"It isn't all about you":
THE MANAGEMENT OF ICT AND NON-ICT INFORMATION RESOURCES VIA HUMAN INFORMATION BEHAVIOUR

By

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Abstract

"Applications that gather dust... Technologies no one understands... Information that's ignored... [thus, there is still very much a need to] pay attention to Information behaviour" (Davenport, 1997, p.2). Human Information Behaviour is as important a concept today as it has ever been, as there are still millions of dollars going into improving information technology.

While information seeking behaviour has been rigorously studied over the years, information use has not received the same attention. Neither has the IT artefact or choice of such technologies at the hands of users of information. This research paper aims to produce a taxonomy of the information use behaviours and ICT and non-ICT resource use of IT academics through a qualitative study involving both observation (incorporating thinking aloud) and structured face-to-face interview techniques.

The research question asks "How do IT Academics manage the integration between various Information and Communication Technologies (ICT) and non-ICT sources to support their information behaviours (IB) and, therefore, achieve their desired outcome? We observed and interviewed six IT academics carrying out their normal working activities, looking into actual information events as they occurred, information outcomes, information behaviours, and the technologies used by academics in their daily interactions with information. We developed a systems model, informed by activity theory, to frame the discussion.

What was uncovered by the study was a tendency for academics to converge on a single technology – that of the laptop. This together with email was what academics tended to prefer to use, both at the office and in their homes; a surprising find as it was assumed that there would be a plethora of different ICTs in use. We found that technologies contributed to a blurring of the work/life equilibrium for many academics.

Academics did exhibit a wide range of behaviours in their laptop and email use. Many of them were relatively unproductive, and involved moving information from one place, or one form to another, and finally ending in deletion rather than active use. Many of our interviewees reflected a need to use their time wisely through time management, and the impact of email on time management.

These results also yielded the justification of Activity Theory which was used in the study, and of the systems framework which was constructed for the study. The study also confirmed the importance of environmental influences on academic's working lives, which tended to create a somewhat cyclic nature to their information events.

Overall, it was not clear that patterns of use of ICTs contributed to effective information use behaviour by IT academics.

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1 Introduction

Human Information Behaviour

"Some smart person said that attention is the currency of the information age"

Davenport, T (1997) p.9.

Purpose of the Study

This paper is an exploratory study investigating New Zealand Academic's Information behaviour or "how [they] behave relative to information", (Davenport, 1997, p.6). Specifically it will delve into how they manage their information behaviours using the plethora of technologies available to them for accessing and using information.

"Applications that gather dust... Technologies no one understands... Information that's ignored... [thus, there is a need to] pay attention to Information behaviour" (p.2). Human Information Behaviour is as important a concept today as it has ever been; there are still millions of dollars going into improving information technology. Unfortunately, there is not as much enthusiasm going into how people interact with this technology, and the associated information behaviours that people exhibit; that is; "how we search for, organise, share, attend to or ignore information". (p.6)

Also, in order to serve clientele better, "user needs and uses must become a central focus of system operation [as] information systems have not capitalised on technology to help them serve clientele better". (Dervin, 1986, p.6)

Research Question

How do Academics manage the integration between various Information and Communication Technologies (ICT) and non-ICT sources to support their information behaviours (IB) and, therefore, achieve their desired outcome?

This question will be answered using a combination of two qualitative methods; observation and follow-up interviews of approximately one hour in length; in order to gain an insightful look with rich data into these behaviours. We aim to investigate how various technologies today which offer a 'one-stop-shop' for a user's needs are

used. An example of this can be shown in the modern mobile telephone; which now offers besides voice; texting, the ability to take and send photographs and videos, and access to the internet. This study will therefore ascertain the actual information behaviours of the individuals and the extent to which these technologies enable or inhibit these behaviours.

It has been suggested that technology itself can be a barrier to effective information seeking. "Computer anxiety, attitudes and frustration" occur, leading the individual to "negative affective reactions towards the computer [and thus], affects whether or not they use the computer, and whether or not they use the computer effectively". (Lazar, Jones and Shneiderman, 2006, p.239)

This research will investigate what information behaviours are exhibited in regard to the myriad of new technologies available today, and how they relate to other non-technological sources of information.

Theoretical Perspective

This study uses Activity Theory as its main theoretical lens and a Systems Theory approach for identifying and describing the phenomenon of interest. It is a philosophical framework that allows the study of different forms of human practice. A person is engaged in "actions" which on their own, do not satisfy a need, but contribute towards the eventual satisfaction of one.

Significance and Contribution

The contribution of this study is in gaining a New Zealand academic's perspective as to their information needs and information behaviours that they use in order to manage the plethora of technologies which exist today, supposedly making information use and retrieval as efficient and effective as possible to the individual.

This study will contribute to the body of knowledge which already exists in studies of Human Information Behaviour. It will also fill a gap in the existing knowledge pertaining to HIB in managing the integration of these information and communication technologies.

2 Literature Review

2.1 A Brief History of Human Information Behaviour

Human Information Behaviour (HIB) is far from a new phenomenon. "From the dawn of human existence, humankind has sought, organised and used information as it evolved patterns and practices of human information behaviours" (Spink & Currier, 2006, p.171). The information behaviours of several historical figures were examined in Spink and Currier's paper via a qualitative study observing their personal writings. It was their intention to discover when people developed human information behaviours, and found that indeed, via many of the autobiographies which were scrutinised, many of the historical figures used were often "collecting, categorising, organising or using information" (p.187).

Human Information Behaviour as we know it today as a formal field of study, however, has its roots in the early 20th Century. The advent of Human Information Behaviour studies as we know it today occurred in the post-war era of 1948 with the Royal Society Scientific Information Conference. However a survey conducted in 1940 (The library Survey) referred to previous studies conducted in 1916, with several also showing up from the 1920s and 1930s. These studies were predominantly about the use of the library and as such did not address the needs of the people which lead to them using the information resources there (Wilson, 2000).

Furthermore, the 1960s saw many investigations into the "specialised needs of scientists and engineers" which were often turning up in journals and reports (Case, 2002, p.6). These investigations typically had their focal point on the "artefacts and venues of information seeking, such as books, journals, newspapers, radio, television, schools, universities, libraries, professional conferences and the like" (p.6). These earlier investigations studied these sources of information rather than the user's needs of the information via the sources. It was the 1970s, according to Case, that the emphasis of the studies changed from the information system to that of the "person as a finder, creator and user of information" (p.6).

2.2 Basic Terms

This section gives definitions to the terms data, information and knowledge. This study concerns information events and behaviours, and the technologies at an academic's disposal enabling the management of these events and attaining their desired information outcomes.
Much has been written on the following three terms and a distinction between them all is important to make before continuing further.

2.2.1 Data

Data can be described as being 'under information'; which itself may, or may not be information – "depending upon the state of understanding of the information user" (Wilson, 2000, p. 50). He uses the example of a datum of "hbar=h/2pi = 6.58*10^-25..." which does not inform the reader of the datum unless they have a 'framework of understanding' for doing so.

Data can also be described as "simple facts, that is, values, observations or representations of states or attributes of people, objects, events, dates, entities, or concepts. Data can also be the encoded and structured characters or symbols comprising a message... Data is the material, which with structure, meaning and context; produces and constitutes information" (Bacon, 1994, p.445).

