et al (1993) point out that questionnaires can be marred by the willingness of the respondent to answer the questions or even by how honest people are when answering as people often answer questions in the way they would like to appear rather than in a totally truthful way. A further limiting factor is that the questions have been designed by the researcher and therefore may be leading or limited to questions that will meet the researcher's pre-determined viewpoints. In this way a questionnaire may contain a significant amount of bias.

Objectives 3, 4, 5 and 6 will be met through the use of focus groups. Heary and Hennessy (2002) described the focus group as a thoughtful and structured discussion on a subject that allows the observer to gather information in a non-threatening manner. Focus groups are good for getting the opinions of a number of people in a short time. These opinions are on a fixed theme, and as they will be used with students, allow the researcher to target a group of students at a time and in a way that will require them to do little extra work, or to write. This is a strong benefit of using focus groups with younger people (Kennedy et al 2001).

However, focus groups do not allow a particularly large sample group to be accessed which will make it difficult for generalisations to be made. There is also the chance of participants with stronger personalities affecting others and skewing the information gathered, a phenomenon observed by Ansay et al (2004). A further potential limitation is in the bias of recording the information. If notes are made then there is the chance that the researcher will only record information that supports their own viewpoint. An impartial note taker or a recorded transcript could be used to overcome this. The conversation could also be recorded but this may lead to the participants becoming self conscious and not expressing themselves truthfully.

The composition of the focus groups will be monitored carefully to ensure that open and honest answers can be given. Once the questionnaire has been administered and the basic analysis completed there will be 3 focus groups held with staff. Academic, Non Academic and Management staff will be invited to a focus group with their peers. In these focus groups the findings of the questionnaire will be discussed and opinions sought on the findings. The discussion will be semi-structured based upon the questionnaire findings which will allow for those in the group to expand on key points of interest whilst also ensuring that all the main points are covered. The proceedings will be recorded and transcribed afterwards. All participants will be provided with a number and will be asked to refer to themselves and others using only that number. This will help to ensure anonymity.

Objectives 1, 2, and 6 will be met through the use of an interview. An interview is the gathering of information from an individual through the use of either structured, semi-structured or open questioning (Hitti 2006) However, it is more than the simple transmission of information, the interview relies on the relationship that can be built between the interviewer and interviewee. An interview is a good opportunity to gather information from someone who has specific knowledge, in the case of this research project to gather information on the e-mail systems at Pembrokeshire College. Interviews are also subject to bias as the researcher may choose to write the questions and follow them rigidly thus limiting and directing what the interviewee can say. McNeill (1994) points out that the interview is a false situation where the interviewee may say what they want the interviewer to hear. The respondent may be provided with leading questions or limited response options that limit what they can actually say to what the researcher wants to hear.

Objective 3 will be met through the use of participant diaries. Bolger et al (2003) points out that diaries are an excellent way of capturing day to day life within a sample group. It allows events to be observed within their natural context, preserving the spontaneous nature of the event. This allows for information and data to be collected that may otherwise be missed through other methods such as questionnaires (Reis 1994). Importantly diary research will reduce the opportunity for retrospection where participants may have time to consider their answers thus introducing the opportunity for embellishment. The data collected may be considered to be purer.

For this research, diaries asking questions about e-mail habits will be given to 10 staff sampled from different areas of the college. There will be representation from different tiers of management, full time lecturing staff, lecturing staff with additional responsibilities and business support staff within the College. Data and other information will be gathered for 5 consecutive working days. The information gathered will be used to help generate the questionnaire as well as providing a comparison for similar questions used in the questionnaire.

All objectives will also be met by analysing the data collected. Data will be used to identify the positive and negative uses of e-mail at Pembrokeshire College and will be used to inform the creation of a series of guidelines on the effective use of e-mail. The effectiveness will be judged upon the intended use and original reasons for installing the system as well as the perceptions of staff and students who use the system.

3.5 - Validity, Reliability and Sampling

Research methods must be considered in relation to their validity and reliability (Bailey 1997). Validity refers to the extent to which an instrument measures what it is supposed to. The validity of the method can be considered internally to determine whether it does the job. The study as a whole can be considered externally to determine whether it can be used to generalise for a whole population (Bailey 1997). As this study will be a focused case study it can be considered to be low on external validity, this is a potential limitation of the study. The reliability of the work refers to the repeatability of the study, if the study was repeated would similar findings emerge. Controls can be put in place to control the validity and reliability of the methods reducing the limitations of the study.

In the case of the questionnaire increasing the Reliability of the questionnaire can reduce the limitations on the study. However, a number of factors can affect the reliability and validity of the questionnaire such as the motivation of the subjects. The respondents may be limited to those who have strong feelings either way. The main way of informing staff about the survey is via e-mail as it can reach all staff in an inexpensive way. The drawback of this is that the respondents will be self selecting based upon their strong feelings on e-mail. To try and ensure that a cross section of staff is represented paper copies of the survey will be available with notification of the study being made in person and in writing as well as e-mail. This will improve the reliability of the study.

A good way of tackling the potential bias is suggested by Politt and Hungler (1991) who recommend the use of face validity testing where the questionnaire is presented to people with knowledge of the subject in order to ensure that the instrument measures what it is meant to and does so with as little bias as possible. In this case the questionnaire will be piloted among a small group of people who do not work in Pembrokeshire College in order to ensure that their responses are impartial. The questionnaire will also be piloted amongst people who are not expert in the field being studied. This will ensure that the questions are worded in such a way that they can be understood by all people in the organisation regardless of their previous knowledge and experience of the subject. Additionally it will allow for the impartial checking of the structure and flow of the questionnaire.

Sampling is the process of identifying groups for the study and selecting individuals within the groups to use within the research (Bailey 1997). The sampling method can affect the usefulness of the research and its ability to be generalised to the population as a whole. For the questionnaire the sample groups will be drawn from

Pembrokeshire College. Academic and Support staff will be represented. Each will be broken down into departments in order to get as broad a representation from the college staff as possible. The sample may be considered a convenience sample as it uses people who are readily available (Politt and Hungler 1991). All staff will be canvassed as opposed to generating a truly random sample. The method will be non-probability based and will contain an element of self selection. It is difficult to ensure responses from all areas of the college, potentially introducing bias into the research. Responses may be limited to those who have a strong feeling either way which will generate polarised responses. It is essential to monitor the areas from which responses come to ensure a consensus can be reached. A blanket approach will be adopted, issuing questionnaires to all members of staff within the college. By recording the general area in which the respondents work it will be possible to ensure that the sample returned is representative of the whole organisation. Again, there may be issues associated with responses and the spread of results from across the college. Using Survey Monkey (www.surveymonkey.com) it is possible to monitor the incoming results.

Sampling for the interview will not be random. A specific individual who is responsible for training and development will be targeted. As it may be easy to work out who the individual is due to the specific nature of the role undertaken it will be essential to protect this individual from recrimination. Additionally it can then be considered that the responses given may be lacking in personal opinion.

Sample groups for the focus groups will be drawn from 3 main areas. Academic, Non Academic and Management. Three focus groups will take place with randomly selected individuals from either the relevant sample group invited to attend.

The data will be analysed using a simple statistical analysis of the information some simple interrelationships will be drawn to demonstrate links between the data. All responses will be coded and entered into a spreadsheet to allow simple data formatting to draw comparisons and correlations.

3.6 - Methodological Limitations, Ethical Considerations and Conclusion

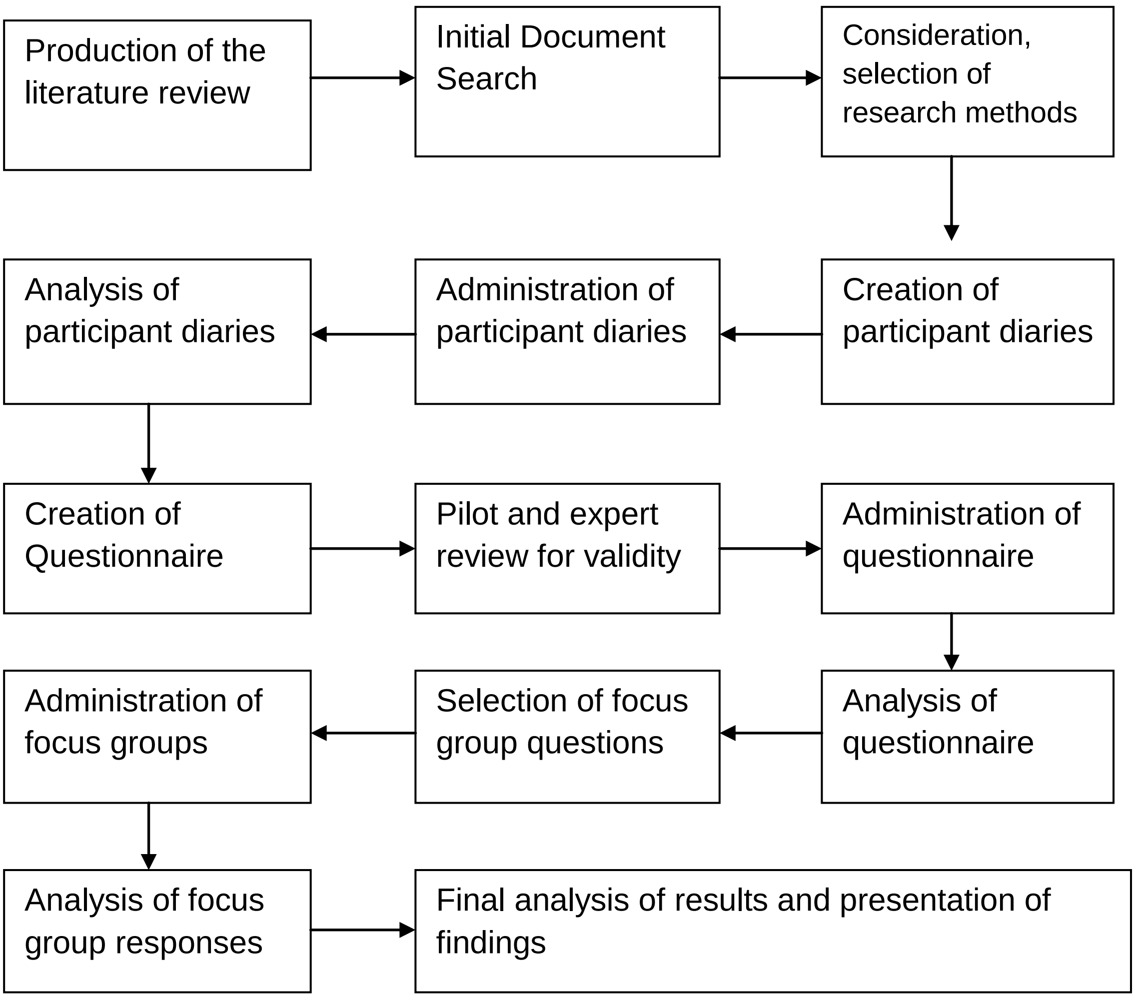
Methodological limitations consider whether any of the methods used to gather data and information may compromise the ability to draw conclusions and make generalisations at the end. As shown the reliance on a large questionnaire may present a limitation due to the self selecting nature of the sampling. In addition a questionnaire of this type relies quite heavily on the collection of retrospective, self reported data which as Pitzer (1998) points out, can limit the usefulness of the study overall. The diary method suggested will also suffer from this kind of limitation due to the self reporting required to complete the questions. In order to try and reduce the impact of limitations participants will be asked to focus, where possible, on recent events and experiences and to answer the questions instinctively rather than considering them for a long time.

The proposed focus groups may also suffer from some potential limitations. The make up of the focus groups will need to be carefully controlled in order to ensure that the findings can be considered representative of the wider population (Carey 1995). Careful sampling during the process should help to achieve this. The potential for censorship during the discussion will limit the usefulness of the gathered data and information. Groups will be selected to ensure that participants are within peer groups ensuring that there is little or no pressure from managers. Careful management of the group discussion should ensure that all participants get an opportunity to voice their opinions.

The major ethical consideration that must be made during this study is the protection of the identities of those involved. Throughout the research all participants will be made aware that they are participating in research and that the findings of the research will be published. All information gathered will be done so anonymously and any responses that may allow for the easy identification of the subject will be adjusted to ensure that no harm will come to them as a result of their submission. Where this will be difficult to achieve, the subject will not be asked questions that may put them in a difficult position once the research is published. Permission to conduct the survey within the organisation has also been sought. All of the results will be presented and discussed objectively regardless of the opinions and views of the researcher.

A number of different research methods have been suggested to gather information to cover the different objectives of the study. They represent both quantitative and qualitative methods of collecting data. A variety of methods is the best way to ensure the validity and reliability of a study (Bailey 1996) as well as ensuring that statistics are made relevant through examples thus enhancing the usefulness of the research.

3.7 – Research Flow Model



Chapter 4

Results

This chapter will display the results gathered from the Diaries and Questionnaire exercise. Information collected from Interviews and Focus groups is shown in detail in Appendices B and C respectively. Analysis and Evaluation of the findings will be made in the next chapter.

4.1 - Diaries

All 10 diaries were completed and returned within the specified timeframe. Each question is dealt with separately with the daily figures shown. In addition an individual average for the 5 day period is shown along with a cumulative average for the entire question.

Subject Roles

Subject	Subject Roles Within the Organisation
1	**Administrator**
2	**Admissions Advisor**
3	**Senior Manager – Business Support**
4	**Senior Administrator**
5	**Lecturer with some other responsibilities**
6	**Lecturer with significant other responsibilities**
7	**Senior Manager - Academic**
8	**Lecturer with no other responsibilities**
9	**Personal Assistant**
10	**Head of School**

1. How many e-mails have you sent today?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**5**	**7**	**5**	**9**	**10**		**7.2**	
2	**2**	**6**	**12**	**5**	**4**		**6**	
3	**40**	**30**	**20**	**14**	**29**		**27**	
4	**8**	**3**	**6**	**8**	**3**		**6**	
5	**5**	**2**	**3**	**5**	**0**		**3**	**9.39**
6	**18**	**10**	**14**	**4**	**33**		**16**	
7	**6**	**6**	**8**	**5**	**4**		**6**	
8	**3**	**4**	**3**	**4**	**1**		**3**	
9	**5**	**4**	**11**	**8**	**6**		**7**	
10	**10**	**12**	**20**	**15**	**10**		**13.4**	

2. How many e-mails have you received today?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**34**	**36**	**32**	**41**	**35**		**35.6**	**21.98**
2	**8**	**10**	**15**	**12**	**19**		**12.8**	
3	**48**	**20**	**38**	**52**	**56**		**42.8**	
4	**13**	**8**	**16**	**15**	**16**		**13.6**	
5	**31**	**25**	**31**	**16**	**12**		**23**	
6	**30**	**1**	**0**	**0**	**0**		**6.2**	
7	**30**	**32**	**34**	**32**	**27**		**31**	
8	**5**	**3**	**6**	**12**	**6**		**6.4**	
9	**38**	**29**	**27**	**27**	**20**		**28.2**	
10	**24**	**19**	**15**	**18**	**25**		**20.2**	

3. How many e-mails required urgent following up?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**6**	**8**	**2**	**9**	**5**		**6**	**6.76**
2	**3**	**3**	**1**	**2**	**3**		**2.4**	
3	**5**	**1**	**18**	**4**	**6**		**6.8**	
4	**2**	**1**	**0**	**1**	**0**		**0.8**	
5	**3**	**5**	**2**	**2**	**0**		**2.4**	
6	**5**	**0**	**0**	**0**	**0**		**1**	
7	**10**	**10**	**5**	**12**	**8**		**9**	
8	**1**	**1**	**2**	**1**	**0**		**1**	
9	**0**	**0**	**3**	**5**	**2**		**2**	
10	**5**	**2**	**2**	**3**	**0**		**2.4**	

*****using cumulative average, 30.75% of e-mails received required urgent follow up

4. How many didn't require any form of following up?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**10**	**15**	**28**	**26**	**20**		**19.8**	**9.6**
2	**5**	**7**	**14**	**10**	**16**		**10.4**	
3	**3**	**4**	**22**	**30**	**14**		**14.6**	
4	**7**	**6**	**10**	**7**	**13**		**8.6**	
5	**19**	**17**	**28**	**3**	**7**		**14.8**	
6	**2**	**1**	**0**	**0**	**0**		**0.6**	
7	**10**	**15**	**20**	**12**	**15**		**14.4**	
8	**2**	**2**	**1**	**5**	**1**		**2.2**	
9	**0**	**0**	**1**	**0**	**0**		**0.2**	
10	**8**	**12**	**10**	**9**	**13**		**10.4**	

*****using cumulative average, 43.67% of e-mails received required no follow up

5. **How many e-mails did you receive that you felt weren't clear?**

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	0	0	0	1	0		0.2	0.38
2	0	0	0	0	0		0	
3	0	0	0	0	0		0	
4	0	0	0	1	0		0.2	
5	0	0	0	0	0		0	
6	0	0	0	0	0		0	
7	3	0	0	5	5		2.6	
8	0	0	0	0	0		0	
9	0	0	0	0	0		0	
10	2	0	0	2	0		0.8	

6. **How many e-mails have you sent where you felt that the recipient didn't get back to you in a timely fashion?**

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	0	0	2	2	1		1	0.24
2	0	0	0	0	0		0	
3	0	0	0	0	0		0	
4	1	0	0	0	1		0.4	
5	0	0	0	0	0		0	
6	2	0	0	0	0		0.4	
7	0	0	0	0	0		0	
8	1	1	2	0	0		0.8	
9	0	0	0	0	0		0	
10	2	0	1	0	1		0.8	

7. **How many e-mails have you sent where the recipient has responded that they didn't fully understand the message?**

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	0	0	0	0	0		0	0
2	0	0	0	0	0		0	
3	0	0	0	0	0		0	
4	0	0	0	0	0		0	
5	0	0	0	0	0		0	
6	0	0	0	0	0		0	
7	0	0	0	0	0		0	
8	0	0	0	0	0		0	
9	0	0	0	0	0		0	
10	0	0	0	0	0		0	

8. **How many e-mails have you received that you felt could have been better communication either by telephone or face to face?**

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**4**	**2**	**0**	**7**	**0**		**2.6**	
2	**1**	**0**	**0**	**0**	**0**		**0.2**	
3	**0**	**0**	**0**	**0**	**0**		**0**	
4	**1**	**0**	**0**	**1**	**0**		**0.4**	
5	**2**	**0**	**4**	**2**	**1**		**1.8**	**1.4**
6	**0**	**1**	**0**	**0**	**0**		**0.2**	
7	**10**	**0**	**0**	**12**	**8**		**6**	
8	**0**	**0**	**0**	**0**	**0**		**0**	
9	**0**	**0**	**0**	**0**	**0**		**0**	
10	**5**	**2**	**0**	**4**	**3**		**2.8**	

9. **How many e-mails have you sent that you felt could have been better communicated either by telephone or face to face communication?**