2.2.2 Information

Information seems to be everywhere. We talk of it being encoded in the genes... disseminated by media of communication... contained in all sorts of things... libraries are overflowing with it, institutions are bogged down by it and people are overloaded with it... [Yet] no one seems to know exactly what information is.

Case, 2002, p.39

Information on the other hand has a totally different meaning to data, that is, information is "any difference you observe in your environment or within yourself... any aspect that you notice in the pattern of reality" (Case, 2002, p.5). Case observes that the word information is indeed very old, having made its first appearance "somewhere between 1372 and 1386", within a Chaucer tale (Case, p.40). The tale in

question is that of Melibee, one of the Canterbury Tales by Geoffrey Chaucer. The line in question containing the word information is "Whanne Melibee hadde herd the grete skiles and resons of Dame Prudence, and hire wise informacions and techynges" from 1386 (The [online] Oxford English Dictionary).

Adding to the previous definition of information, Case (2000) describes information as "any difference that makes a difference to a conscious human mind", adding that the information can originate from the "external environment or (physiologically) from the internal world" (p.40). Similarly, Case (2002) adds that information is "any stimuli we recognise in our environment" (p.40).

In creating an information hierarchy, Bacon (1994) in his paper states that information is based on data; which is itself based on signals. He summarises that "signals are encoded into data; [and that] structured data makes information" (p.445). He adds that information can often be confused with data, in that data to one person can be information to another; thus the production of a 'grey area'.

There is a "semantic essential of information. [Information] is a structured sub-set that is inferred from data" (Bacon, 1994, p.446). Bacon (1994) gives the example of "5th of May" and "Carmel's birthday" as being two examples of data, but when combined as "5th of May is Carmel's birthday", it becomes information (to some people). They then observe that "information is composed of structured elements of data, plus meaning" (p.446).

Researchers have also looked to philosophy in adding more depth to the definition of information. In particular, Case in his book, discusses Dervin's (1976) writings on the three types of information based on the philosophical writings of Karl Copper (1972). The first of these is *objective information*, where this type of information is taken from the external environment and "describes reality (but never completely)" (p.43). *Subjective information* is the second type, and involves internal information and "represents our picture or cognitive map of reality, [that is], the structures we input onto reality" (p.43). Finally, the third type of information is that of *sense making*, where "information allows us to 'move' between external and internal information, to understand the world, and usually to act on that information as well" (p.43).

As is possibly obvious by now, volumes has been written specially for defining information. Davenport (1997) [2] simplified the definition he used for his working paper, as his focus was on corporate success with information and the management of its associated behaviours. His definition therefore was "data, facts, knowledge, and news, presented in textual, graphic, audio and video formats" (p.2). He then further restricted his definition for the practicality of his study to "information found in such formats as documents, computer screens, and discrete audio and video sessions" (p.2), his focus on structured information.

2.2.3 Knowledge

It is important to distinguish information from knowledge as this study intends to examine information behaviours and how information is put to use. It thus is not an interchangeable term with knowledge and is not concerned with knowledge or knowledge management. Wilson (2002) describes knowledge as "what we know" (p.4). He goes on to say that whenever we share 'what we know' with others, we do so by exchanging information – not knowledge - whether this be by "oral, written, graphic, gestural or through body language" (p.4). The recipient thus absorbs or 'assimilates' this information into their own 'knowledge structures', adding it to their own knowledgebase.

Knowledge is comprised of six main attributes, according to Kaipa (2000), including being both "subjective and objective, [is] context sensitive [has both] collective and personal components, a tacit and explicit nature, a limited shelf life [considering its] usability and an infinite shelf life as information. It is functional when you apply it and informational when you acquire it" (p.155).

2.3 Information Users

It is interesting to examine who users are in research studies in general. A rather humorous description was given by Tuominen in an article by Heidi Julien. A description is given of how the user's information behaviours may be perceived, and how the researcher will use their (the user's) ineptitude in order to show how their behaviours can be improved upon:

We typically construct 'users' as bungling fools whose affective responses are at best only an annoying interference with effective application of cognitive skills to information retrieval, but which, at worst, are the primary barriers to effective information retrieval.

Tuominen, 1999, p.350

While this study does not assume that the participants in this study are 'bungling fools', they are more than likely ignorant to their natural information behaviours, not having had it brought to their attentions before. Therefore, the quote is effective in conveying this situation well. Davenport (1994) adds to the rather bleak end-user description by saying that "technocrats are constantly caught off-guard by the 'irrational' behaviour of end-users" (p.119).

There seems to be an unwritten assumption that technologies meet individual's information needs. But as explained more fully in section 2.4.4.1; this is not always the case. A person's information behaviours, exhibited in the light of technology gone 'awry', can lead the user to behaviours such as computer anxiety and various other frustration-type behaviours, leading to the lack of use or lack of proper use of the said technology.

2.3.1 Personal Information Infrastructures

In the field of information behaviour, it is necessary to examine how users take in the information they need, either during or after information retrieval. Information absorption by users is indeed an individual experience. Marchionini (1995) introduces the readers of his book to the notion of personal information infrastructures. "Throughout our lives we develop the knowledge, skills and attitudes that allow us to seek and use information" says Marchionini (p.11).

The study does not intend to include these internal processes of the individual in the study, but does acknowledge that these processes do exist, and thus would have an impact on their information behaviours and ultimately their events and outcomes. The framework for use in the study (see figure 15) contains a white box titled Abstract under the Mediating Artefacts which represents these mental processes of the individual.

Personal information infrastructures are what Marchionini uses to describe a complex of knowledge, skills and attitudes. As can be seen in figure 1 below, the infrastructure is made up of four main components. Three of these are internal to the individual; the first in the top left are one's mental models, the second on the right are one's cognitive skills, and the third, represented by the star in the middle are the individual's cognitive executive and attitudes, which can be likened to one's internal control. External to the individual are the materials available for allowing information to be sought and taken in.