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**0**	**0**	**0**	**0**	**0**		**0**	
2	**0**	**0**	**0**	**0**	**0**		**0**	
3	**0**	**0**	**0**	**0**	**0**		**0**	
4	**1**	**0**	**0**	**1**	**0**		**0.4**	
5	**3**	**2**	**1**	**0**	**1**		**1.4**	**0.38**
6	**1**	**0**	**0**	**0**	**0**		**0.2**	
7	**2**	**0**	**0**	**0**	**2**		**0.8**	
8	**0**	**0**	**0**	**0**	**0**		**0**	
9	**0**	**0**	**0**	**0**	**0**		**0**	
10	**1**	**0**	**1**	**2**	**1**		**1**	

10. How many e-mails have you received which you have deleted without reading?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**7**	**9**	**7**	**10**	**8**		**8.2**	**5.02**
2	**0**	**0**	**0**	**0**	**0**		**0**	
3	**2**	**2**	**8**	**17**	**3**		**6.4**	
4	**2**	**1**	**1**	**1**	**0**		**1**	
5	**18**	**18**	**22**	**8**	**3**		**13.8**	
6	**0**	**0**	**0**	**0**	**0**		**0**	
7	**4**	**1**	**5**	**8**	**0**		**3.6**	
8	**0**	**0**	**0**	**0**	**0**		**0**	
9	**19**	**11**	**11**	**11**	**9**		**12.2**	
10	**3**	**5**	**6**	**4**	**7**		**5**	

11. How many e-mails have you sent which are not work related?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**0**	**1**	**0**	**0**	**1**		**0.4**	**0.26**
2	**0**	**0**	**0**	**0**	**0**		**0**	
3	**0**	**1**	**0**	**0**	**1**		**0.4**	
4	**2**	**0**	**0**	**0**	**1**		**0.6**	
5	**0**	**0**	**0**	**0**	**0**		**0**	
6	**0**	**0**	**0**	**0**	**0**		**0**	
7	**0**	**0**	**0**	**1**	**0**		**0.2**	
8	**1**	**0**	**0**	**0**	**1**		**0.4**	
9	**0**	**0**	**0**	**0**	**0**		**0**	
10	**0**	**1**	**0**	**1**	**1**		**0.6**	

12. How many e-mails have you received that are not work related?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	**9**	**7**	**7**	**12**	**8**		**8.6**	**4.72**
2	**0**	**1**	**1**	**0**	**0**		**0.4**	
3	**0**	**0**	**8**	**8**	**2**		**3.6**	
4	**2**	**0**	**1**	**1**	**1**		**1**	
5	**15**	**18**	**23**	**8**	**3**		**13.4**	
6	**4**	**1**	**1**	**6**	**0**		**2.4**	
7	**1**	**0**	**0**	**5**	**5**		**2.2**	
8	**1**	**2**	**1**	**0**	**5**		**1.8**	
9	**11**	**11**	**6**	**7**	**11**		**9.2**	
10	**5**	**6**	**3**	**3**	**6**		**4.6**	

13. How many e-mails have you sent to or received from external sources?

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	9	8	7	14	10		9.6	
2	0	1	1	0	0		0.4	
3	6	7	7	12	3		7	
4	4	1	1	1	1		1.6	
5	15	18	23	11	3		14	7.04
6	6	11	2	0	4		4.6	
7	12	5	8	10	5		8	
8	0	1	0	0	0		0.2	
9	19	17	19	15	16		17.2	
10	5	10	7	6	11		7.8	

14. Please estimate, in minutes, how much time you have spent working with e-mails today.

Subject	Day1	Day2	Day3	Day4	Day5		Avg	Cum. Avg
1	90	90	60	150	120		102	
2	10	20	40	25	35		26	
3	120	150	150	110	105		127	
4	45	15	10	60	30		32	
5	20	25	30	30	25		26	50
6	20	30	25	30	35		28	
7	60	45	60	30	30		45	
8	15	15	30	30	30		24	
9	30	40	60	55	60		49	
10	30	50	50	30	45		41	

15. Please indicate the emotions you have experiences whilst using e-mail today.

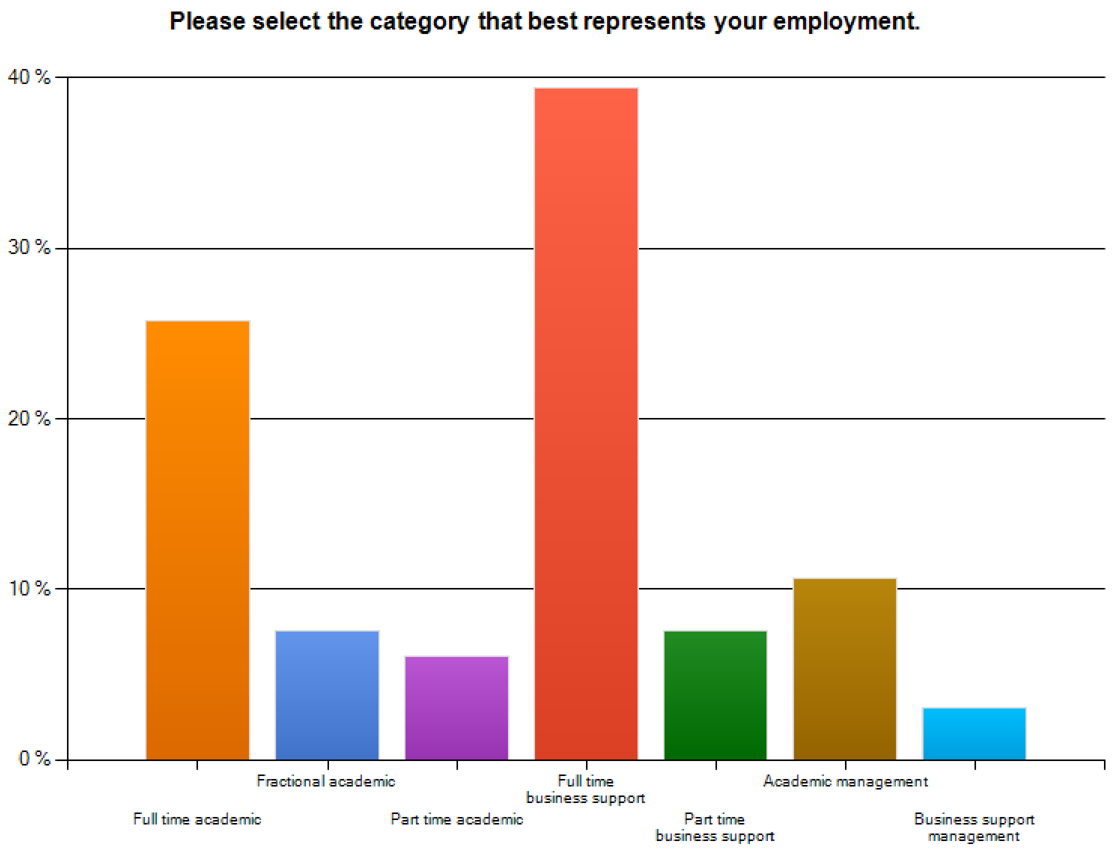
Subject	Day 1	Day 2	Day 3	Day 4	Day 5
1	**Irritation, Exasperation, Relief**	**Irritation, Amusement**	**Bored**	**Stressed**	**Irritation**
2	**Informed**	**Frustration, Relief**	**Frustration, Informed, Happiness**	**Annoyed, Pleased**	**Pleased**
3	**Confusion, Satisfaction, Clarity**	**Satisfaction, Clarity**	**Irritation (8), Satisfied**	**Annoyed, Satisfied**	**Relief, Satisfied**
4	**Resignation, Pleasure**	**Confusion**	**Happiness, Irritation**	**Irritation**	**Happiness, Frustration**
5	**Annoyance**	**Irritation, Pleasure**	**Clarity**	**Irritation, Annoyance**	**Happiness, Relief**
6	**Happy**	**Confusion**			
7	**Frustration over time**		**Frustration, Humour, Interest**	**Irritation, Annoyed, Frustrated**	
8					
9					
10					

4.2 – Questionnaires

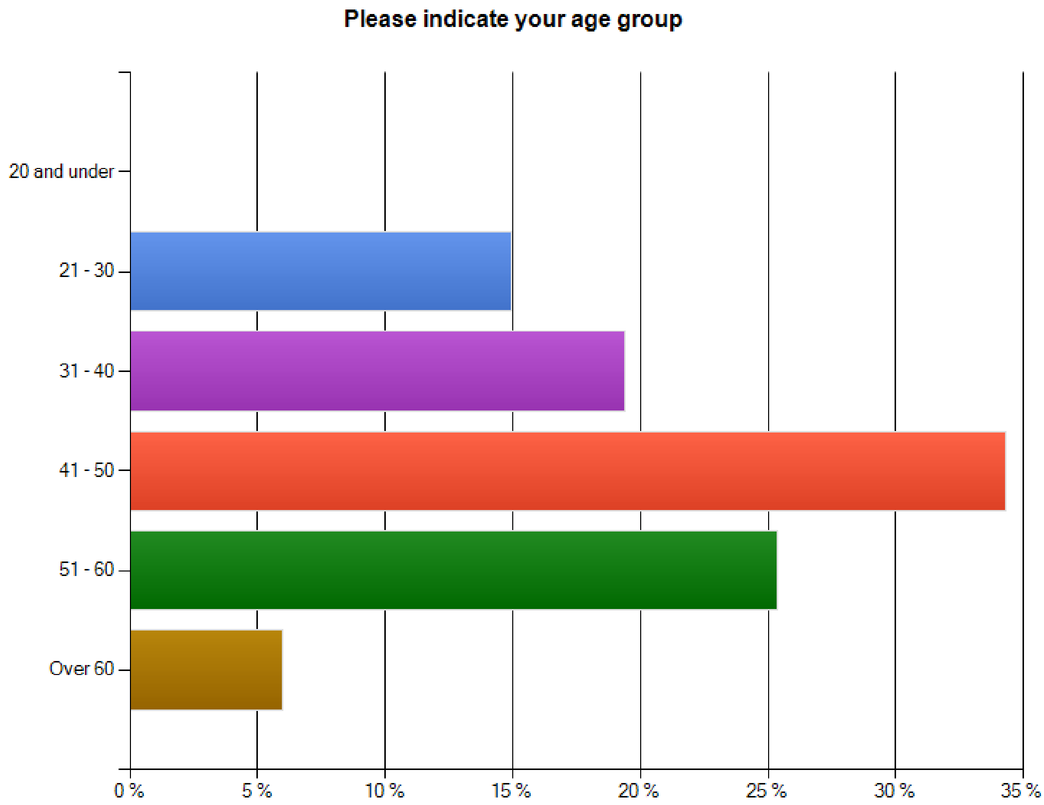
A total of 67 Questionnaires were collected. 10 of these were completed on paper and manually added to the total. No questionnaires were requested in Welsh. The results are split into three main sections. Demographic questions cover questions that demonstrate that a representative cross section of staff was sampled. Usage questions cover habits, volume and opinions on e-mail usage itself and Habits and Social Aspects questions look at perceptions towards e-mail applications and suitability.

4.3 - Demographics

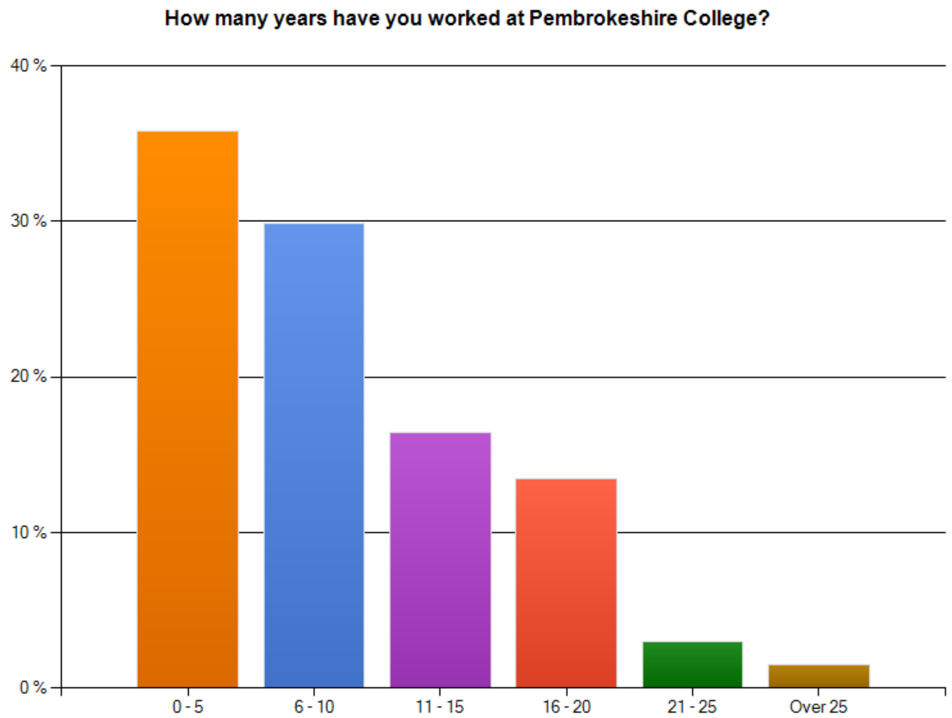
Question 1:



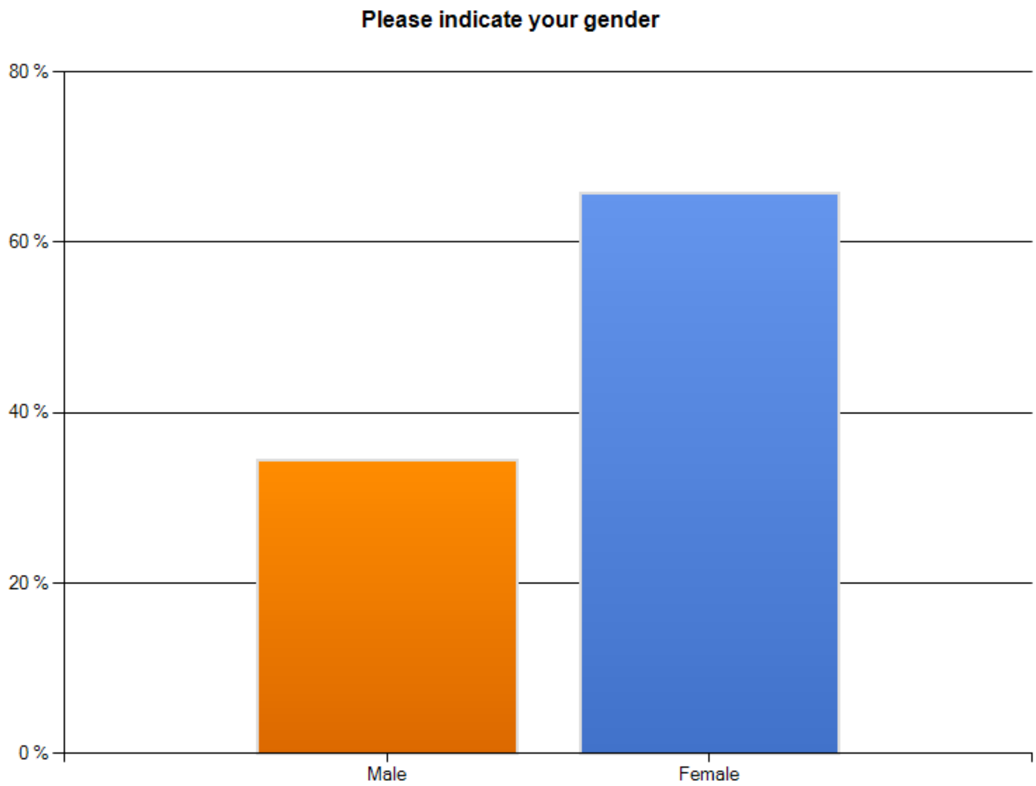
Question 2:



Question 3:



Question 4:



4.4 - Usage

Question 1:

What do you believe are the main benefits of using e-mail?

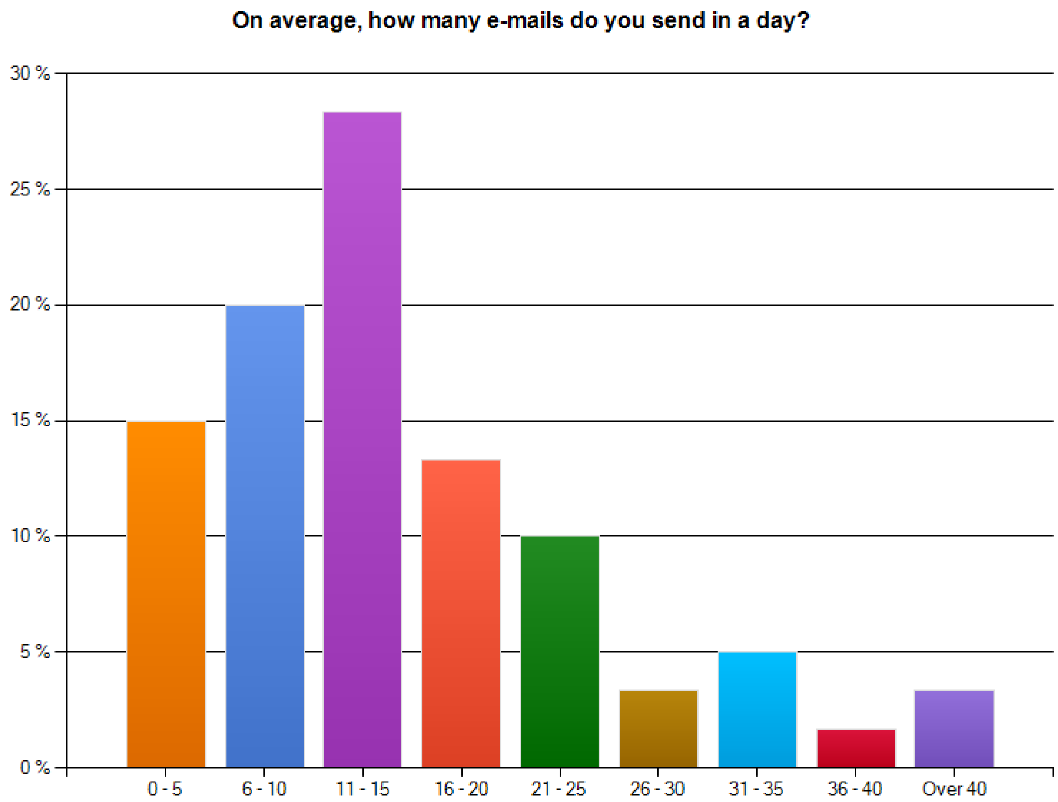
There were 60 responses to this question. These responses may be viewed in Appendix A

Question 2:

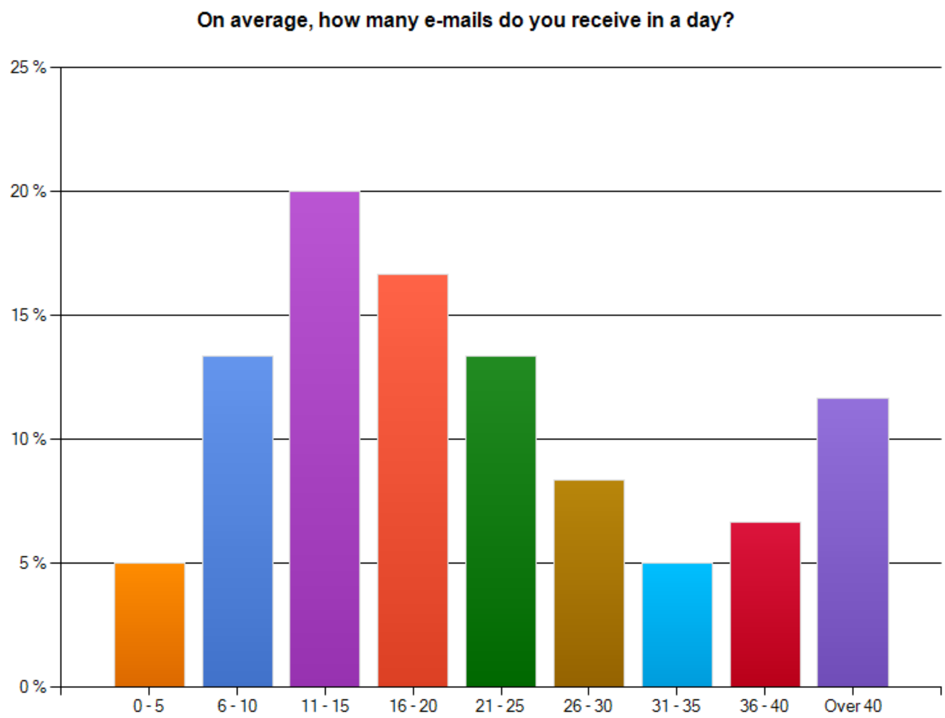
What do you believe are the main drawbacks to using e-mail?