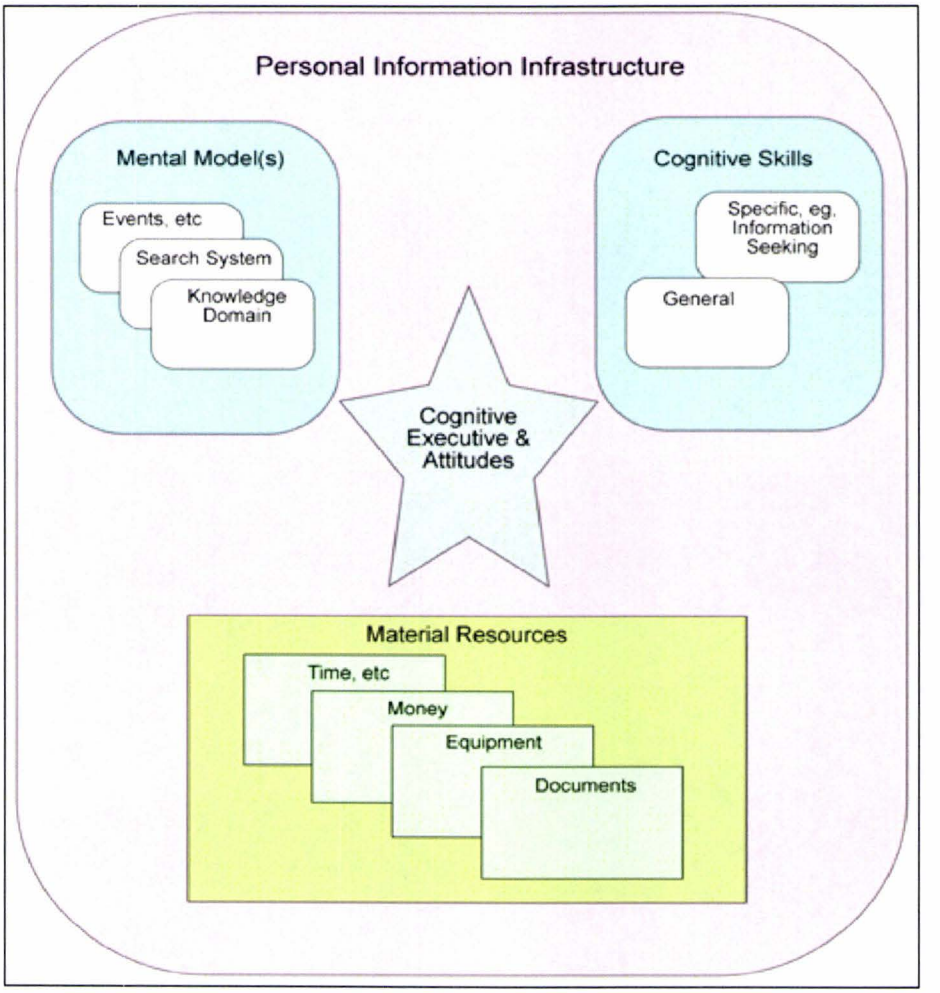


Figure 1: Personal Information Infrastructure Components.
Source: Marchionini, G. (1995)

Personal Information Infrastructures are a collection "of interacting mental models" (p.11). These models are "dynamic mental representations of the real world. People construct [them] and then draw on [them] to predict the effects of [their] contemplated actions" (p.12). He goes on to say that information seekers create and utilise mental models.

2.4 Human Information Behaviour

The totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking [see section 2.4.2 Information Seeking Behaviour], and information use. Thus, it includes face-to-face communication with others, as well as the passive reception of information as in, for example, watching television advertisements, without any intention to act on the information given.

Wilson, 2000, p.49

Information behaviour is those "externally-observable activities that individuals and organisations can perform on information, including searching for it, using it in decisions and actions, sharing it (or hoarding it), and even ignoring it" (Davenport, 1997, p.2). What Davenport does not include here is the possible formation of mental models which may also be the result of using information, and are non-observable.

In order to study the information behaviours of individuals it is important to decipher the steps involved in ascertaining information. In each of the steps taken by the individual, there are potential behaviours present. Perhaps the most famous diagram depicting the field of Human Information Behaviour (HIB) is that of Wilson's 1981 model, reproduced in figure 2 on the following page. Depending on the information need and the channels open to the individual, the behaviours can be at opposite ends of the spectrum; frustration and confusion or enlightenment and delight?

The Information User is positioned at the top of the diagram, and through a perceived need (a gap in the user's knowledge) embarks on an Information Seeking Behaviour (ISB) journey, using either (or both) Information and Non-Information System sources, or engage in Information Exchange with other people. Success or failure will depend on whether the information is uncovered via the first two methods. Success will be assumed if the information is given via an exchange. If success is the outcome, the user will then use the information, and may choose to transfer this information on to Other People, or simply satisfy the information need which initiated the process.

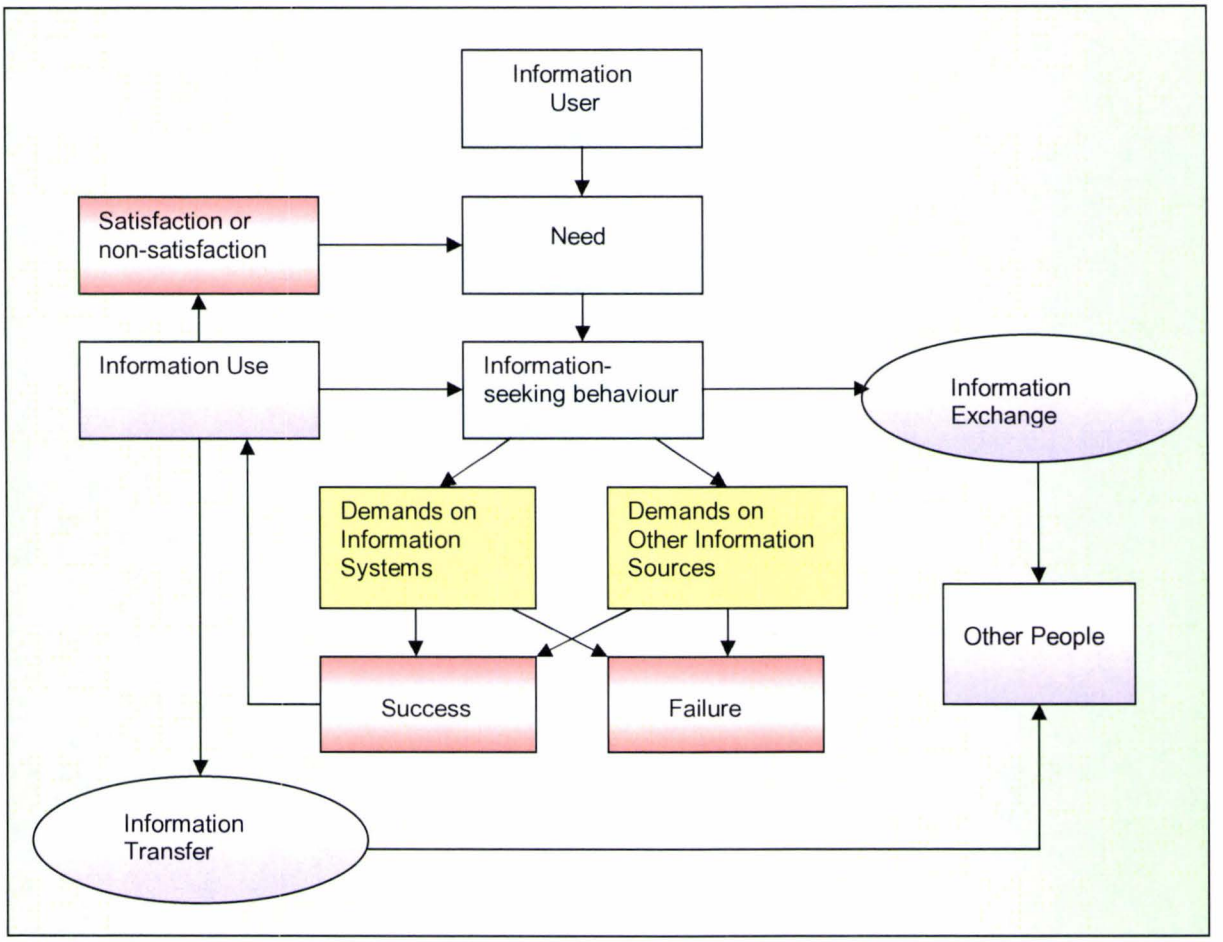


Figure 2: Wilson's 1981 Model of Information Behaviour
Source: Wilson (1981)

This framework is now 26 years old, and as such, has appeared in many a research paper. It has been critiqued, and had many extensions made. A valid point was made, in that the framework incorporates an assumption that an information need will always lead to the individual engaging in information seeking behaviours. Neidwiedzka (2003) made this point, as did Solomon (1997). In many situations and circumstances, people are content to take no action, even though there may be a problem driving them to seek meaning for. The decision may need to be "induced by a certain stimulus, different from the need itself" (Neidwiedzka, p.9).