There were 56 responses to this question. These responses may be viewed in Appendix A

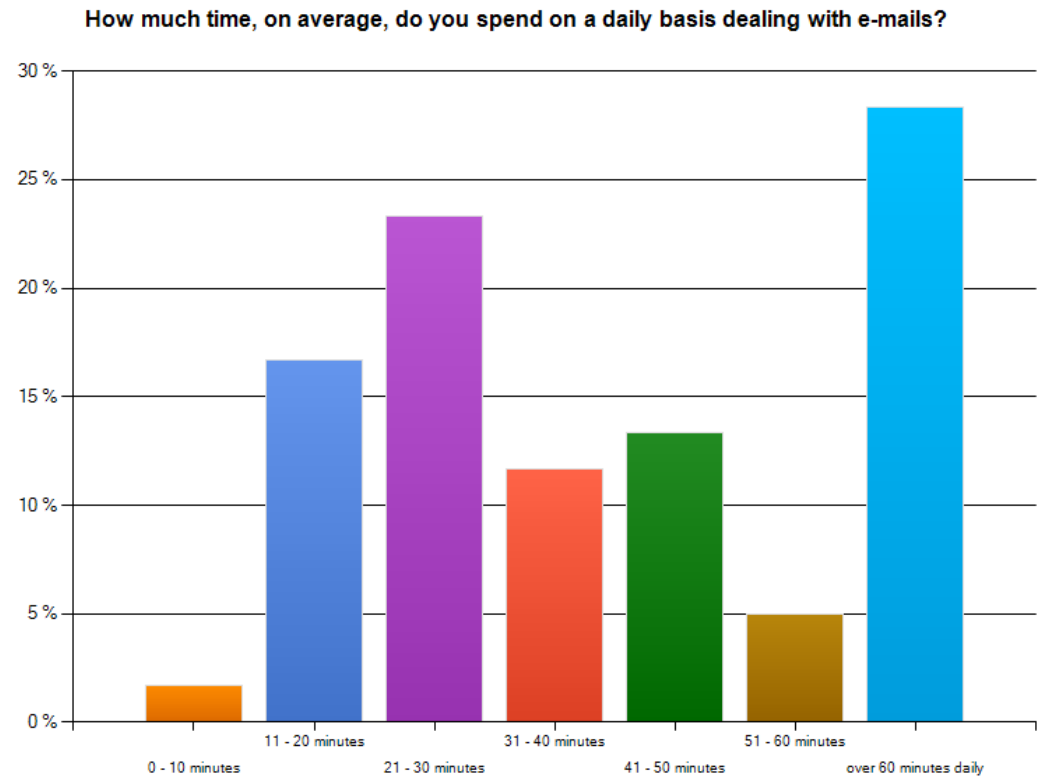
Question 3:



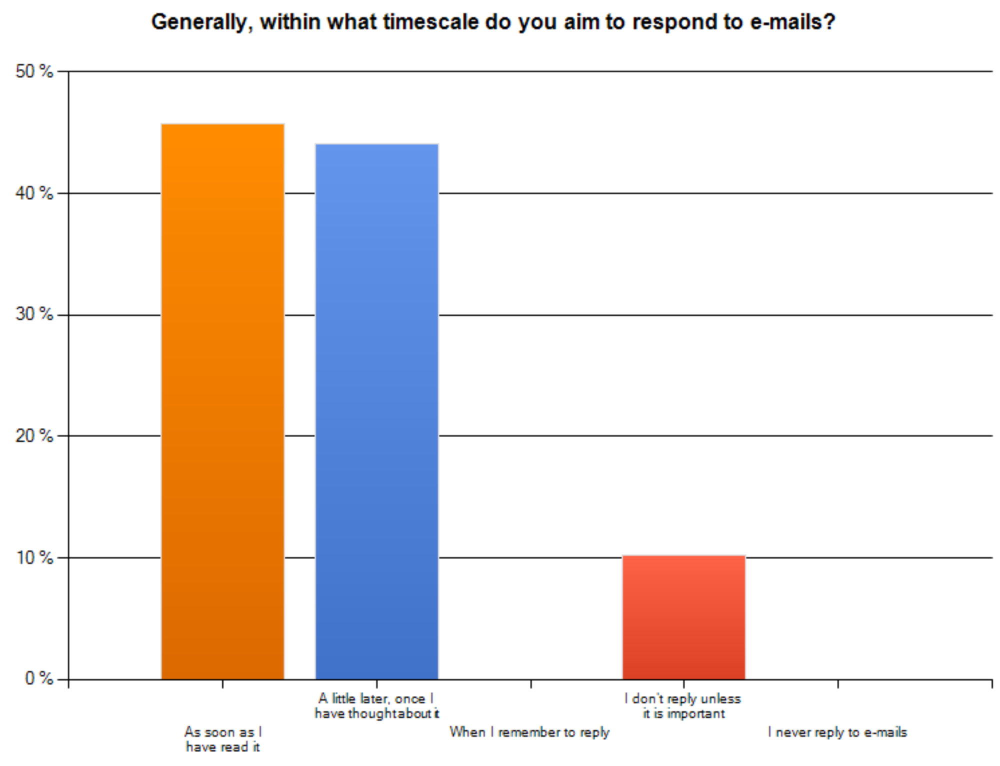
Question 4:



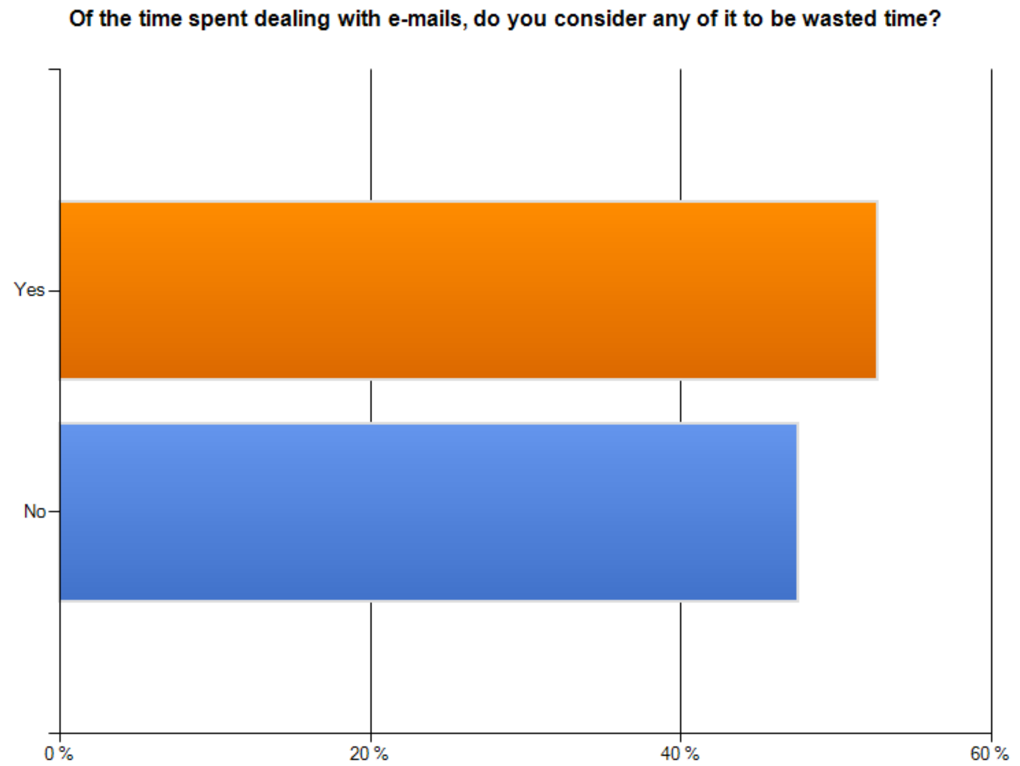
Question 5:



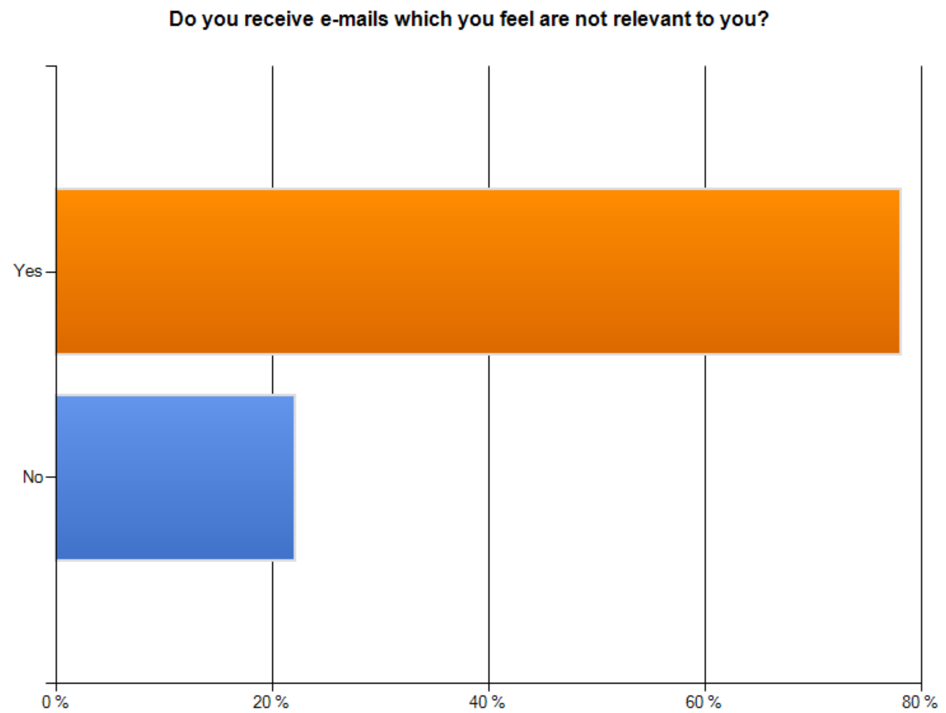
Question 6: - 23 comments were left on this question (see Appendix A)



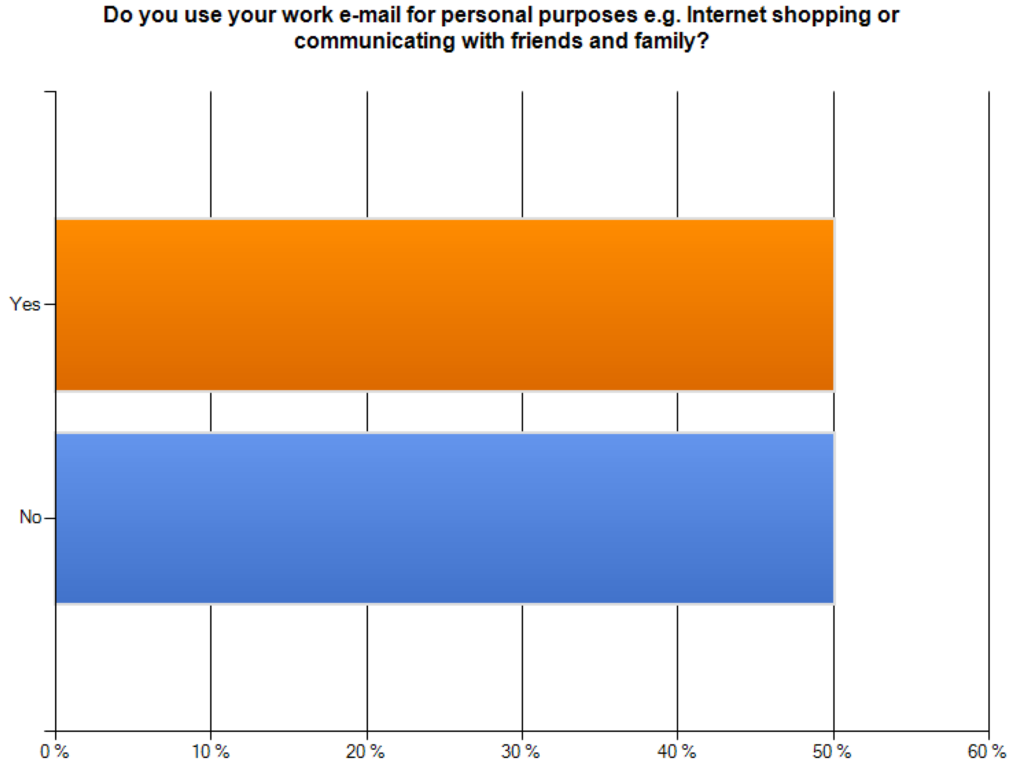
Question 7: - 34 comments were left on this question (see Appendix A)



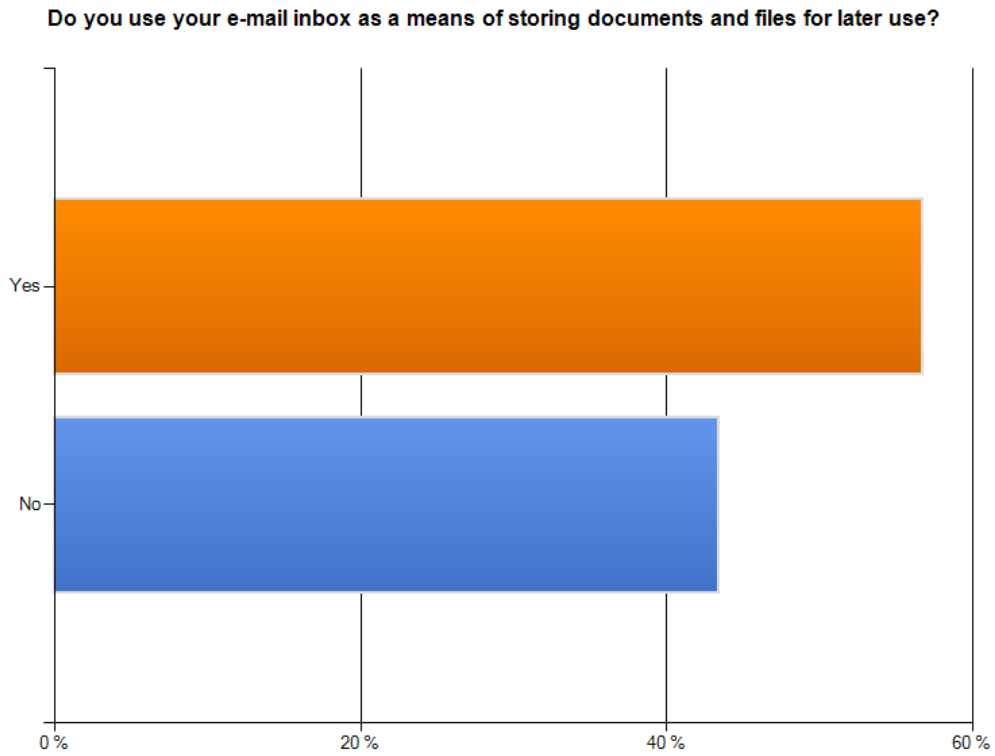
Question 8: - 45 comments were left on this question (see Appendix A)



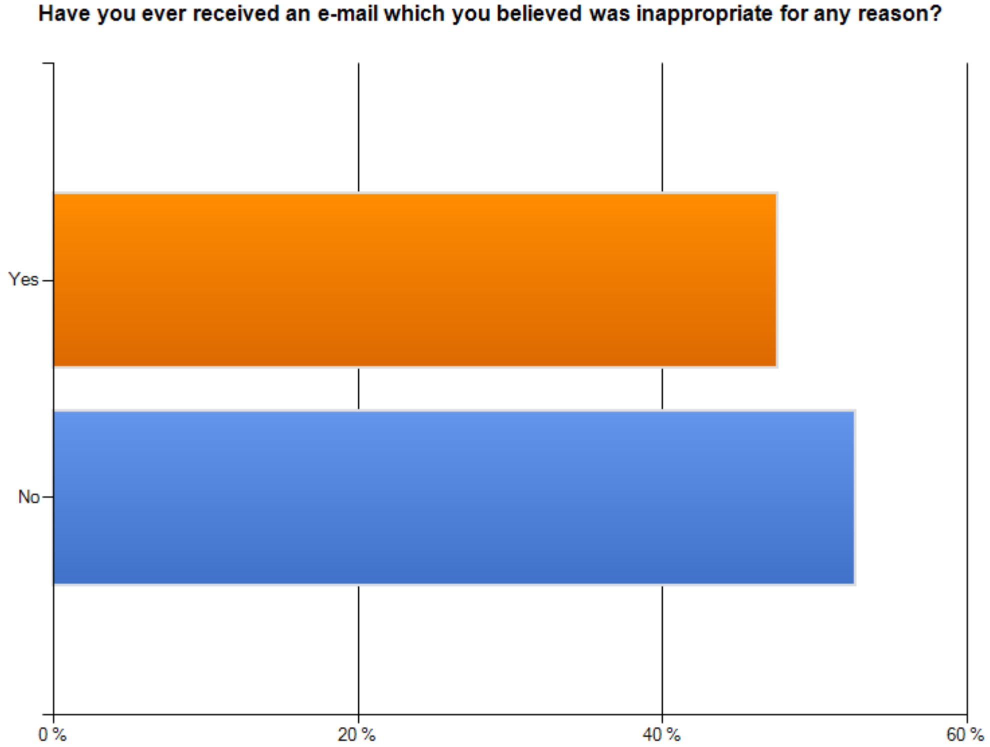
Question 9:



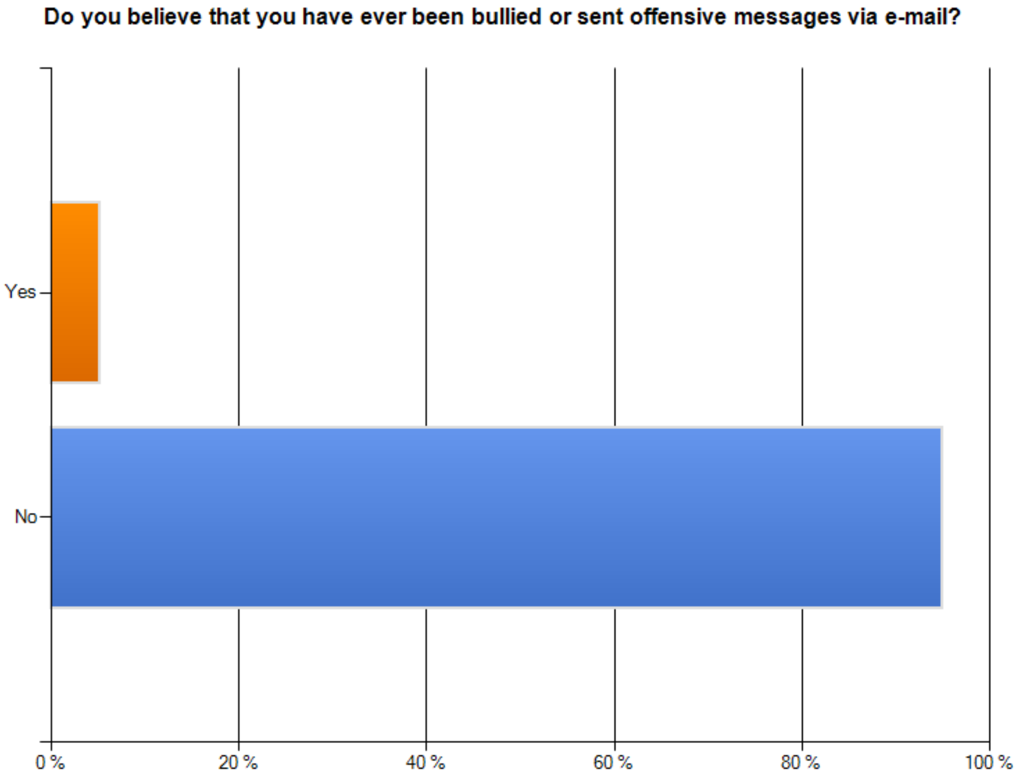
Question 10: - 32 comments were left on this question (see Appendix A)



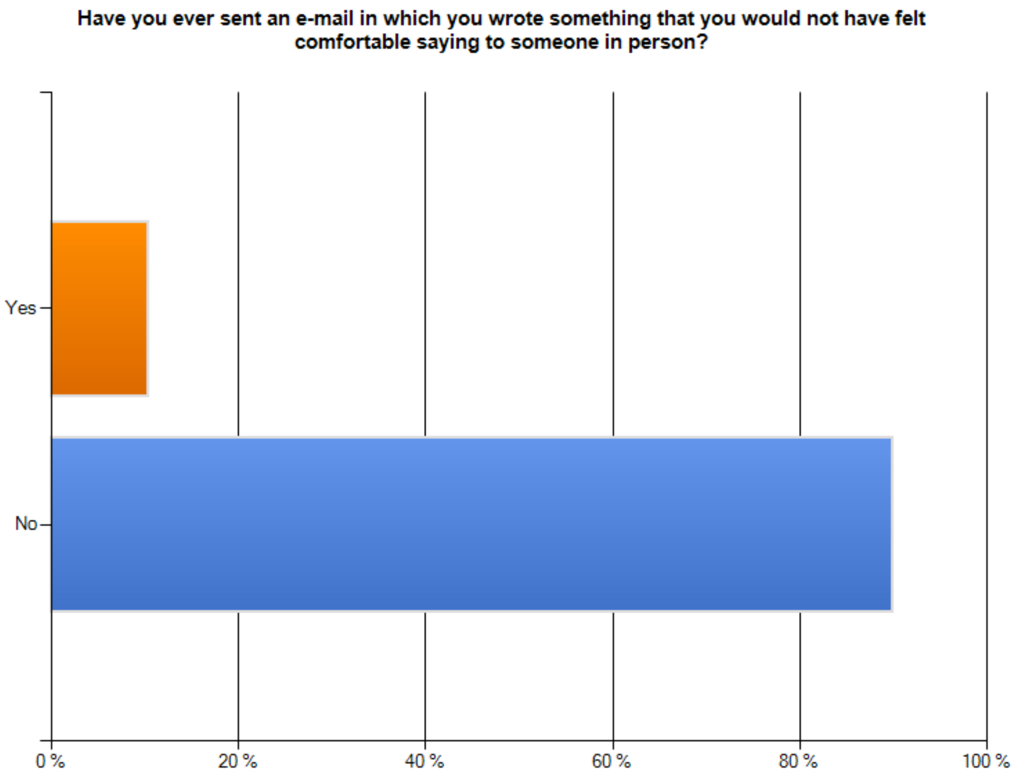
Question 11: - 27 comments were left on this question (see Appendix A)



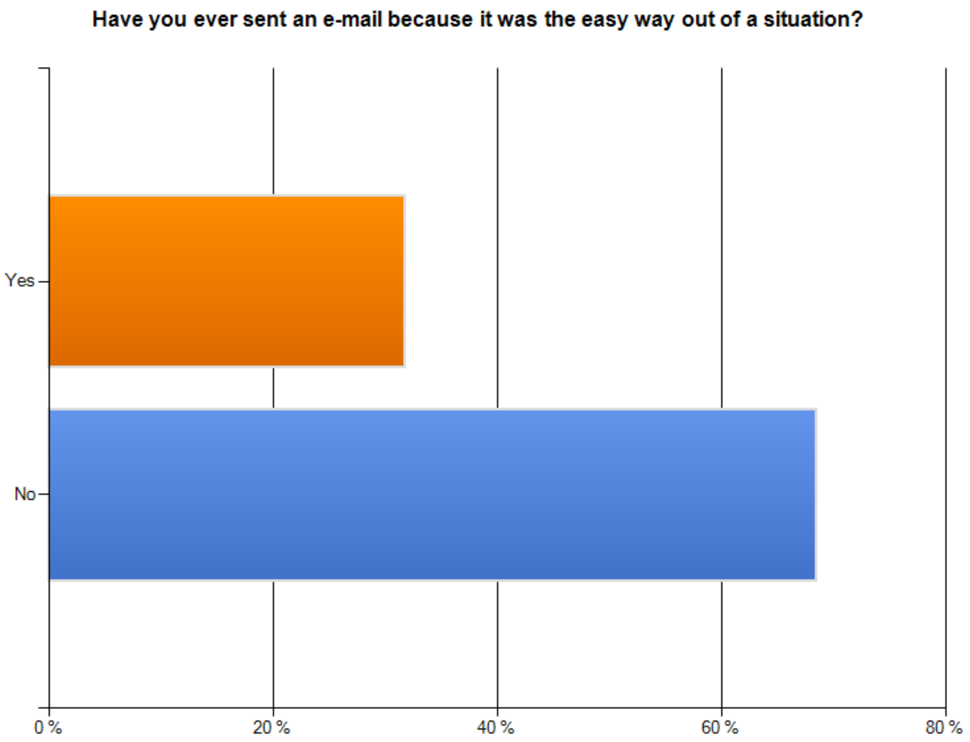
Question 12: - 6 comments were left on this question (see Appendix A)



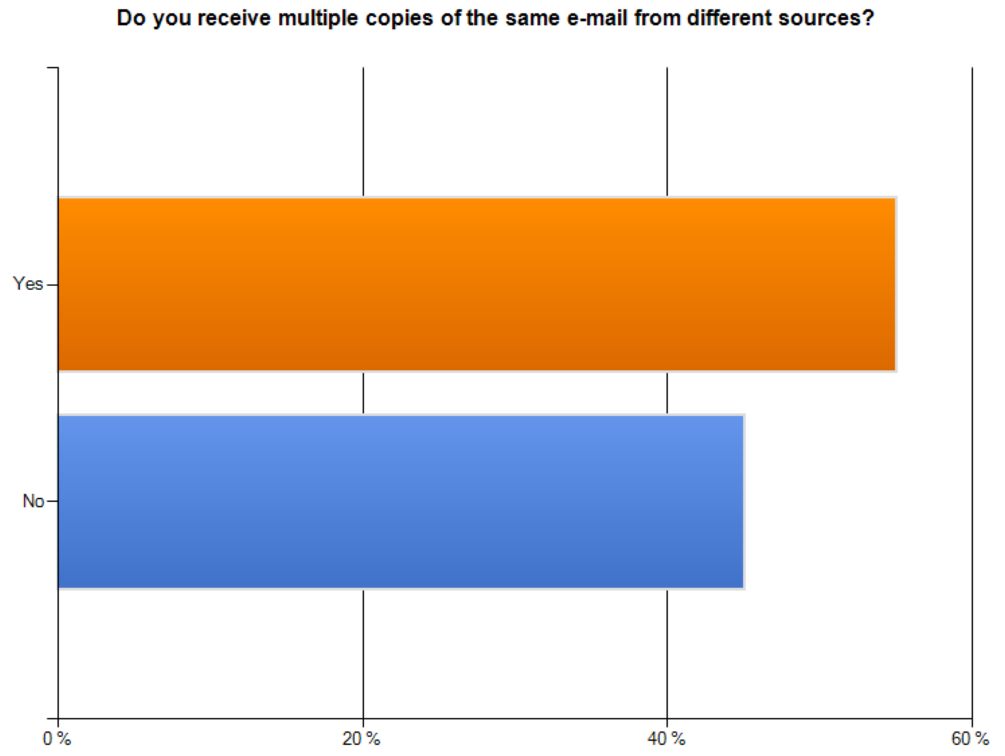
Question 13: - 7 comments were left on this question (see Appendix A)



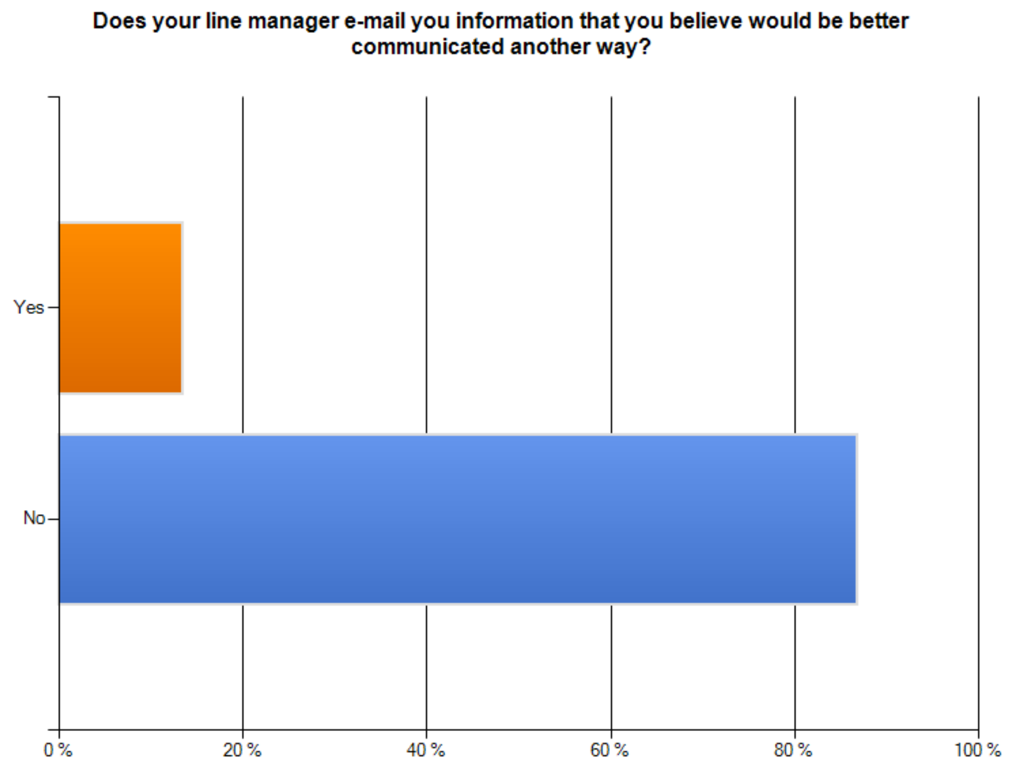
Question 14: - 14 comments were left on this question (see Appendix A)



Question 15: - 24 comments were left on this question (see Appendix A)

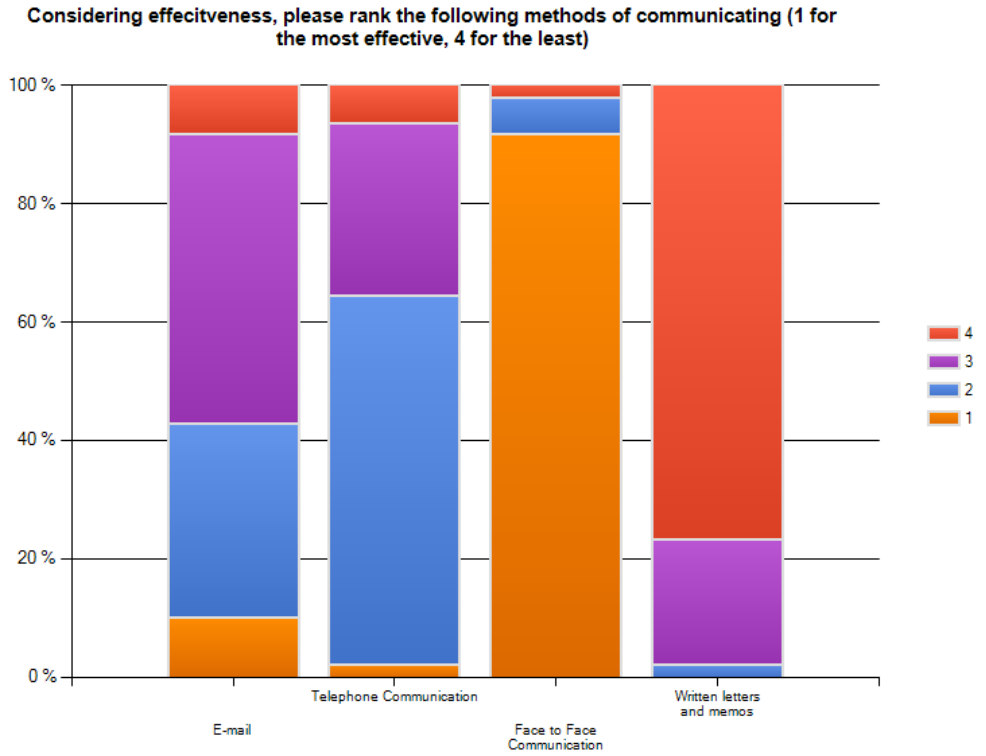


Question 16: - 7 comments were left on this question (see Appendix A)

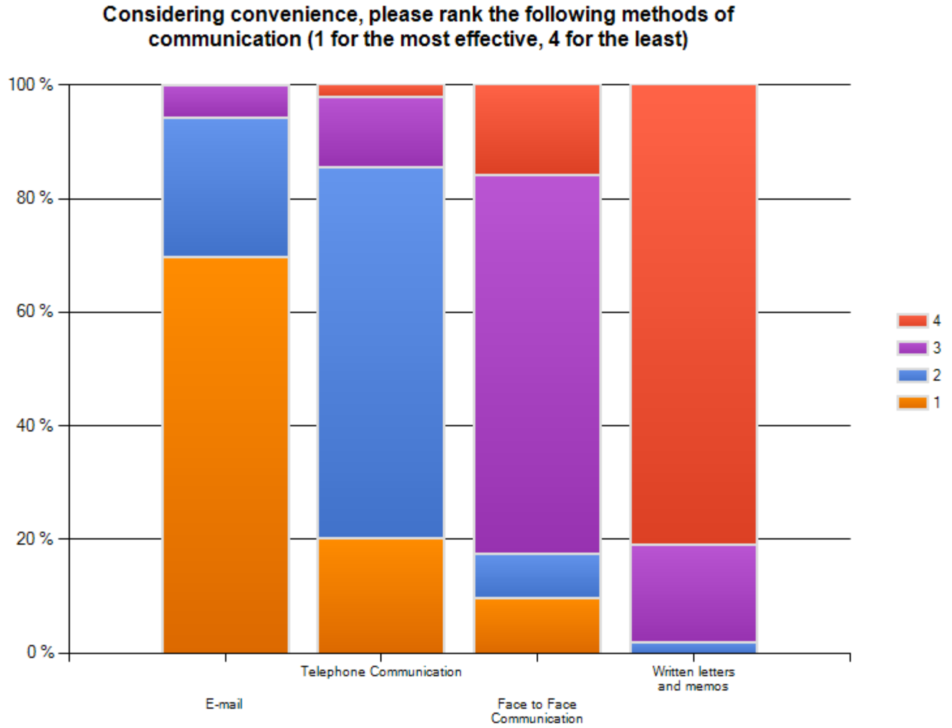


4.5 - Habits and Social Aspects

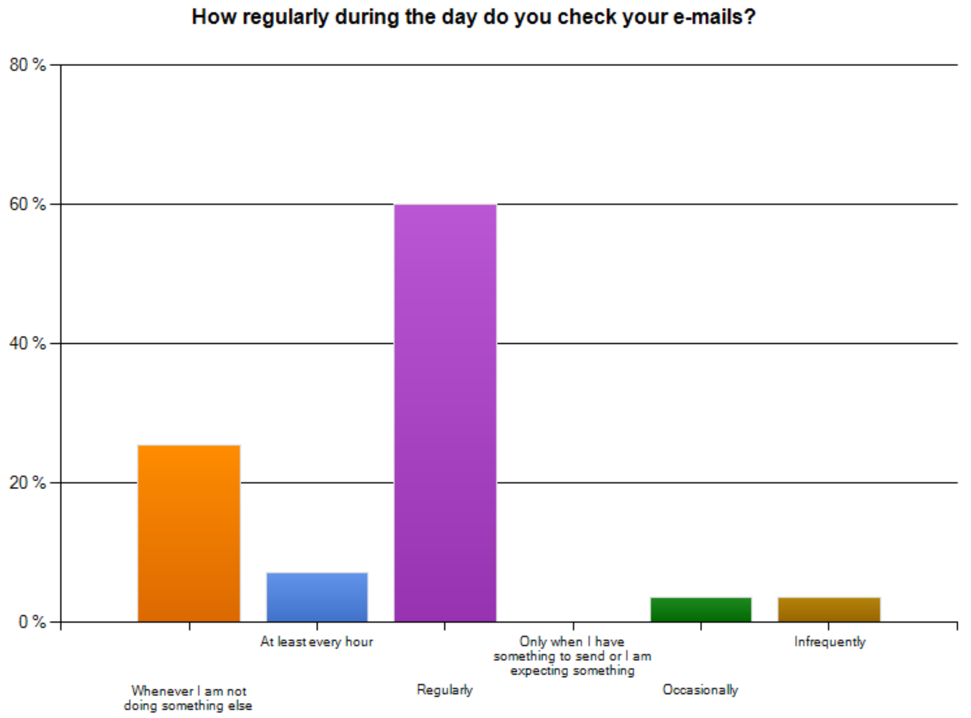
Question 1: - 21 comments were left on this question (see Appendix A)