The phrase Human information Behaviour is an example of jargon, in that "people involved in life's journey tend not to describe their actions in [this] way", (Solomon, p.1098) and in works which Solomon has previously studied, has found that people tend to use words like "make sense" and "sense making" (p1098). He further goes on to say that "a study of information behaviour in sense making promotes the discovery

of people's strategies, expectations, attitudes and anxieties as they live and work" (p.1098).

Much has been written on the topic of HIB, perhaps the most frequent writer being T.D. Wilson, whose model displays the human subject managing both technological and non-technological sources of information in the pursuit of his/her information needs. This is very much a similar scenario to that which is at the focus of this study; that of the subject (academic) at the centre of the study managing the various ICT and non-ICT sources to support their information behaviours in the pursuit of their desired outcomes. Hence this 1981 model will form the structure for the remainder of this literature review.

2.4.1 Information Need

The term Information Need as a 'troublesome' one, where "debates have been made between the differences between 'needs' and 'wants', between 'perceived needs' and 'expressed needs' and so on..." (Wilson, 1995) Other writers however have given insights into how this need arises and motivates the individual to engage in information seeking activities. It is an important concept to the topic, and question at hand as without this need, the resultant seeking would not take place, and the ensuing behaviours following on.

Information need is where there is a "process of perceiving a difference between an ideal state of knowledge and the actual state of knowledge" (Case, 2002, p.64). Likewise, an information need is the recognition that a person's knowledge is insufficient to complete a task or goal that the person has. Information needs are said to be constantly changing with "new, relevant sensory inputs" (p.65).

A further definition provided by Marchionini (1995) is more problem oriented, but still carries on in the same line of thinking; "a process in which humans purposefully engage in order to change their current state of knowledge [and which is] closely related with learning and problem solving" (p.5). Grunig in Case states that needs are "characterised as an inner motivational state that brings about thought and action" (p.65).

Such information needs are important to acknowledge for the study as they allow information events to be enacted upon. Without such a need, the information event would more than likely not go through to an outcome. Recognising that there is no need to pursue such information events for the academic will be important for the researcher, in order to analyse why these meaningless events occur.

2.4.2 Information Seeking Behaviour

In order to undertake a study on Human Information Behaviour, it is important to first investigate the behaviours and frameworks which already exist in the literature. Much of this literature relates to studies undertaken to highlight information seeking behaviours rather than on its use; however by briefly covering some of these frameworks, the associated behaviours ought to shed some light on the possible behaviours which may be uncovered during information use. It may at the same time enlighten the researcher on possible ways of undertaking the research via an inspection of current research frameworks.

Information Seeking is the third step in Wilson's (1981) information behaviour framework (see figure 2). This is perhaps one of the most rigorously and thoroughly researched topic areas in the field of information behaviour. Information seeking behaviour (ISB) is described as encompassing "information seeking as well as the totality of other unintentional or passive behaviours (such as glimpsing or encountering information), as well as purposive behaviours that do not involve seeking such as [that of] actively avoiding information" (Case, 2002, p.25). Figure 3 shown to the right, shows Wilson's (1996) four types of seeking behaviour.

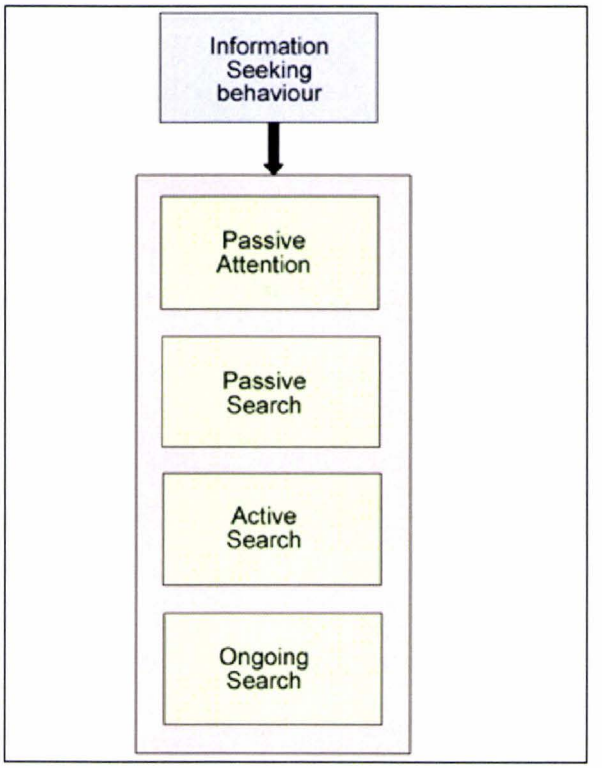


Figure 3: Wilson's four information seeking behaviours
Source: Wilson's 1996 model of Information Behaviour

The second framework selected for discussion here is Ellis' Behavioural Framework. Ellis incorporated eight different behaviours into his framework, which Wilson (1999) put into diagrammatic form, and is reproduced below in figure 4. The first stage is

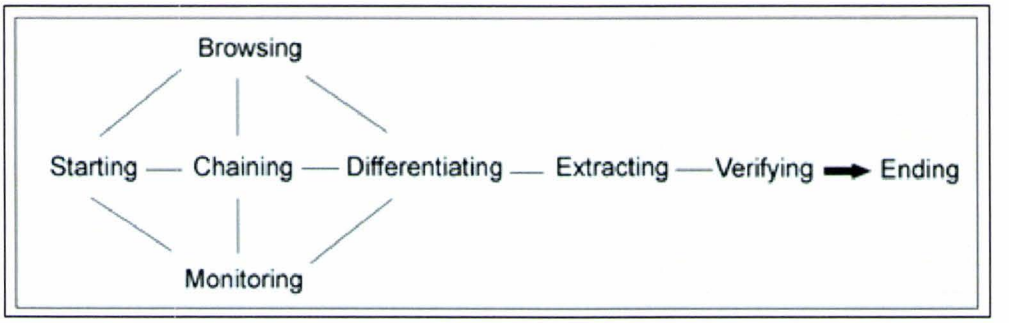


Figure 4: A stage process version of Ellis' behavioural Framework
Source: Wilson (1999)

Starting; this could simply involve asking a fellow employee who may have knowledge on the problem. *Chaining* occupies the user in the accompanying footnotes and citations present in the information from the previous step. *Browsing* involves "semi-directed or semi-structured searching" (Wilson, p.254). *Differentiating* allows for the filtering of information by way of distinguishing between known information sources, preventing information overload. *Monitoring* is the process of 'keeping up-to-date', or "current awareness searching" (p.254). The sixth stage in Ellis' process is that of *Extracting*. This involves "selectively identifying relevant material from an information source" (p.254). *Verifying* is the process of ensuring that the information obtained from a source is accurate; and finally, *Ending* simply completes the process by "tying up loose ends" via "a final search" (p.254). Many of these behaviours seem on the surface to be relevant to both the seeking of and use of information. See table 1 for a list of behaviours taken from previous studies deemed suitable for this study.