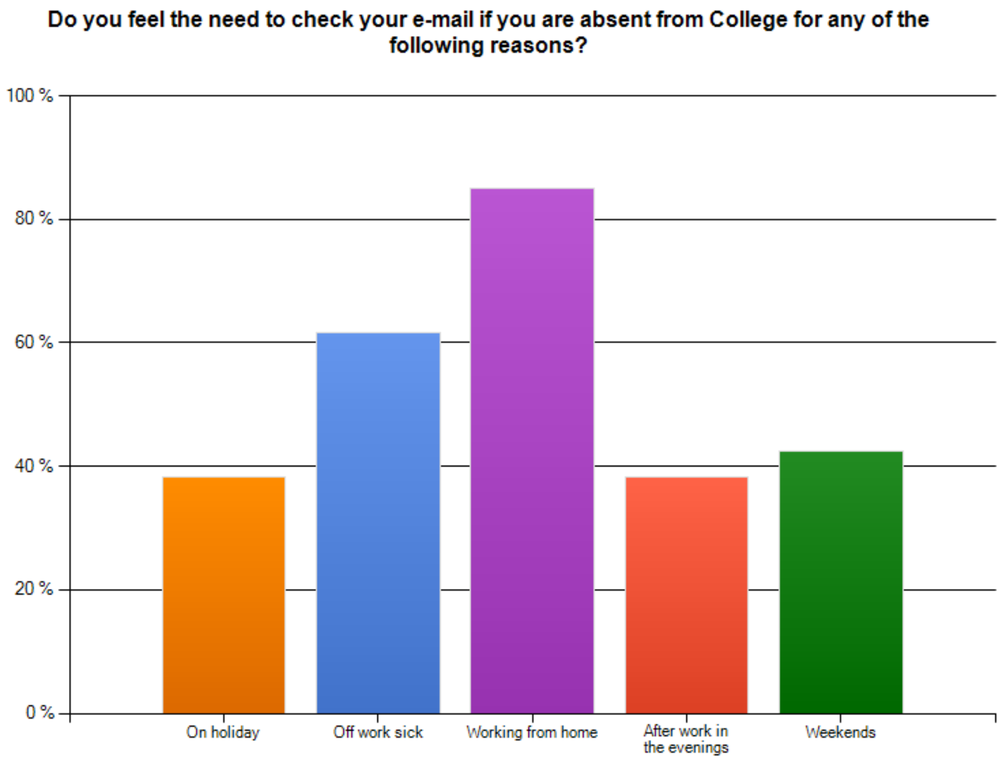
Question 2: - 12 comments were left on this question (see Appendix A)



Question 3: - 13 comments were left on this question (see Appendix A)



Question 4: - 22 comments were left on this question (see Appendix A)

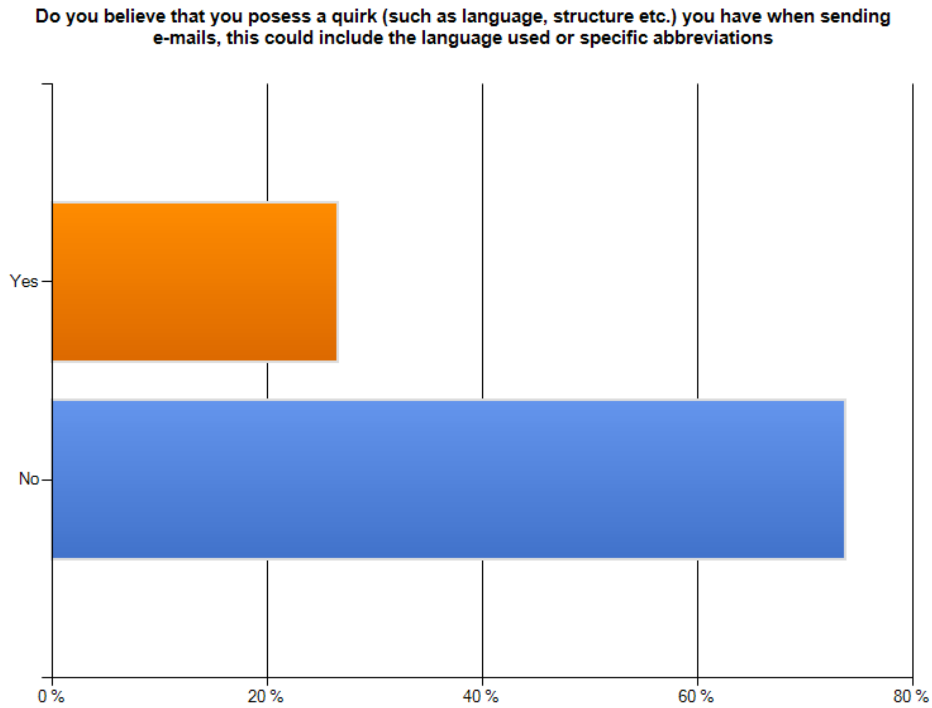


Question 5:

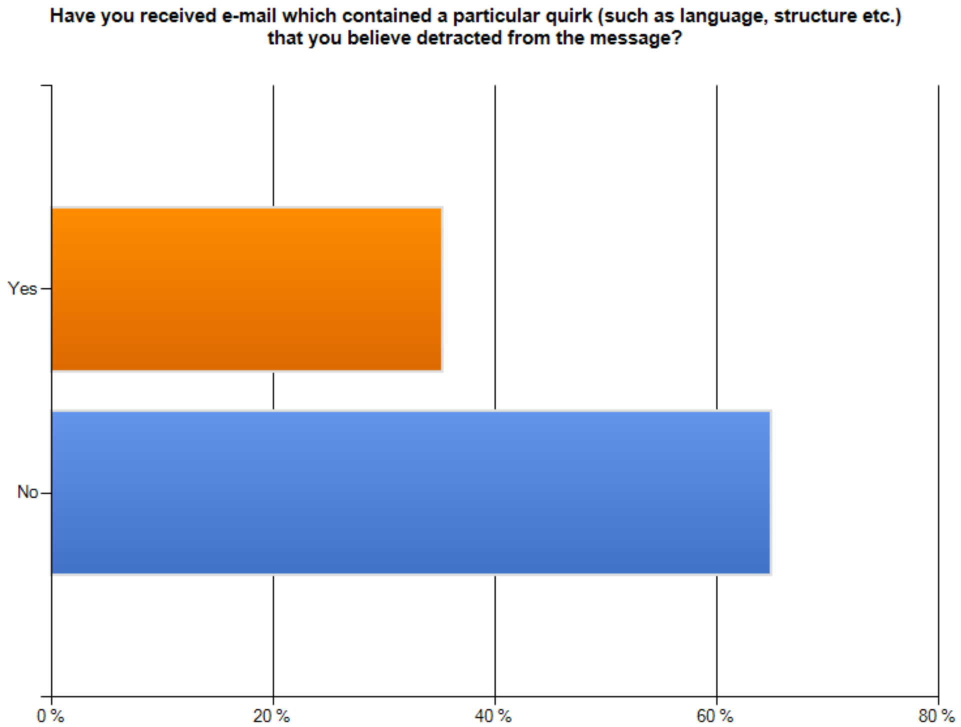
Please identify a situation in which you feel that e-mail would definitely not be a suitable method of communicating.

There were 45 responses to this question. These responses may be viewed in Appendix A

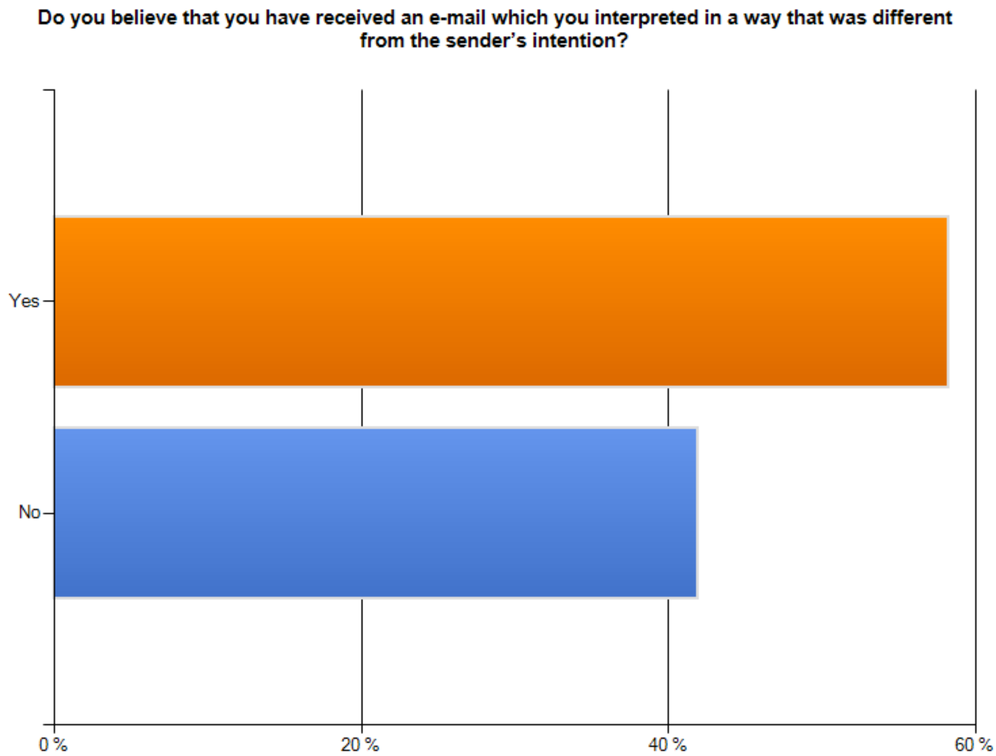
Question 6: - 15 comments were left on this question (see Appendix A)



Question 7: - 19 comments were left on this question (see Appendix A)



Question 8: - 22 comments were left on this question (see Appendix A)

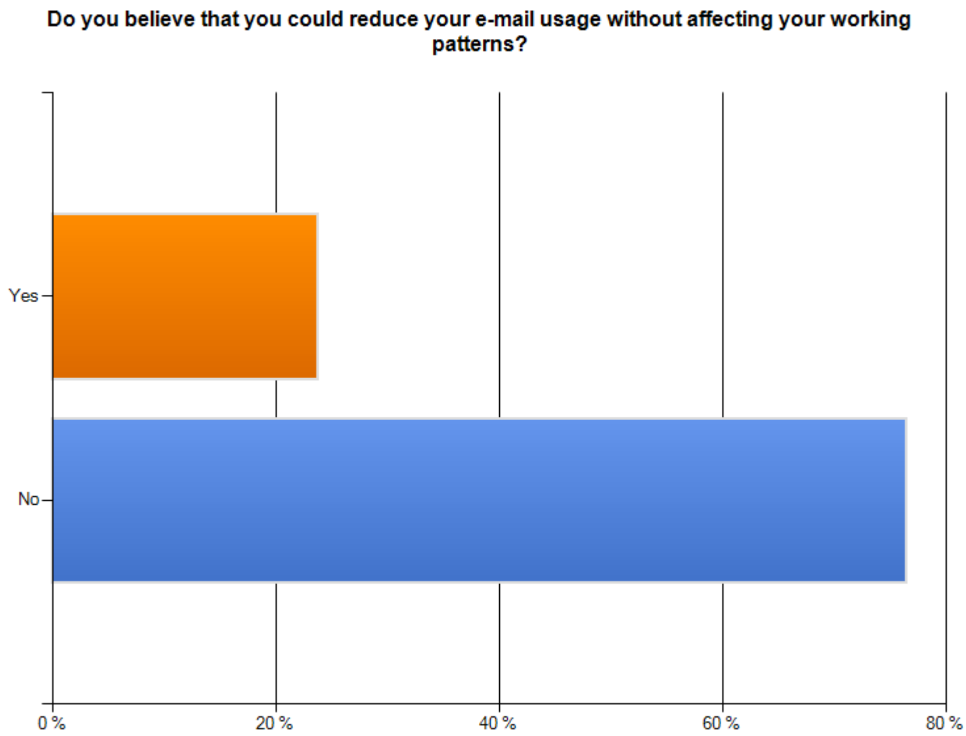


Question 9: -

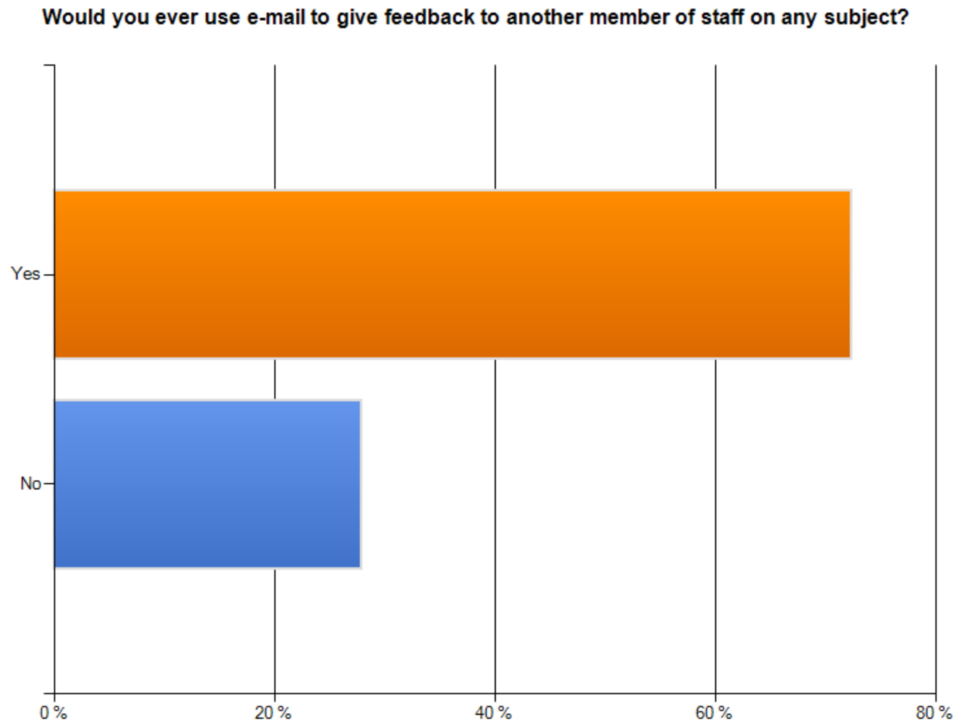
Please make any suggestions that you believe would improve your experiences of using e-mail for work.

There were 21 responses to this question. These responses may be viewed in Appendix A

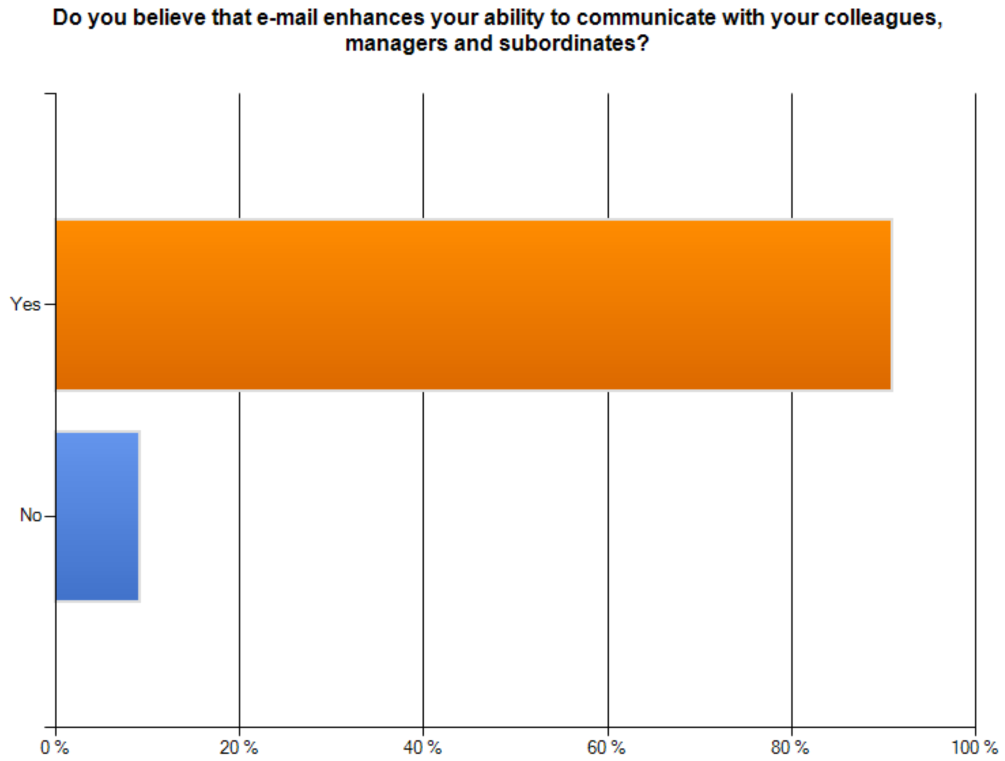
Question 10: - 12 comments were left on this question (see Appendix A)



Question 11: - 30 comments were left on this question (see Appendix A)



Question 12: - 6 comments were left on this question (see Appendix A)



4.6 - Interviews and Focus Groups

Three interviews were planned and conducted with key members of staff at Pembrokeshire College. The full transcripts of these interviews are shown in Appendix B. Points brought up in the interviews will be used to further inform the discussion chapter

Three focus groups were planned, one each for management, business support and academic staff at Pembrokeshire College. Two of the three ran effectively and the transcripts for these can be viewed in Appendix C. The focus group for academic staff failed to run due to non-attendance of those contacted. In most cases no fore-warning of this was given which meant that there was no opportunity to re-arrange the focus group in a timely manner.

Both the interviews and focus groups contributed elements to the discussion and conclusions that have been drawn about the subject.

Chapter 5

Discussion

5.1 - Introduction

The results gathered will now be discussed in relation to the findings of the literature review. Initially the information will be used to show how the results from the questionnaires are representative of the organisation. The results will then be further analysed to show what they indicate and these indications will be linked to the themes relating to e-mail discussed previously. The themes that will form the basis of the discussion are; the benefits and possible drawbacks to the use of e-mail, the issue of cost versus benefit of e-mail use, the issue of efficiency versus effectiveness of e-mail, the use of e-mail as a means of feedback, misinterpretation, context, perception and culture, bullying and inappropriate use of e-mail, possible barriers to the use of e-mail, volume of e-mail usage and time implications. All responses used, highlighted in bold, represent direct quotes and have not been edited at all.

5.2 – Response Rates

A total of 67 questionnaire responses were collected during the study. This represents in excess of a 10% (13.4% of the institution staff) return of those initially sent out. According to Bailey (1997) a minimum of 10% is required to ensure that generalisations can be drawn about a population. In this case, the response rate allows for generalisations to be made about e-mail usage at Pembrokeshire College. Additionally, the results for question 1 show that all categories of employment have been represented in the survey response in proportions that reflect the make up of the organisation. A range of ages and time in service were represented in the survey demonstrating that the data reflects the opinions of a wide range of people with different experience. The most common age group was 41 – 50 which again reflects the general make up of the organisation. The majority of the respondents have worked at Pembrokeshire College for less than 10 years which may affect the results as e-mail will have been present as a tool for their entire employment. Finally the split of males and females responding to the questionnaire is representative of the organisation. On the strength of this it is possible to apply any findings to the whole work force at Pembrokeshire College.

5.3 – Main Body

The literature review explored the possible benefits and drawbacks of e-mail. Bengston (1980) concluded that the benefits were largely linked to speed and cost saving. Holliday (1999) observed that uptake of e-mail has been linked to the reduced cost and the ability to communicate at high speeds. Despite this, Seshadri and Cartenson (2007) concluded that where an organisation was located either in one place or in sites that are geographically close together, the speed benefits of e-mail are rapidly reduced.

When questioned about the main benefits of e-mail 46 out of 60 of the comments referred either to the speed or the inexpensive nature of sending e-mails. Some of the responses referred to both, for example:

Response 10 - "cheap, instant"

Response 33 – "Save time and money i.e. postage, salary, time"

The perception that e-mail is a speedy means of communication still abounds. Staff at Pembrokeshire College view using e-mail as a quick and easy way to communicate with other members of staff. Other benefits cited are that e-mail allows the individual to maintain a written record of communication. This reflects the research carried out by Yell (2003) who concluded that a strength of e-mail was its ability to maintain a written copy.

Cost was also considered to be a major benefit of e-mail by staff at Pembrokeshire College. However, one must consider the cost of the time taken to send e-mails and whether any of this is wasted. Through the e-mail diaries it was shown that on average around 50 minutes per day was used for e-mail related activity. This includes reading, composing, filing and deleting e-mails. The questionnaire responses demonstrated a slightly lower total time investment of 40 minutes. An average of this would suggest that around 45 minutes are spent daily on e-mail related tasks. This amount of time does not compare favourably with the finding of Hewitt (2006) who recorded an average of 74 minutes daily in his case study but is comparable to that recorded by Gartner (2001) who recorded an average of 49 minutes daily.

In terms of time cost based upon total wages for year 2008 – 2009 and FTE as of August 2009, the average cost of e-mail usage is £11.64 per person, per day[1]. As an institution this represents £4535.53 per day and £1,179,237.80 per year staff costs. This is not all wasted time as it would take time and therefore cost money to conduct face to face meetings and make telephone calls. However, according to the diary responses around 23% of e-mails were deleted without reading. 52.5% of questionnaire respondents felt that at least some of the time spent dealing with e-mails was wasted. It is therefore clear that whilst the perception that e-mail is a cheap method of communicating is still present it can be demonstrated that in monetary terms, e-mail can be an expensive means of communicating as it uses a lot of time which a large number of people feel is wasted to some degree.

Considering employment type linked with time spent sending e-mails it has become clear that the management grade and business support staff spend the most time sending and receiving e-mails. Chart 1 illustrates the time spent by management grade staff sending and receiving e-mails and Chart 2 illustrates the time spent by other employment types sending and receiving e-mails. The same comparison was applied to both age and time in service. In terms of age it appears that younger members of staff are spending more time working with e-mails, this is illustrated in Chart 3. However, there appears to be little relationship between time in service and time spent sending and receiving e-mails.

[1] Wages / FTE (£11,635,383 / 389 = £29,861.11 average wage). Average wage / weeks (£29,861.11 / 52 = £574.25 avg weekly wage. Avg weekly wage / hours per week (£574.25 / 37 = £15.52 avg hourly rate). 45 minutes spent on e-mail = 75% of 1 hour therefore £15.52 x 75% = **£11.64**

Chart 1 -

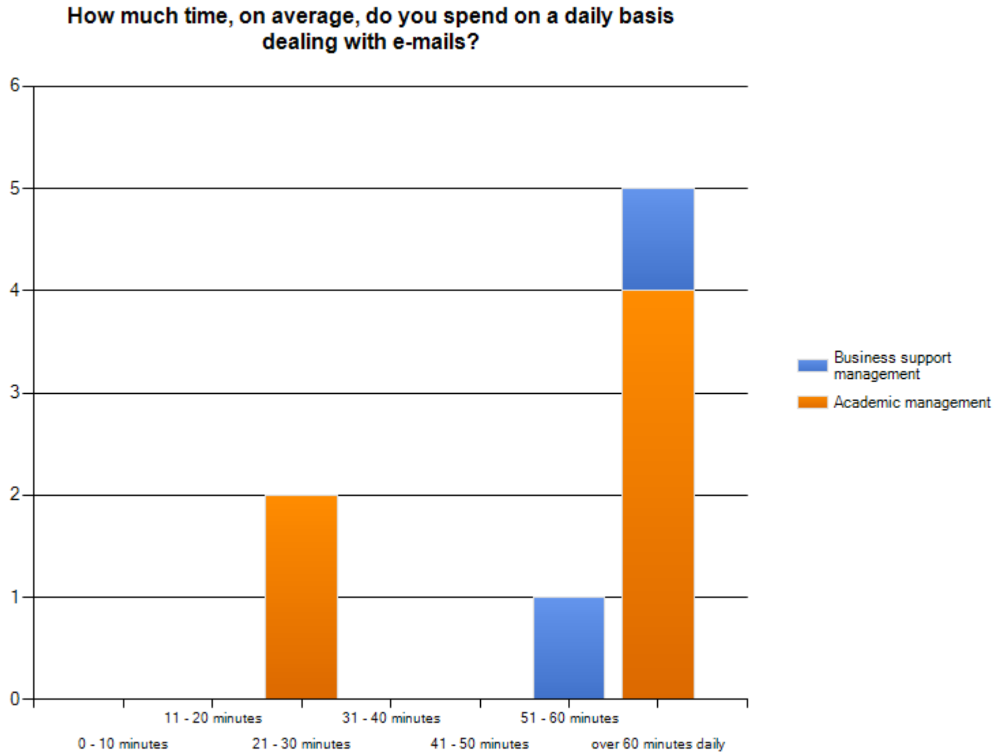


Chart 2 -

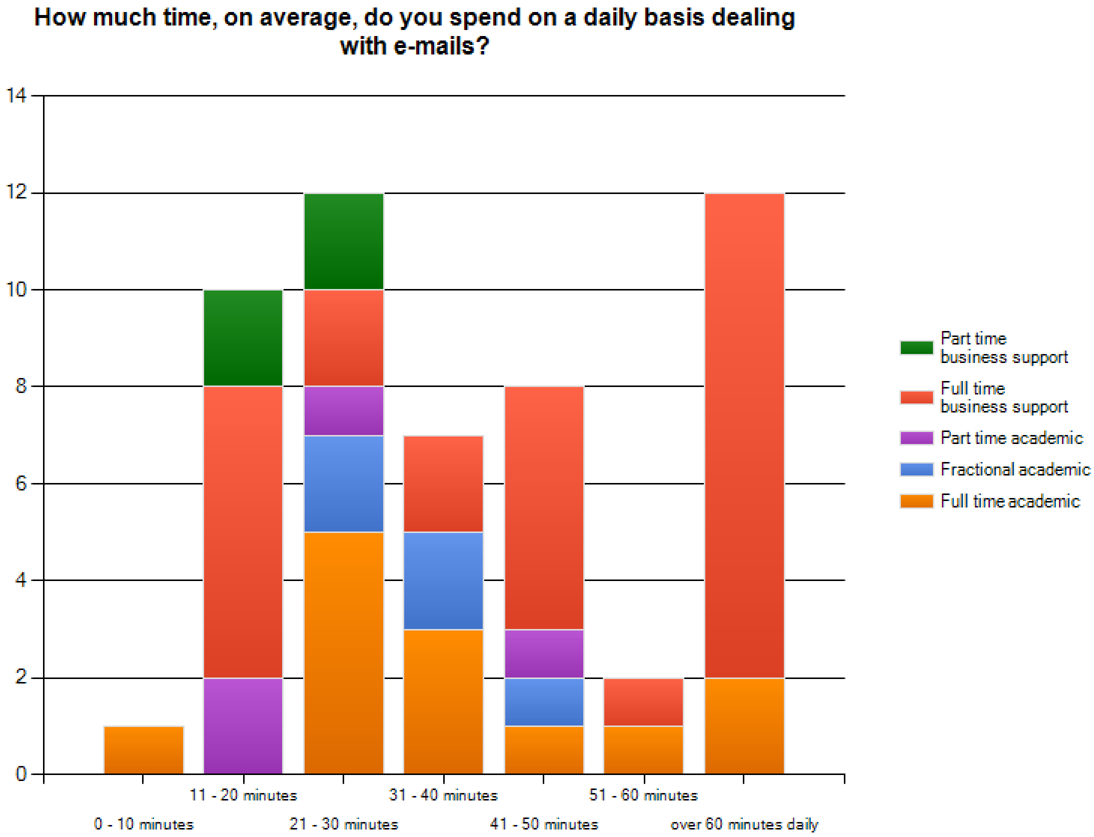
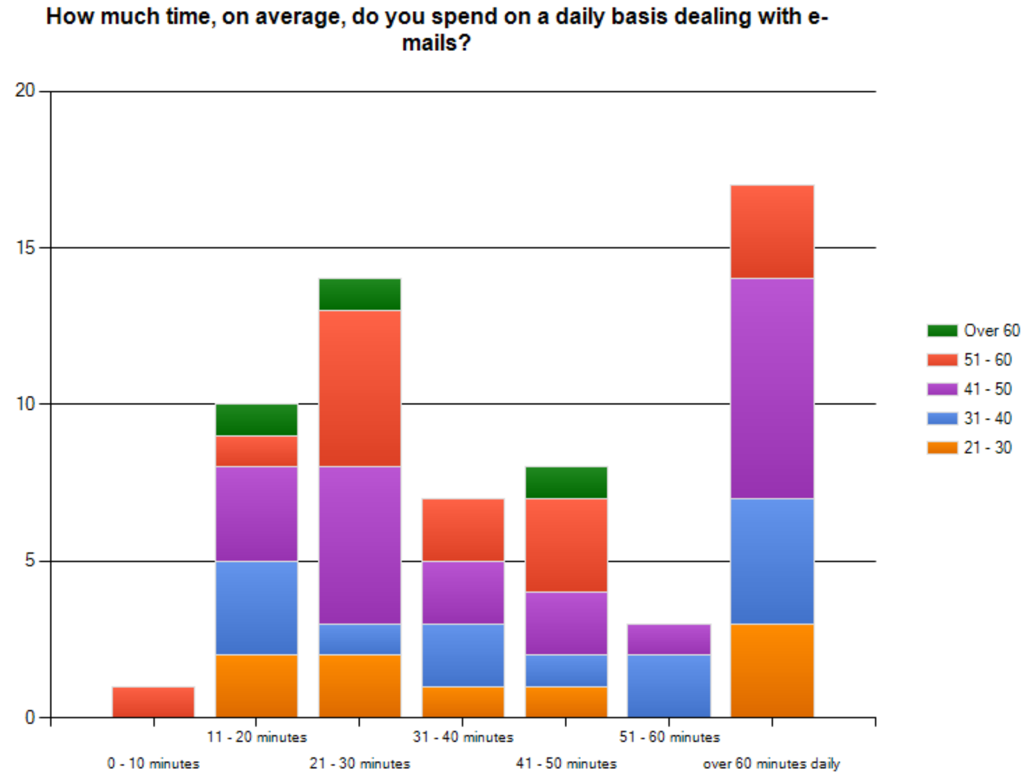


Chart 3 –



A further benefit which has emerged from the questionnaire which is not present in the literature is the role that e-mail is able to play in environmental sustainability specifically in reducing the volume of paper used in organisations. For example:

Response 26 – "Instant, paperless, easily accessible,"

Response 57 – "speed, less paper, easier to search"

As Pembrokeshire College is working hard to enhance its environmental sustainability e-mail has been an important tool in reducing the number of memos and printed documents that are passed between individuals.

There were a number of drawbacks to the use of e-mail that were picked up by the questionnaire, a number of which match the behaviours that were identified by Ingham (2003) as being symptomatic of e-mail overload. One of the major concerns raised was that there is an expectation that the recipient will instantly read the e-mail and respond in a manner that is considered to be timely by the person who is waiting for the reply. This assumption can potentially be dangerous as raised by some respondents. For example:

Response 34 – "THE ASSUMPTION THAT E-MAILS HAVE BEEN RECEIVED OR READ BY THE RECIPIENT"

Response 28 – "It can be relied on as a method of "I've done it" rather than actual face to face communication. It can be less personal and not build good working relationships".

This point was further raised during Interview 3 where the interviewee pointed out that just by sending an e-mail the job of communication has not been completed. There is an onus upon the person who is sending the message to check to ensure that interpretation is consistent with the wishes of the sender. This is consistent with the findings of Baguley (1994) who discussed that ensuring that a message has been sent correctly is an essential part of the communication process. This is confirmed further by Crainer and Dearlove (2001) who stressed the importance of a two way communication process.

It is, therefore; clearly essential that there must be follow up when sending an e-mail in order to check that it has been received and understood. This should be carried out using a different communication medium such as a telephone conversation or face to face. This should be the case, especially where the message is important or requires a response.

A further major drawback that was identified in the questionnaire is that e-mail lacks personal interaction. This speaks to the argument that e-mail is not a rich form of communication as suggested by Rice et al (1998). This link is further strengthened by the suggestion by respondents that e-mail lacks immediate feedback, another feature of communication richness. This is illustrated in the following responses:

Response 11 – "Lack of personal communication, can be ignored"

Response 12 – “Impersonal. Could be taken the wrong way if badly worded”.

Response 19 – “No immediate response”.

Despite these concerns it appears that members of staff are prepared to bear the possible lack of richness in favour of the convenience of sending e-mails. The idea suggested by Stevens and McElhill (2000) that there is a pay off between richness and reach appears to apply here. In this case it is clear that the pay-off is accepted. This is illustrated by the response that 76.4% of staff believed that reducing their e-mail usage would be detrimental to their work patterns.

Additionally when asked to rank the convenience and effectiveness of different communication methods e-mail was considered to be the most convenient but not necessarily the most effective. This clearly illustrates the acceptance of the pay off between richness and reach and is different to the findings of Hewitt (2007) who recorded that e-mail is viewed as being effective as well as convenient. Generally, as suggested previously the main reason for considering e-mails to be the most convenient is linked to the speed and ease with which they are sent. This is suggested in response 9 who left the comment “It takes less time to write an email and a lot more time to go and speak to someone face-to-face”. Further comments made on this subject illustrate the compromise:

Response 11 – “Face to face is a good way to communicate, but if it's important I would prefer to have an e-mail as I can ensure that I use information correctly as I can check”.

Response 8 – “Effectiveness if different according to situation. Face to face is better in general but e-mail is quicker and necessary in work”

In addition to the time spent, members of staff were directly questioned on the volume of e-mails sent and received. The results from the diaries gave a combined total of sent and received e-mails at 30.37 per day. The questionnaire results demonstrated an estimated average of 35.2 e-mails sent and received in a day. The volume of e-mails sent and received appears to be spread across all employment types, ages and length of service, therefore there appears to be an equitable distribution of message load across all staff. The only notable exception appears to be that in both e-mails sent and e-mails received, full time business support staff account for the majority of respondents in the over 40 category (See Chart 4 and 5). This is higher than the management categories as well. In terms of management, there is a higher average of messages sent and received than in other employment categories.

Chart 4 –

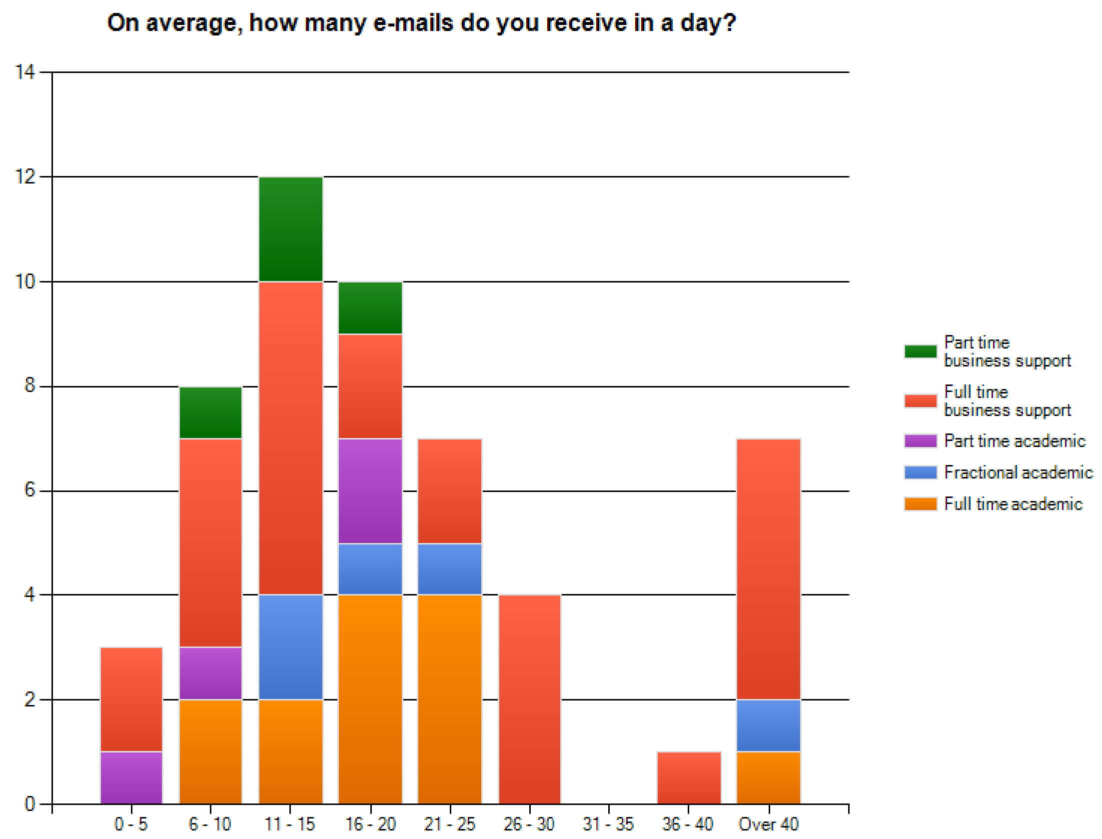
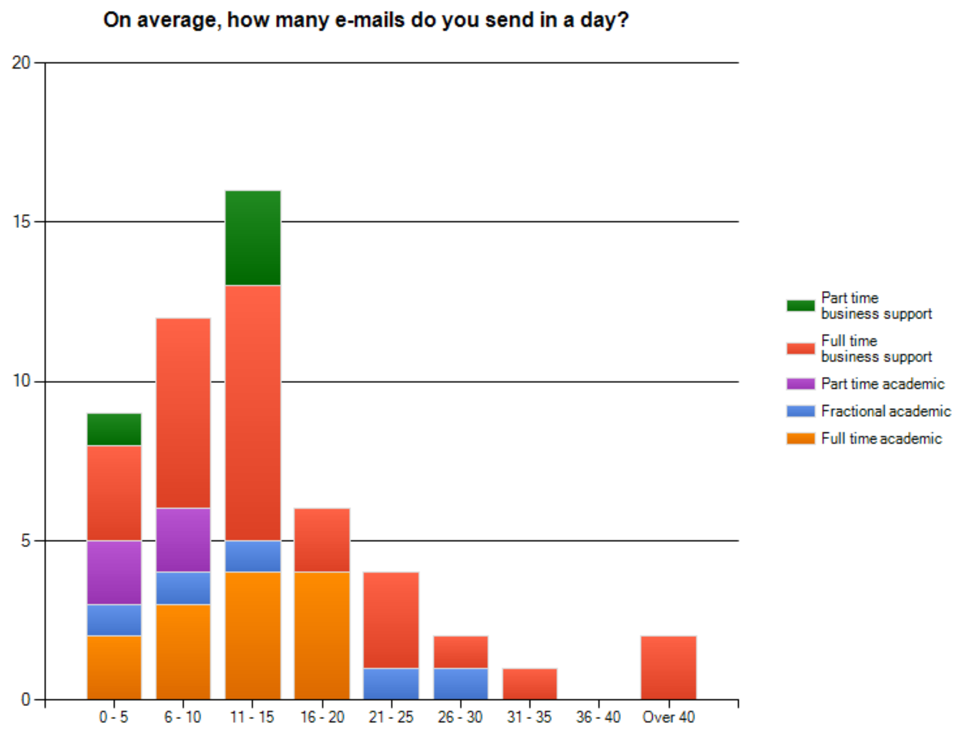


Chart 5 –



This is lower than the volume of e-mails sent and received in a study conducted by Whittaker and Sidner (1996) which discovered an average of 49 e-mails sent and received in a day. This figure was replicated in 2002 by Lyons (2002) demonstrating that the trend was not falling. The findings at Pembrokeshire College are slightly lower than the UK average researched by Pitney Bowes (2000) which stands at 39 e-mails sent and received per person per day. The results at Pembrokeshire College may indicate that there is a trend towards reducing the number of e-mails sent and received per day.