A similar framework to that of Ellis' is Kulthau's 1991 model. This model includes the "associated feelings, thoughts and actions" of the user, along with the "associated information tasks" which as Wilson observes, makes the perspective of this version of information seeking behaviour as "phenomenological rather than cognitive" (Wilson, 1999, p.255). This framework carries feelings and behaviours including (under Exploration) confusion, frustration and doubt, which Kulthau herself describes as "people finding themselves "in the dip" of confidence. Such behaviour may be incorporated in an information use scenario as well as the one depicted on the following page in figure 5.

	Initiation	Selection	Exploration	Formulation	Collection	Presentation	Assessment
is ve)	Uncertainty	Optimism	Confusion Frustration Doubt	Clarity	Sense of direction / Confidence	Satisfaction or Disappointment	Sense of accomplish-ment
ts ve)	⟶ vague			⟶ focused	increased	interest	Increased self- awareness
s al)	seeking relevant ⟶ Exploring	information		seeking	pertinent Documenting	information	

: Kulthau's Information Search Process Model
Carol Collier Kulthau website, Information Search Process section.

As can be seen from these few frameworks, there are a myriad of behaviours at work in the act of information seeking. While the research question for the study is not focused on seeking, we are none the less interested in behaviours which have already been acknowledged in the literature on Information Behaviour, and which may be able to be transferred over to information use. Many of the behaviours from these frameworks have been put into table 1 – summary of information behaviours from the literature review. The rest of 2.4.2 describes another couple of information behaviours uncovered in the seeking of information.

2.4.2.1 Collaborative Information Seeking Behaviours

While it is natural to assume that information seeking is an individual experience, or as Sonnenfield and Pierce (2000) indicate "research in human information behaviour has primarily focused on the individual". There are however, occasions where such activities are conducted by more than a single person.

This section aims to discuss what is involved in this collaborative process, and how it differs from that in the previous section (3.2). This process is pertinent to the study in that it acknowledges another venue for HIB to be exhibited in different circumstances to those of individual seeking. There may also be new channels and/or sources (see section 3.3) made available through this process, thus requiring unique behaviours on behalf of the individual.

There are a variety of instances where people may seek information together, for example, where a librarian helps someone to find a book, and "a customer-service engineer may contact a designer to her look for information" (Fidel, Pejtersen, Cleal and Bruce, 2004, p.944). Fidel, et al. however do not contend that these are such instances of collaborative information seeking (CIS) as when their understanding of the concept evolved it became apparent that such behaviours can only be so when such individuals are colleagues; that is, "engaged in the same work processes" (p.944). Thus, if it were two librarians searching for information about a book together then this would constitute a case of such behaviour. It is therefore team work among work colleagues.

Collaborative behaviours are most apparent when the individuals are "novices, new to the organisation; or in an unfamiliar situation" (p.951). Someone may be looking for informal feedback, or have a need to access a colleague's tacit knowledge. There are also other dimensions to CIS such as access to more sources, there may be time pressures, there may be a need for collaboration in order to make a more thorough investigation, and the information may be complex requiring expertise. The authors also discuss challenges faced by the actors in a CIS situation. These include a need for consensus, people with "different stakes in the process, or different priorities" (p.951), some members of the group being less familiar with the problem area, and so on.

2.4.2.2 Multi-tasking Information Seeking Behaviours

While collaborative behaviours allow more than one person to engage in the information search on a single activity, an individual may engage in multiple information search activities simultaneously through the process of task switching (Spink & Minsoo, 2005). Spink and Minsoo describe multitasking as "a critical human behaviour" as it allows individuals and groups to cope with ever more complex environments by handling multiple tasks through task switching", and describe the behaviour as "still largely under-researched" (p.549)

In describing the attributes of the behaviour of multi-tasking, the authors contest that individuals search for information on a particular topic, and may switch to search for items relating to another topic, thus undergoing a search on two topics

simultaneously. This may obviously be conducted on many more tasks than just two outlined here. This process of task-switching obviously brings up some problems to the individual of "coordinating, tracking and managing their multitasking searches" (Spink & Minsoo, 2005, p.550). Multi-tasking allows users to think and work "concurrently on many complex information problems". Dual tasking behaviour is another behaviour, or, perhaps a sub-concept of multi-tasking, and may include such behaviours as people driving (or other activities) while talking (perhaps with a cell phone for example).

Because "humans commonly face multiple and complex situations in organizing and seeking information that involves interplay of information and non-information tasks", the authors note that Human Information Behaviour can thus be generally described a multitasking process.

2.4.3 Information Sources and Channels

There are a variety of sources and channels open to the individual information-seeker. There is usually "someone known to the information searcher who can be relied upon to advise on the answer – [who] can not only direct a seeker to other sources but also comment on the validity, reliability, authenticity, etc., of information from those sources – and, most importantly, which information not to trust" (Wilson, 1995, p.4). This is important in describing how and from where information is gathered, and the behaviours apparent in each of the situations.

Figure 6 shows how individuals can pursue their information seeking within an information matrix consisting of channels, sources and messages. Channels are "an information transmission system; [the] means by which the message gets from the source to the receiver (Johnson, 1996, p.49).

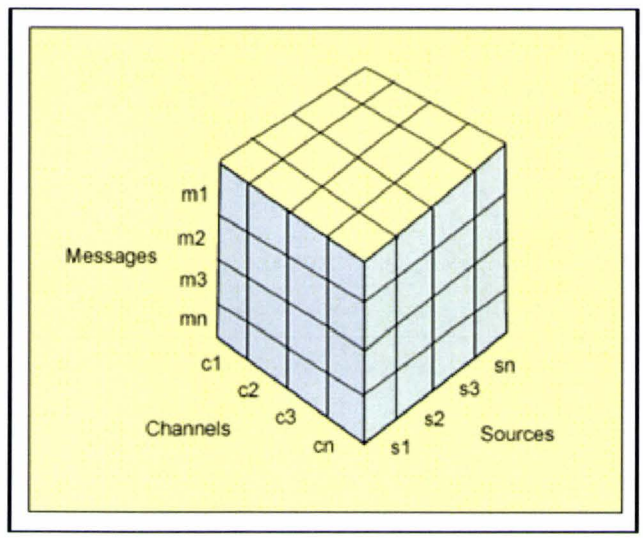


Figure 6: Johnson's Model of Information Carriers
Source: Johnson (1996)

In fact the channel is the medium

through which the message is carried (Johnson).