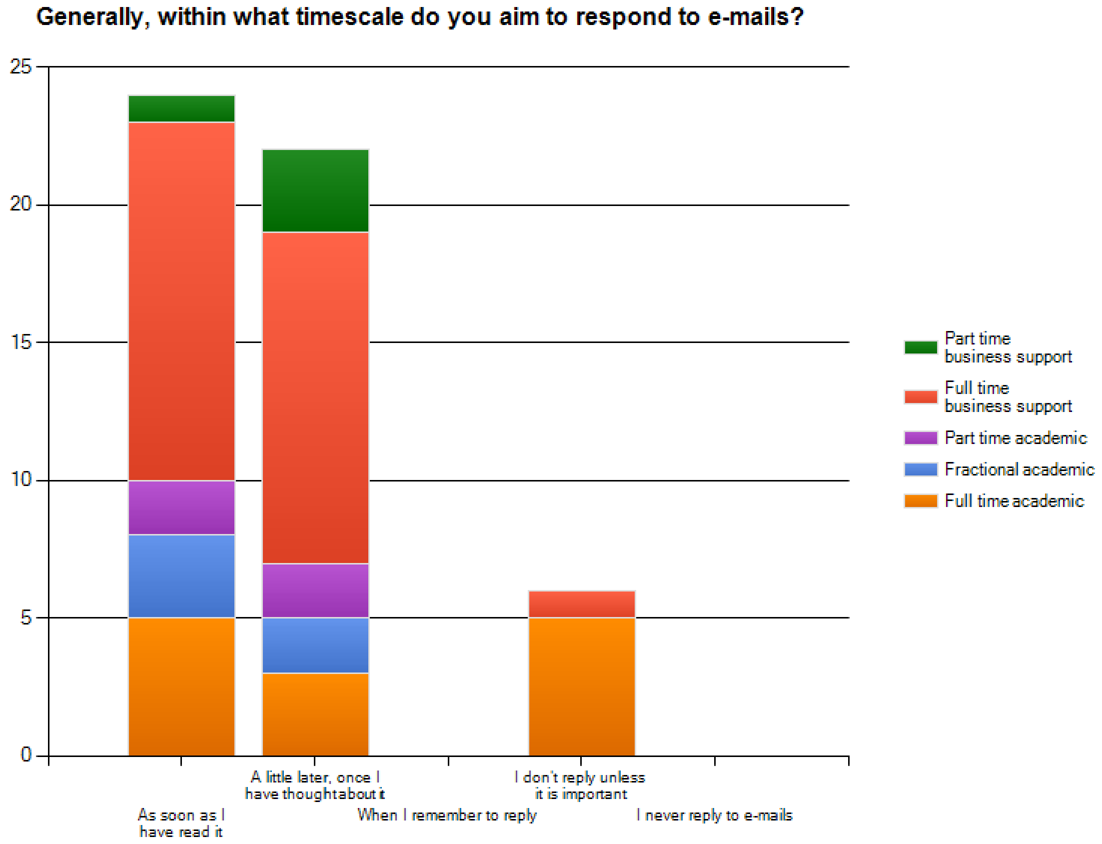
Although the volume of messages observed at Pembrokeshire College is generally lower than in the literature 78% of respondents felt that they were receiving messages that were not relevant to them, 50% are using e-mail for personal purposes and 55% reported receiving the same e-mail from multiple sources. It is clear that the number of message could be further reduced if those sending messages considered their target audiences more fully and were more careful in the way that the messages are distributed to try and minimise duplication.

Linked to volume and time staff were asked about the timeframes in which they respond to e-mails. The majority of staff was split between those who respond to e-mails immediately and those who wait and give the e-mail some thought before responding, 45.8% and 44.1% respectively. In some cases it has been shown that taking some time and considering the response carefully before sending a message is important in reducing the passing of ambiguous or misinterpreted e-mails (Taylor et al 2004).

However, in some cases those who chose to take the time to consider their answer before responding may send better, clearer messages. It has been shown that respondents to this questionnaire and participants in other studies such as Yell (2003) assume that speedy response can be expected. Getting this balance right is essential and according to Cunningham and Greene (2002) it relies upon the effective training of individuals and the use of a structured approach to e-mail usage.

10.2% of respondents reported that they do not respond to an e-mail unless they view it as important. Response 1 noted that “not everything warrants a response, even things that the sender thinks needs a response”. This suggests either a misinterpretation of how urgent a message is on the behalf of the sender and how urgent it is to the recipient. This demonstrates a fundamental breakdown in the communication process as suggested by Montana (2008). It is important to note that as Chart 6 demonstrates, it is full time academic staff who account for the majority of the 10.2% who do not respond unless they view it as important.

Chart 6 –



Response 19 further demonstrates the importance of the sender making it clear how important a message is "I try to send an immediate response to the sender but will take more time if specific action is needed or if I need to think about it a little more. I do try not to leave email unacknowledged as this can be frustrating for the sender". In this case whilst the recipient is applying their own opinions to how important a message is and creating their own priorities they are still acknowledging the sending. It is therefore important for the sender to realise that their priorities may not be the same as the recipient and a general level of understanding is important. There is, however, a good understanding amongst recipients that they may have interpreted a message differently to the way in which the sender had intended. 58.2% were aware that this had happened. Generally these instances appear to be linked to the tone of the message. For example:

Response 5 – “Yes sometimes e-mails come in such a way that their tone is more harsh that it would be if you delivered it in person”

Response 9 – “Sometimes people sound bossy, abrupt and offensive when they (hopefully!) don't mean to”

Other staff members appear to be aware that e-mails can be read and interpreted in different ways. For example:

Response 12 – “The recipient can read it differently from the way the sender has worded it and vice versa”

Response 15 – “Easy not to fully read a lengthy email and make an assumption that you have got the gist”!

It is impossible to determine whether it is an encoding or decoding issue in this case but the important consideration is that communication has broken down. A further negative attitude towards communication can be seen in response 5 “If it’s urgent they will ask again”. This indicates a lack of commitment to participation in the communication process. Opting out of the e-mail communication process in this way is a symptom of the effect caused by e-mail overload as observed by Ingham (2003).

The implication of reducing message volume is important. Volume linked to time and time is linked to cost. Whittaker and Sidner (1996) found that high volumes of e-mail correlated with increased time spent not doing essential tasks of the job therefore wasting time and money. Taylor et al (2004) showed that excessive e-mail volumes can lead to negative e-mail behaviours such as threatening or inappropriate behaviour.

In this study only 5.1% of respondents felt that they had received a bullying or offensive message. This is an encouraging response as it is lower than the 9.2% reported by Baruch (2004) who focused solely on the effects of bullying via e-mail. Of those that did feel that e-mails contained bullying tones a concern that management use e-mail as a control tool came up in Response 4 “Sometimes I get, "This has been agreed by SMT so do it" or the threat of Senior management”. It is important to reduce instances of management exerting pressure via e-mail as Taylor et al (2005) found that management were a source of stress and that using e-mail to exert pressure is easily construed as bullying behavior.

89.8% of staff reported that they would not include anything in an e-mail that they would not be prepared to say in person. This statistic is very encouraging as Taylor et al (2005) reported that one of the biggest issues with e-mail is that it provides a faceless outlet for people to say things that they would not say otherwise. This may also suggest that members of staff are actively seeking to ensure that they don’t send messages that would offend the recipient.

Linked with this staff were also asked whether they had received e-mails that they considered to be inappropriate for any reason. 47.5% felt that they had. This figure is surprisingly high as it suggests that there is an excessive use of e-mail in ways that do not promote effective internal communication. However, of the 27 comments left the majority spoke of the Spam that is received through the e-mail system. The consideration that Spam is an inappropriate use of the system suggests a desire to increase the effectiveness of the filters used to prevent these messages. The concern here would be that genuine messages may be lost.

Through the questionnaire responses it appears that staff feels that their line managers communicate quite effectively through their use of e-mail. 90.9% of respondents felt that communicating with managers and colleagues was made more effective by using e-mail. Additionally, only 13.3% of staff believed that their line manager e-mailed them information which would have been better communicated in a different way. This trend appears to go against the findings of Connolly (1996) who found that, as e-mail was finding its feet, managers would use it excessively to circulate information that would have been better delivered in meetings. The data from this study suggests that managers are being more careful about what they send and keeping important information to be communicated in meetings.

Although the overwhelming majority of responses point towards an effective use of e-mail to communicate with management there are still some concerns to be raised. There is still concern that some issues that are important are being discussed via e-mail rather than face to face which would be a more suitable method. The following responses demonstrate this concern:

Response 2 – "Sometimes face to face communication is much better as staff feels valued"

Response 5 – "It is better to speak face to face for some situations and also it is more personal"

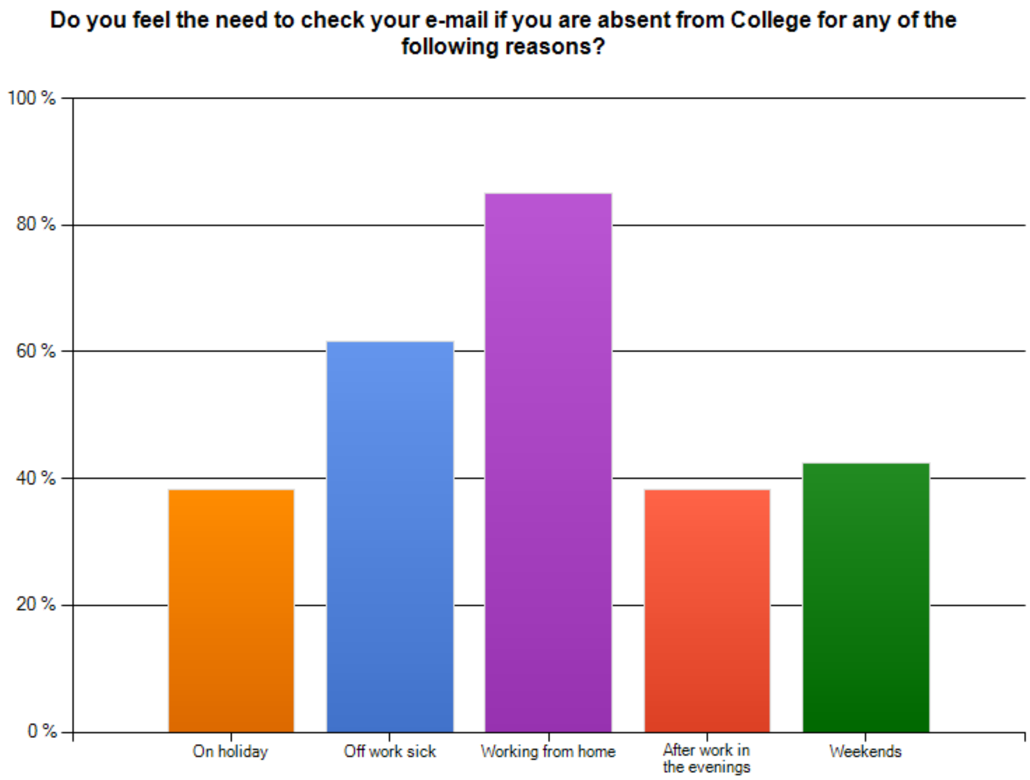
Response 7 – "Sometimes I would like to discuss/question information received which is not easy to do via e-mail"

This evidence echoes the suggestions made earlier about the importance of selecting the correct method of communicating based upon the information that is being sent. In this case the evidence appears to suggest that by and large the correct information is being sent by e-mail and other information being delivered during face to face contact.

An important issue which has emerged from the data concerns how e-mail is impacting on the work-life balance of staff at Pembrokeshire College. Although not addressed directly in the literature some of the issues are touched upon by Baruch (2004) who considered e-mail bullying, Ingham (2003) and Whittaker and Sidner (1996) who considered the effects of e-mail overload. This issue is also taken up by Shah and Noble (2007) who considered e-mail working patterns and Adam (2002) who discussed whether checking e-mails could become addictive. In all these cases the findings tended to suggest that excessive use of work e-mail at times when the person is not in work can have a detrimental effect on performance. The major counter argument to this is that in a lot of cases checking e-mails outside of work time prevented a backlog which could cause undue stress upon returning to work.

Chart 7 illustrates the percentage of respondents to this study who check their e-mail when they are not in work for varying reasons. Whilst the percentage of people checking when working at home is high at 85.1% this is acceptable as staff view it as a part of the job as suggested in Interviews 1 and 2 and in the focus groups held with both business support and management staff. Concerns are, however, raised where staff are checking their e-mails when they are ill and not in work for other legitimate reasons.

Chart 7 -



Concerns for staff who are checking their e-mails when off work sick was raised in Interview 1 and in the focus group with management staff. Considering the comments there appears to be a trend towards staff checking their e-mails in order to either support those who are covering for them or to help ease the load when they return to work. This is applicable for those on holiday and those checking e-mails after work and at the weekend.

Response 19 – "I do not feel the need (ie I am not under pressure to check) but I choose to check emails when I am off sick and at a weekend prior to coming back into work on a Monday - this is for my convenience."

Response 14 – "To help colleagues covering for me".

An important consideration may be that staff do not feel compelled to check their e-mails, they do so as a matter of good practice in order to ensure 'good housekeeping' and to help ease their load at other times. This was suggested during interview 1 and would demonstrate a good awareness of work-life balance. It suggests that the assertion that people check their e-mails outside of work time during times of high load in order to safeguard their own wellbeing rather than as an action that may jeopardise it. However, these behaviours are still symptomatic of e-mail overload and whether the response has a positive effect a reduction of the e-mail load should be considered as a means of addressing work-life balance issues.

Linked with the theme of work-life balance, diary respondents were asked to consider their emotional responses to using e-mail. Taylor et al (2005) discovered that e-mail can have a direct effect on health where the experiences are negative. Across 52 recorded emotional responses from diary respondents, 27 recorded negative emotional responses such as irritation, confusion and annoyance. This would indicate that e-mail is having a negative impact on the health of those who are using it according to the findings of Taylor et al (2005). An interesting point to consider is that these responses may not be limited to the person who recorded them. According to Curran and Casey (2006) it is possible to inadvertently express your emotions when creating an e-mail. It may be the case that other people were accidentally exposed to the emotional state of the diary respondents as a result of this. Great care needs to be taken to ensure emotional neutrality when writing e-mails.

A potential contributing factor to negative emotional responses, misinterpretation, excessive time investment and lack of understanding is the possibility that e-mails are sent either in a way that is too informal or containing particular quirks that may confuse the recipient. Seshadri and Cartenson (2007) considered at length the effect that culture and individual quirks can have upon the ease with which communication takes place. In this study the issue of quirks and culture was considered in the diary and questionnaire components.

The diaries indicated that there was little impact from culture or quirks as only an average of 0.38 e-mails were received where the person filling in the diary felt it wasn't clear. 0 e-mails were returned to sender where the recipient didn't understand. There is not enough evidence to establish whether the recipient fully understood the message or whether they didn't understand and simply decided not to follow it up. The danger of the latter assessment would be that the act of communication in this case would have been wasted time.

From the questionnaire responses, 58.2% of staff felt that they may have interpreted an e-mail differently from the sender's intentions. Seshadri and Cartenson (2007) point out that this sort of discrepancy is indicative of incompatible e-mail cultures. Some examples of where staff have misinterpreted e-mails are shown below:

Response 21 – "Sometimes emails are very brief and do not contain sufficient information and if you are very busy it is easy to misunderstand".

Response 12 – "The recipient can read it differently from the way the sender has worded it and vice versa."

Staff were directly questioned about quirks that they either possessed or have experienced when communicating via e-mail. Seshadri and Cartenson (2007) identify that quirks such as use of language, punctuation and the structure of messages are indicative of different cultures and could cause a lack of understanding. In this study only 26.4% of staff felt that they possessed a quirk. Feedback was given on what quirks people had and are shown below:

Reponse 1 – "I refuse to use text speak or stupid abbreviations. I tend to be very conversational in my approach".

Response 2 – “I am sometimes too familiar and use things such as exclamation marks”.

From the study it appears that being overly familiar with the recipient is the biggest concern that people have when sending e-mails.

35.2% felt that they had received an e-mail that contained a quirk that detracted from the message. Messages that do not correctly use grammar and punctuation or messages that use excessive abbreviations appear to be the biggest detractors from easily understanding messages. Examples of these are given below:

Response 4 – “I hate abbreviated texting language e.g. u for you and l8 for late”.

Response 15 – “I have received emails in which punctuation has been omitted or misplaced. This has caused the message to be ambiguous”.

Although there is evidence to suggest that there are some cultural issues that may be impacting on e-mail communication there is a majority of staff who feel comfortable that either they do not include quirks or that those that are present do not detract too much from the initial message. This may be due to the size of the organisation. Seshadri and Cartenson (2007) believed that the potential for cultural interference increased as the size of the organisation increased. Although Pembrokeshire College is not a small organisation it does not appear to possess the size required to generate a large cultural impact on communication. Additionally it appears that some members of staff are able to identify that the way they communicate may cause confusion and actively seek to address this.

Response 14 – “I try to be polite friendly and not too blunt”.

Response 15 – “I always start Dear so and so because I think it is polite - a hangover from the age of letter writing”.

These responses suggest that staff are actively considering those who are receiving their messages and are attempting to reduce ambiguity. As well as being of benefit to the recipient it also cuts down on the time the sender may be required to spend clarifying confused messages.

In light of a number of these issues members of staff were asked in the questionnaire to consider what would not be suitable information to put in an e-mail. During interview 1 it became clear that Pembrokeshire College does not have guidelines on what is appropriate information to be communicated by e-mail. During the management focus group the college policy on e-mail was mentioned. However, the policy concerns ownership and responsibility rather than providing advice on acceptable content. 45 comments were offered on this subject. The themes that emerged from these comments concern communication of important or confidential information, disciplinary issues or transferring information of a personal nature. The following comments are representative of the wider responses:

Response 1 – "If my manager wanted to talk about something important or confidential".

Response 24 – "transferring secure / personal / confidential information".

Response 36 – "Whenever sensitive issues are involved which could be misinterpreted".

These responses tend to follow the findings of King and Xia (1997) and Kurtzburg et al (2006) who discussed that e-mail should not be used when providing either negative feedback or when discussing matters of a private nature. The possible implications of doing so are linked strongly with motivation and staff effectiveness.

A major difference between established research such as that conducted by Kurtzburg et al (2006) and the findings of this study are that research has shown that staff tends to react poorly to any form of feedback delivered by e-mail. Through the questionnaire staff reported that they felt comfortable giving feedback to other members of staff using e-mail. 72.2% reported that they would feel comfortable giving feedback to other members of staff. 30 comments were also left on this particular issue. It appears that staff are comfortable to use e-mail to deliver feedback either where the feedback is positive or where it has been directly asked for by the person receiving the feedback. In this case e-mail is clearly seen as being a legitimate means of delivering feedback but it may still potentially lack the personal touches associated with either written forms or face to face communication. The following comments illustrate the situations in which feedback via e-mail is considered appropriate.

Response 4 – "Too many to mention, but a thank you sent to staff who have done a good job is always welcome and then followed up physically"

Response 25 – "It depends on the nature of the feedback. For 'lighter' issues yes for important matters, no".

Finally, staff were asked to consider what recommendations they would make to improve their experience of using e-mail for work purposes. Only 21 comments were left on this issue. Suggestions included providing staff with direction on how to use e-mail most effectively. This idea also came from the interviews and focus groups conducted. The creation of a guidance programme or implementation of training sessions was also present in the literature for example Parker (1999) The nature of the training such as content and mode of delivery is still open to debate. During interview 2 this issue was discussed at length and the clear indication was made that training should be on an individual basis where issues have been identified rather than on a group basis.

Providing training links in with producing a code of practice for staff was suggested in the questionnaire and discussed during interviews and focus groups. The general feeling was that tightening the system up to provide better direction would be of benefit to staff and the organisation.

Other useful suggestions were made in relation to the management of SPAM e-mails which has been identified as an issue previously. A suggestion was made to colour code messages so that circulars could be easily identified and setting rules where messages that are time dependant such as ‘soup of the day’ would automatically expire and be deleted. There was also a suggestion from the interviews and focus groups to change the functionality of all staff e-mails so that more targeted e-mails could be sent. Totally removing it was seen as counter-productive as there are cases where all the staff need to be contacted.

Having discussed the results in detail there are a number of issues that have been identified and explored. In some cases the findings support the findings of the existing body of literature. In other cases the findings have either built on or offered alternative points of view to those existing findings. These have led to a number of possible key findings which illustrate the way in which e-mail has had an impact at Pembrokeshire College as well as demonstrating how the body of literature has been advanced. These key findings will be explored in greater detail in the next chapter.

Chapter 6

Conclusions and recommendations for further study

The aims of the study have now been considered and conclusions can be drawn from them. Each of the aims will be considered individually and key findings will be highlighted to demonstrate how the body of knowledge on this subject has been advanced by this study. This chapter will conclude the dissertation and methodological limitations and will also consider recommendations for further study.

6.1 - Study Aim 1 - Research the development, positive and negative aspects of e-mail as a means of communication within businesses

A detailed literature review was conducted into the development of e-mail as a means of communication. Through this it became clear that the rapid development of e-mail as a means of internal communication within businesses has been led by its ability to provide a seemingly rapid and cheap means of communicating that was not constrained by geographical limitations. Ensuring good communication within organisations helps to develop competitive advantage thus enhancing the success of the organisation.

Whilst the main benefits of e-mail identified soon after its inception in the late 1970’s as reported by Bengston (1980) appear to hold true, literature has demonstrated that over the years a number of serious detractions have developed that have impacts on how effectively e-mail can be used within organisations. The lack of richness of communication, e-mail overload, bullying, the susceptibility to perversion as a result of culture and the occurrences of staff being disciplined as a result of e-mail content all serve to detract from the benefits.

Key Finding 1:	**There is little agreement in the current literature about how to quantify and demonstrate good e-mail practice.**

The literature investigated did provide a variety of components of good practice. However, there was little agreement between authors on how best to illustrate good practice when using e-mail and what systems of information and control would be acceptable. There was a consensus that providing some sort of code of practice is an important start point when considering working with e-mail. This is demonstrated by Morgan (2002) and Parker (1999). However, there is no agreement on the structure or content of this. The viewpoint appears to be divided between a code of practice that lays out the organisation's controls and the limitations of use and the code of practice which discusses the actual usage of the system in terms of how to send e-mails, what to include, how to behave etc. Without a consensus on components of best practice it is difficult to try and address the potential pit falls of e-mail usage.

6.2 - Study Aim 2 - Investigate the role e-mail has within an organisation

Within the literature it is clear that the role e-mail has within organisations has grown rapidly over the past 30 years. There appear to be three main catalysts for this development. Organisations which are expanding geographically have found a use in e-mail based upon the speed and relative cheapness (Yu and Yu 2001). The technology required to manage e-mail has become cheaper and the demand for instant information access created by the increasingly rapid changes in business environments have created a much more important role for e-mail within organisations.

Key Finding 2:	**The role of e-mail at Pembrokeshire College appears to have become indispensable.**

Every means of collecting data used in this study has indicated that e-mail, whatever the benefits or drawbacks that it brings, is a means of communication that people would not be prepared to dispense with. E-mail free days would not be a useful exercise in this case as it would have a detrimental effect on the working patterns of staff at Pembrokeshire College. Interview 3 points out that the role of e-mail is very important and that when used correctly can be hugely beneficial.

The staff have developed a structure within which they use e-mail. 60% responded that they check their messages regularly with an additional 32.8% checking at very regular intervals. This suggests that e-mail has become as integrated and accepted within working patterns as attending meetings and making phone calls. It is clear that the role of e-mail is a very important one in this case study. In light of its importance considerations should be made to maximise the ability of e-mail to ensure effective internal communication can be achieved. This follows the findings of Burton (1994).

6.3 - Study Aim 3 - Establish current usage of e-mail within the organisation

Through the diary and questionnaire responses a clear picture has been built up about the current usage of e-mail at Pembrokeshire College both in terms of volume and methods of usage. It is clear that e-mail is not just a means of communicating. 56.7% of staff also used their e-mail as a means of filing documents and important information for use at a later date. This helps staff to access information even when they are not in work expanding their ability to work flexibly to suit themselves.

As well as ways in which e-mail is used the study sought to consider the overall volume of e-mail and to compare it to examples in literature.

Key Finding 3:	Whilst indicators of e-mail overload still exist, the volume of usage at Pembrokeshire College is lower than examples provided in published literature

From the diaries and questionnaire it has become clear that staff at Pembrokeshire College are using e-mail less than a number of examples given in the literature reviewed earlier in this dissertation. Pembrokeshire College also bucks the evident trend of an increasing volume of e-mail being used every year. In terms of usage, managers and business support staff tended to send and receive more e-mails and spend more time dealing with them than either academic or part time staff. This did not surprise those involved in the focus groups and can easily be explained in terms of the nature of their jobs. Where e-mail load was considered more excessive was within the academic staff who provided a poorer outlook on the use of e-mail overall.

E-mail load was a consideration that was raised during all 3 interviews as well. Interviews considered the impact of overload from the point of view of having a detrimental effect on the ability of the individual to perform their role to the best of their ability. Interview 2 considered overload to be a symptom of a lack of understanding and training and interview 3 considered that overload led to a disengaging with the medium. All three of these consider important impacts of e-mail overload but also demonstrate that the concerns of overload should be considered from different viewpoints and that the means of solving the problem are multiple.

Key Finding 4:	**Whilst academic staff, generally, have a lower e-mail work load than managers and business support staff the feeling is that more time is wasted and that more messages are misunderstood.**

Generally the results illustrated that academic staff felt that there was a lot of wasted time involved in using e-mails. For example 69.2% of full time academic staff felt that time was wasted. 100% of both full time academic and fractional academic staff reported receiving the same message from multiple sources. Further study in this area would be needed to identify practical ways of enhancing the experience of academic staff using their e-mail. During the focus groups there were examples of staff commenting that a lot of time is wasted not just because messages were received from multiple sources but because there was no reply.This issue was discussed at length during the non-academic staff focus group where the participants detailed that when staff fail to reply they have to chase them using other means of communication which in turn wastes a lot of time.

Key Finding 5:	**Although lower than examples provided in published literature, data from the study at Pembrokeshire College is still indicative of e-mail Overload**

As discussed the volumes of e-mail being sent at Pembrokeshire College are lower than those demonstrated within literature. For example they are lower than the findings of Hewitt (2006). Despite this there are still clear indicators that e-mail overload exists at Pembrokeshire College. These are readily observable in attitudes towards the return of e-mails, the volume of e-mails deleted without reading and a deeper consideration of what to send and when. However, there is little evidence of the final symptom suggested by Ingham (2003) which is to opt out of the communication medium entirely.

Key Finding 6:	**Volume of e-mail usage could be significantly reduced if duplication and irrelevant e-mails could be reduced or eliminated.**

A large proportion of staff were reporting duplicated e-mails and receiving messages that were entirely irrelevant to them. There was a suggestion that a large number of all-staff e-mails were sent despite not actually being relevant to all staff. Reducing the number of e-mails by cutting down on these would further reduce the overall volume of e-mail usage at Pembrokeshire College and ease the symptoms of e-mail overload within the organisation. This consideration is also made by Whittaker and Sidner (1996) who discussed the positive benefits of reduce e-mail load. By easing these, Ingham (2003) points out that e-mail can be used more effectively and will experience greater buy-in by all staff members.

6.4 - Study Aim 4 - Identify the benefits e-mail provides within the organisation

The suggested benefits of e-mail tended to follow the examples set out within the literature. Speed and the low cost of e-mail were the most regularly cited benefits within the questionnaire. The interviews and focus groups brought up further benefits such as the asynchronous nature of e-mail. This allows staff to work independently of one another in a timeframe that suits them whilst also being able to exchange information. The example given in interview 3 was a good example of how asynchronous communication can be used very effectively.

Key Finding 7:	**Although considered a low cost method of communicating, the actual cost of e-mail communication is high in terms of time and this cost rises as volume rises**

The research has shown that there are hidden costs associated with the use of e-mail. Whilst cost is generally considered to be a positive of e-mail systems (Holliday 1999, Carr 1998) there is little consideration for other hidden costs. Ingham (2003) brought up the considerations of hidden costs and focused on infrastructure rather than time. In this study it has been shown that over 10% of staff costs are paid when staff are using e-mail to communicate. It is impossible to conclude that this would be lower if other forms of communication are used. However, the data did demonstrate evidence of wasted time. If this wasted usage time was eliminated the cost of e-mail usage to the institution could be reduced.

Key Finding 8:	**The ability to access e-mails outside of contracted work time allows staff to actively manage their work-life balance by controlling their communication load at a time that suits them.**

Whilst initially providing a cause for concern the consideration of staff using e-mail when not at work could be demonstrated as a benefit of the system. Through the interview process and focus groups there was a suggestion that far from being a menace, the use of e-mail outside of work time demonstrated that staff were actively managing their workload in a timeframe that suited them, essentially ensuring their work-life balance was maintained.

Key Finding 9:	Effective use of e-mail can contribute to the environmental sustainability agenda

Through the active use of e-mail, reducing written memos, reducing printing of documents shared and reducing the number of physical paper copies by filing documents electronically the staff has played a role in reducing wastage at Pembrokeshire College. Reducing physical resources both helps to offset the cost of increased e-mail usage in terms of time and also actively contributes to environmental sustainability. Within 2010 and beyond Pembrokeshire College will be further tackling this issue with the introduction of the Green ICT programme which will seek to reduce the environmental impact of using IT systems within the College.

6.5 - Study Aim 5 - Identify the barriers to effective communication provided by the system and culture of e-mail usage within the organisation

Overall, there were fewer barriers to e-mail than initially expected. Time and relying upon the recipient to get back to the sender were the main causes of concern to members of staff at Pembrokeshire College. The impersonal nature also gave cause for concern to staff. In terms of barriers Key Finding 5 can be repeated here. This is in keeping with the findings of authors such as Yell (2003), Hargie et al (2004) and Christmas (2000) who considered the same drawbacks in their studies.

The largest single concern is the time spent and volume of e-mails being sent and received at Pembrokeshire College. A further important consideration that has been brought up is that volume isn’t the single contributing factor to overload. Although the issue is not considered by Ingham (2003), the data from this study showed that the concern over time spent came from staff who reported lower e-mail volumes as well as those who reported higher e-mail volumes.

Key Finding 10:	**Time spent on e-mails is as important a consideration in e-mail overload as actual numbers of messages being sent and received**

Duplication has also been observed to be a barrier to effective communication at Pembrokeshire College. This has been shown to increase the time spent dealing with e-mail and an increase in message volume which contribute to e-mail overload.

Key Finding 11:	**A code of practice should be put in place that considers both the ownership of content and rules regarding e-mail usage as well as practical information on maximising usage. This should be backed up with a robust training plan.**

A lack of a code of practice and training plan is also a barrier to effective use. The interviews demonstrated that there is little official guidance on what should and should not be put within e-mails. During interview 1 the interviewee was directly questioned about whether such guidance existed. The response was a categorical ‘No’. Although raised again during the management focus group, the current policy still focuses on ownership and regulation rather than providing practical usage information. Discussions during Interview 2 highlighted a need for an effective training plan to be put into place that caters for the individual to allow them to maximise their usage of e-mail.

6.6 - Research Aim 6 - To formulate a set of considerations from which a code of good practice to maximise the potential of e-mail as a communication method within the organisation can be generated

Having considered all of the information and data from both primary and secondary data, the following represent a series of recommendations to the organisation on considerations that should be included within a code of practice to maximise the effectiveness of e-mail usage. Each of the following should be considered as variables to be applied as the organisation sees fit in order to find the right balance at which e-mail communication will be most effective for the organisation. The balances within each point will be illustrated.

- Formulate a Code of Practice – The code should consider the rest of the points provided here. Additionally it should provide a balance of organisational rules and ownership considerations as well as practical elements concerned with real life application such as message content, alternatives for sensitive issues and training opportunities.
- Culture and Content – consideration should be given to the culture of the organisation to ensure uniform application of e-mail across the whole organisation. Consensus should be reached about issues of content, language and use of abbreviations.
- Cost – Considerations of cost in terms of physical resources versus the time taken for staff to complete e-mails. Increasing e-mail volumes in a drive to reduce physical resource consumption will drive up costs in terms of staff time. Additionally cost of the infrastructure and energy usage of e-mail should be taken into account. Although in many ways it is more environmentally sustainable to use e-mail there are still ecological impacts.
- Volume, duplication and irrelevancies – Volume of messages can be reduced by cutting out duplicated messages and making more of a concerted effort to target messages to specific groups of staff. All staff e-mailing should be refined to allow this to happen. E-mail free days and message limits would be counter productive in this case and should not be applied.

- Self management – greater emphasis should be placed on allowing staff to enhance their work-life balance by using their e-mails in a flexible way that suits them. Evidence of this is already present.
- Categorising and Expiry – developing a system whereby messages were more easily identified by categories which could be colour coded would allow staff to prioritise their e-mail activities and reduce load. Setting automatic expiry dates for time sensitive information would also reduce volumes. For example food menus or offers to staff that are going to expire could be set to delete automatically even if unopened as the content is no longer relevant.
- Social norms – establish some social norms that encompass what should and shouldn't be sent by e-mails. They way in which members of staff are addressed and the tone of e-mails should be considered in detail to ensure both uniformity and acceptance.

6.7 - Methodological Limitations and Implications for Further Study

Although the methodology selected was valid and reliable the actual data gathering exercise has demonstrated several areas where limitation may have affected the quality of the data gathered. None of these limitations affect the validity of the conclusions drawn earlier in this chapter.

The sample size for the diaries, whilst representative of the make up of the organisation, was a too small. It was necessary to verify the data gathered from the diaries by using questions within the questionnaire. On reflection the number of diaries could be increased to enhance the validity of the feedback gathered from them.

The questionnaire was an excellent tool and has provided the bulk of the primary research required for this study. Over 10% return was achieved allowing for valid generalisations about the organisation to be made. The main criticism here is how the sampling process worked. Due to the electronic nature of the questionnaire responses were reliant upon the respondent being comfortable with using the computer, accessing their e-mails and completing the questionnaire. This may have alienated those who were not comfortable and as a result there are responses missing from a section of the College staff for whom e-mail does not play an important role in their communication activities.

The number of interviews was limited with only 3 being conducted. Whilst this was not considered to be a primary method of gathering data and information the selection of interviewees may have limited the value of their responses. Each interviewee will easily be identified by their responses and as such may have limited or adjusted their responses to ensure that they do not say anything that may be considered controversial by the organisation. However, the responses gathered did demonstrate some value and were useful for consideration when discussing the results.

Finally there were some concerns about the information gathered in the focus groups. Only two out of the three planned took place. None of the staff contacted attended the focus group planned for academic staff. A number of the staff failed even to respond to confirm whether or not they could actually attend. Having reviewed the data gathered this appears to be indicative of attitudes as demonstrated through the questionnaire responses.

This study has raised a number of questions particularly related to usage, cost and time. Further study could focus upon considering the cost benefit ratio of using e-mail rather than other means of communication within the workplace. In terms of education a question has been raised about the involvement of academic staff in the use of e-mail. A study targeted at gathering their opinions would help to shed light on some of the results gathered in this study where academic staff responses have stood out.

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Appendix A

Questionnaire Responses