Wilson (1997) contributes to the topic of channels in that Johnson and Meischke found in cases of medical information; individuals were more likely to trust in interpersonal channels, such as through their physician in order to reduce uncertainty, given that there is immediate feedback and support. As can be noted from this, the context and situation of the information event will often determine the channel and source of the information sought. The research will investigate the ICTs and non-ICT channels or mediums used by academics (and those which are preferred).

Sources of information are 'nodes or locations of information'. "A source is an individual or an institution that originates a message" (Johnson, p.50). Sources differ along dimensions, that is, their "personal dynamism, trustworthiness and credibility" (Johnson, p.50). The source of the information can be more important than the type of information the message contains (Johnson).

Some important source characteristics include accessibility, as without this quality, the information seeking process may be inhibited. The second characteristic Wilson describes is the credibility of the source. "If a seeker of information discovers that an information source is unreliable in the quality and accuracy of the information delivered" the source will likely be regarded as lacking in this characteristic (Wilson, 1997, p.561).

Finally, the message part of the matrix as seen in figure 6, of course, relates to the information obtained. As Johnson explains, a message can contain "words, symbols, or signals used to transmit a particular content emanating from a particular source within a particular channel.

These three characteristics of information are very important in the management of the various ICTs at an individual's disposal, as the channels and sources available to academics ought to vary, as will their suitability according to their skill level in using ICTs, and the accuracy of the information obtained. A source of information may cause as much frustration as a lack of skill in using a channel – whether it be

technology related or not. Such frustrations encountered are thus seen as maladaptive behaviours (see section 2.4.4.1) and inhibit productive use of the information via ICT.

2.4.4 Information Retrieval

Also see section 5.2.1 on collaborative information retrieval. This section covers electronic information sources, other non-electronic sources and those of information exchange via other people. The context here is on retrieval, however as with many information events, these may come in via electronic means, such as email.

2.4.4.1 Demands on Information Systems

"Human activities that are inherently interactive in nature are strongly affected by computer technology. Information seeking is one such process" (Marchionini, 1995, p.17). Figure 7 shows human information processing within the centre box, with an information request being made to the IT-based information processing, represented by the box above it. While queries to such systems can be instantaneous and relatively pain-free; lack of an appropriate response can result in adverse behaviours in the information seeker. Papers such as the one by Lazar, Jones and Shneiderman (2006) bring back the reality of technology itself being a barrier to effective information seeking. Previous research touched on in the article explain about "computer anxiety, attitudes and frustration" which have occurred, leading to "negative affective reactions towards the computer [and thus], affects whether or not they use the computer, and whether or not they use the computer effectively" (p.239).

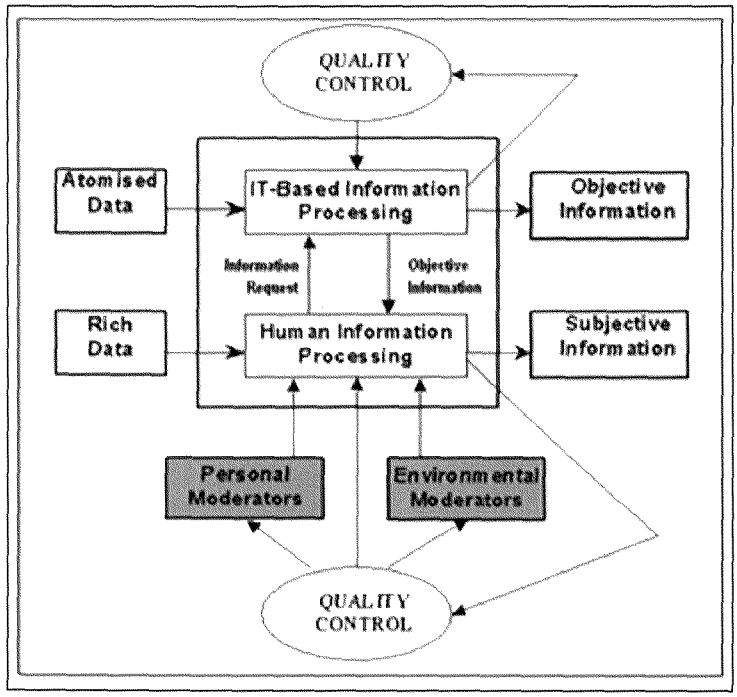


Figure 7: A diagram showing how an information seeker gains information via an information request to the IT-based system. Source: Johnstone, Bonner & Tate (2004)

Resulting behaviours to the feelings of frustration felt by people working with electronic resources can be either "adaptive or maladaptive" (p.241). Adaptive responses to frustrations are positive, and are used to attain the goal and break down whatever barrier stands in the way of the individual. Freud (1921) described two types of adaptive behaviour, the first is to "transform the stress in to active energy and reapplying" it towards the attainment of the goal (p.228). The second adaptive behaviour involves "identifying and pursuing alternative goals" (p.228).

Maladaptive behaviours resulting from frustration often result in making the situation worse, where there is a lack of any problem solving skills on behalf of the individual. Such responses can include "aggression, regression, withdrawal and resignation" (Lazar et al., p.241). These behaviours whether adaptive or maladaptive, or where there is no perceived frustrations on behalf of the individual are particularly relevant to the research question of this study; that is in managing the integration between various Information and Communication Technologies (ICT) to support their information behaviours (IB) and achieve their desired outcome.

Alternatively, as demonstrated elsewhere in the literature, the impact of new technology in the workplace creates new behaviours, including those exhibited outside of the working environment, and thus can impose on individual's 'private time'. Harmer & Pauleen (2007) demonstrate how mobile phones, laptop computers and PDAs are making people more available away from work, and hence allows people to embark on information seeking ventures at home, even while in the company of family and friends. This can therefore be a positive occurrence and/or a negative one, depending on the individual's ability with the technology and whether the behaviour is an intrusion on this 'private time'.

2.4.4.2 Demands on Other Sources

This section outlines the fact that there are a myriad of different sources and channels of which the information seeker/user may choose to use. Figure 8, on the following page, displays some of the variety open to information seekers. Access to technology can mean access to a "range of media such as movies, newspapers, books, magazines, music, academic performance, television and the Internet" (McCreadie and Rice, 1999, p.51).

Sources of information for organisations in general include "employees, suppliers, and trade publications" (Karim (2004) p.359). The following were listed as being additional sources of information; "competitor's websites, suppliers web sites, and online [USA Securities and Exchange] SEC filings, in order to get a comprehensive view of the supply chain, competitors, relevant government issues and emerging technologies" (p.359). Karim makes the observation that accessibility plays a major role in the importance of each of the sources. The high accessibility of the Internet created its high ranking of importance.

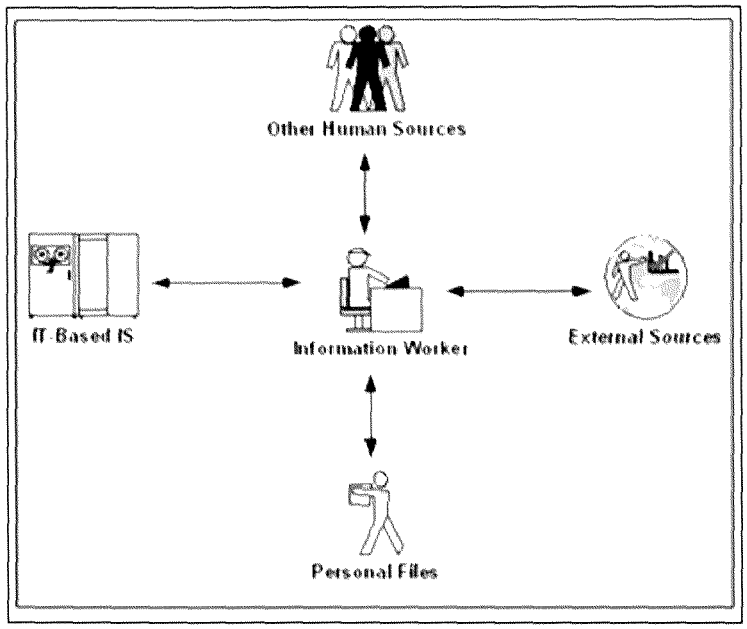


Figure 8: A diagram showing how the information worker gains information via an array of different sources and channels. Source: Johnstone, Bonner & Tate (2004)

As a contrast to the traditional information worker seeking information from a variety of sources, McKnight (2006) in her study of on-duty critical care nurses examined several sources and channels open to nurses for information retrieval. The preferred methods of information collection were direct from "people, patient record systems, monitoring and other computer systems and notice boards" (p.148). They often needed to use their senses of sight, smell and touch for ascertaining information needed, and most often verbally. They very rarely sought "published sources of information" (p.148). More often than not, verbal information came from patients.

The research question and framework used in this study acknowledge both ICT and non-ICTs as sources and channels for information events. The framework (figure 15) displays these as mediating Artefacts – both ICT and non-ICT physical artefacts.

2.4.4.3 Information Exchange (Other People as a Source of Information)

Information can be a medium of exchange relationships: If I give you information when you need it today, you may give it to me when I need it.

Wilson (1995) p.4

Another side of information transfer is that of between companies. Usually regarded as 'disadvantageous' and so described as "information leakage"; Schrader calls this "information trading". He asserts that such activities can "create economic benefits for a company" (Wilson, 1994, p.15). Of course, employees need to know when it is beneficial for the company to have the information exchanged, and when it is best to hide the information. Schrader adds that this type of trading "creates incentives to innovate. Internally generated technical knowledge is used not only within a firm, but also bartered for further knowledge – as long as the benefits outweigh the costs" (p.15).

Other uses of this method of information seeking could be for decision making and in creating personal use networks. These networks can be used to verify information retrieved from another source, for example an Intranet, is correct via a fellow colleague. Or, vice versa, using a supplementary source to verify what an individual has been told by a fellow colleague.

Wilson (1997) describes how using other people as a source of information can be problematic in that there is a social/interpersonal barrier present in this situation. If the information is not forthcoming or access to other information sources through this person creates a barrier then this can inhibit the information seeking process.

This source of information event is acknowledged in the intended framework (see figure 15) as a non-ICT resource of information (under Mediating Artefacts). The study will investigate whether people use other people as an information resource or not.

2.4.5 Information Use (By the Individual)

Information use behaviour consists of the physical and mental acts involved in incorporating the information found into the person's existing knowledge base. It may involve, therefore, physical acts such as marking sections in a text to note their importance or significance, as well as mental acts that involve, for example, comparison of new information with existing knowledge.

Wilson (2000) p.50

In this section, the emphasis is on Information Use, which is indeed what the study is focused on. We are interested in the behaviours exhibited by academics during their use of information while managing the integration between various ICT and non-ICT sources of information; and on the actual use the information is put to (see the framework; figure 15, Outcome/use).

"Information use is often defined vaguely [in research studies], or not defined at all" (Kari, 2007, p.2). It for that reason appears that there is a lack of a definitive meaning for this term except for, what Kari explains as "the fuzzy notion that information use refers to the outcomes of information seeking" (p.2), which may not actually result in its use. Other authors have claimed that use begins with the connection to the source of the information (Kari), while others, including Kari, feel that use can only occur when the information is absorbed by the person.

There is also a distinction between helpful and hurtful information, 'the effects of information on the user'. This has been described in several papers, most notably in the sense-making literature as positive and negative effects. This is relevant to Wilson's quote at the beginning of this section (5.5), "*Information use behaviour consists of the physical and mental acts involved in incorporating the information found into the person's existing knowledge base...*" in that once the information has been incorporated, the effects can be positive or negative. If such an information seeking exercise results in the seeker being confused, this is seen as a negative consequence (Kari, 2007).

In Wilson's (1994) paper, he uncovered a contradiction between a study he had previously conducted in 1980 as to the use individuals put information, and a study previously undertaken by Cole (1958). Cole found that 48% of information enquiries made by scientists related to "operating information or such topics as plant design and operation" (p.13). 22% was gathered in Cole's study related to background information or briefing.

Wilson (1994) showed a study where "respondents were presented with copies of documents they had requested through a system" and asked the use to which they had put them (p.13). He found that in 58% of the cases, they provided some sort of background information, thus adding to the user's knowledge. 12% provided the users with training and or personal development. As Wilson points out, his finding of over 70% for these two categories is very different to Cole's 22% finding.

2.4.5.1 Information Outcomes

This study is concerned with the way academics achieve their desired outcomes through their use of technology, the support of their information behaviours and the actual outcome of the information. The concept of 'information outcomes', is referred to as a sub-concept of information use. Kari describes this as "anything that ensues from the individual's assimilation of a message" (Kari, 2007, p.3). The concept of information outcomes in Kari's paper, he stresses, is not to be confused with the outcomes of information seeking, referred to by Wilson in his articles.

The author also explains two basic categories of information outcome, which are described as being active and passive. Active information outcomes can include the act of 'studying something'. Here the "outcomes are conceptualised as the ways in which the gained knowledge is consciously used by the person" (p.4). The latter category; that of passive information outcomes are described as "the effects of information, what the processing of information objects does to the person", and, as an example, Kari offers where "some activity becomes easier as a result of information" (p.4). Kari also offers other 'dimensions' to the concept of information outcomes. These consist of 'delayed versus immediate', 'mental versus physical', and 'potential versus real'.

2.4.6 Information Transfer to Other People (After use)

This information transfer is a possible Outcome of the information used by the academic, and is interpreted in the framework as an Outcome/use.
Davenport (1997, [2]) describes information sharing as one of three critical types of information behaviour. He counters with the fact that "sharing always sounds easier to do than it is" (p.87). As he also explains in his article, "those who control the right information also have the most power" (p.87). Davenport defines the act of sharing information as the "'voluntary' act of making the information available to others" (p.87). It should not be confused with the act of reporting information which is in itself not voluntary. Therefore, the sharer of the information can pass it on to others, but does not have to.

Russell (1996) describes the importance of information sharing, as he sees it as increasing "employee commitment, improving decision making, [able to] quicken an organisation's response to potential shortages or delays in production and [enabling the prediction] of shifts in the organisational structure" (p.29).

Davenport reports that "information sharing in companies is almost an unnatural act" (p.90). In his survey of 35 managers, almost half reported that there was either little or no information sharing going on. Russell adds that experience has shown that sharing does not occur easily. It is because people in general want to maximise their unique value to an organisation, and in so doing "control and selectively share" their information (p.29).

2.5 Summary

Human Information Behaviour (HIB) has been around for a long time. Indeed as Spink and Currier discovered, people have been seeking, organising and using information since the dawn of human existence, and the actual term 'information' first found its way in a Chaucer tale back in 1386. Since then been described by many people – researchers and academics alike, in many different ways. Perhaps one of the better definitions would have to be from Case (2002), where information is depicted as "any difference you observe in your environment or within yourself... any aspect that you notice in the pattern of reality.

The best depiction of a user study is still that of Wilson's 1981 framework, which details the following characteristics of the user and his/her associated Human Information Behaviours:

- Information users – Those 'bungling fools' not comprehending the proper use of the technology they use, thus creating frustration and anxiety. There appears to be an unwritten assumption that technologies meet individual's information needs.
- Information need – which needs to be recognised by the individual in order to partake in the next trait.
- Information Seeking Behaviour – Three frameworks were investigated for the review here; Wilson's 1981 framework and Ellis' framework from Wilson's 1999 paper and Kulthau's 1991 framework. Of the three, the latter was found to be the preferred framework as it describes more of the user's attitudes and feelings associated with the process of searching for information. This is more in keeping with the theme of the research topic.
- Three sources for information seeking – the first being those of electronic sources (information systems), the second of non-electronic sources; and lastly, human exchange as a source of information.
- Information use – Wilson described several uses in an organisational environment, he also states that use also incorporates on the individual level, "*physical acts such as marking sections in a text to note their importance or significance, as well as mental acts*" (Wilson, 2000, p.50). Kari (2007) specified information outcomes as being a sub-category of use, and defined

both active and passive information outcomes. The former referring to consciously absorbing the information, while the latter is described as "what the effects of processing the information has on the person" (p.4).

- Information transfer – this is the act of passing the information on to those who may need or want the information. Davenport (1997, [2]) describes information sharing as one of three critical types of information behaviour. He counters this with the fact that "sharing always sounds easier to do than it is" (p.87).

Wilson's diagram however still focuses on one of the most researched topic areas of Human Information Behaviour - that of Information Seeking. But what of the human information behaviours exhibited during Information Use? Information Use is not near as much a widely researched topic area. This has caused much of the literature to suggest different forms of behaviours relating to the topic of seeking only. Can these behaviours be crossed over into this topic area? And are there further behaviours yet to be uncovered?

When examining these behaviours associated with seeking more closely, it appears that many of these behaviours ought to also be utilised when studying how people use information, albeit in a different context or situation. Such behaviours may then include the following:

Eleven Information Seeking Behaviours were identified from the literature review. The first worthy of mention is that of "Passive Attention"; which involves a situation where there is no real intention to 'take the information in' by the subject (Neidwiedzka, 2003). Therefore the information is passively absorbed from the individual's surroundings. This maybe from a radio or television set in the background with advertisements. Confusion would appear to be an important behaviour where the participant's confidence takes 'a dip'. (Kulthau, 1991) The behaviour of "Verifying" involves the process of ensuring that the information obtained from a source is accurate (Wilson, p.254). This behaviour could be used in validating the reliability or authenticity of an information source with that of a secondary one.

The behaviours of "Browsing or Exploring" particular information within existing information resources involves "semi-directed or semi-structured searching" (Wilson, p.254), in the search for information. This situation may involve semi-directed or semi-structured searching through the information already at hand with the User. The act of "Extracting" pieces of information would involve "selectively identifying relevant material from an information source" (Wilson, p.254). This definition refers to the search for information, therefore in the case of information use; it would refer to the actions performed on the information already at hand when selectively identifying relevant material from 'within it'. The fifth behaviour identified from the literature is an interesting one, and was that of "Avoidance of Information", that is, actively not wanting to deal with it; but whether it refers to now (the present) or at a later date is not explained (Case, 2002).

"Multi-Tasking" was also taken from the information seeking literature, where "Humans handle multiple tasks through task-switching or engage in multi-tasking information behaviours" Spink & Minsoo (2005). In the context of information use, the definition ought to still be appropriate. Collaborative behaviours are described by Fidel, et al (2004) as a process in the context of information seeking where colleagues are "engaged in the same work processes" (p.994). Therefore, there may be more than one person working on the same information event. The act of "Sharing Information with Others" is where the sharer of the information can pass it on to others, but does not have to. It should not be confused with the act of reporting information which is in itself not voluntary. (Davenport, 1997) "Hoarding Information" is where the subject does not do anything with the information except to simply prevent it from being used by others. It may be thus added to more information which has been gathered in this way. The subject may wish to keep the information without an intended goal or a need for doing so. This definition is not taken from the literature; however the act of hoarding information is referred to by Davenport (1997) as a possible information behaviour. Finally the tenth Information Seeking Behaviour also comes from Davenport (1997), and is that of "Ignoring the Information" - that is, there is a lack of a 'need' or motivation and/or goal to initiate any actions upon an information event. The information is therefore left unaltered. This definition is also not taken from the

literature; however like the act of hoarding information, ignoring information is also referred to by Davenport (1997).

Another paper involved technology and how it can frustrate users. The paper depicted two types of behaviour which may be exhibited when users are faced with a frustrating obstacle to overcome. These are Adaptive and Maladaptive Behaviours. The first of these two behaviours would appear in a situation where a user of information is confronted with an obstacle and which may lead to Adaptive Behaviours being adopted; where the user applies some sort of problem solving technique to relieve the problem and thereby overcomes the obstacle in order to attain the goal, or the user changes to a new goal.

The previous situation may equally result in behaviour, such as where the user may lack the necessary problem solving techniques to resolve the circumstances – and that is those of Maladaptive Behaviours. Here the user may see the obstacle as 'unsolvable' and thus the user may resort to; Frustration, Withdrawal, Regression, Aggression, Resignation or Fixation.

Other influences on user's information behaviours may include information sources and channels. As figure 6 in the literature review showed, a message containing information is derived from a particular source and through a particular medium. The type of information sought by an individual will determine the source utilised and the medium used. These two attributes of information may also determine its use and outcome.

The literature is currently very vague or scant as to detail of the actual use of the information in question, that is – the eventual goal of the information. Which leads into the following section, the Gap In Knowledge.

2.5.1 Conclusion and Gap in Knowledge

From the literature there is still a focus on the way users seek information, and the behaviours they exhibit while doing so. There are not near as many studies conducted in HIB which focus on the behaviours exhibited when people use the information. It also still appears that a view is taken that technology is made to ensure that the user is better equipped to resource information and that it is the individual's fault not the technology when IB result in feelings of frustration.

While seeking information is a widely researched area, what people do with the information afterwards is still not as widely known. Are the behaviours similar? How do people manage the plethora of technologies available to them when using information? – Including the so-called one-stop-shop technologies (mobile phones, blackberrys [PDAs], and so forth) - also not widely known. Can these technologies result in adaptive and/or maladaptive behaviours? Other sources of information (non-ICT) available to the academic would also be of relevance here.

What this study hopes to rectify is the gap in the literature pertaining to Information Use Behaviour, and the ICTs and non-ICTs which people use as resources in meeting the goals of their information behaviours.

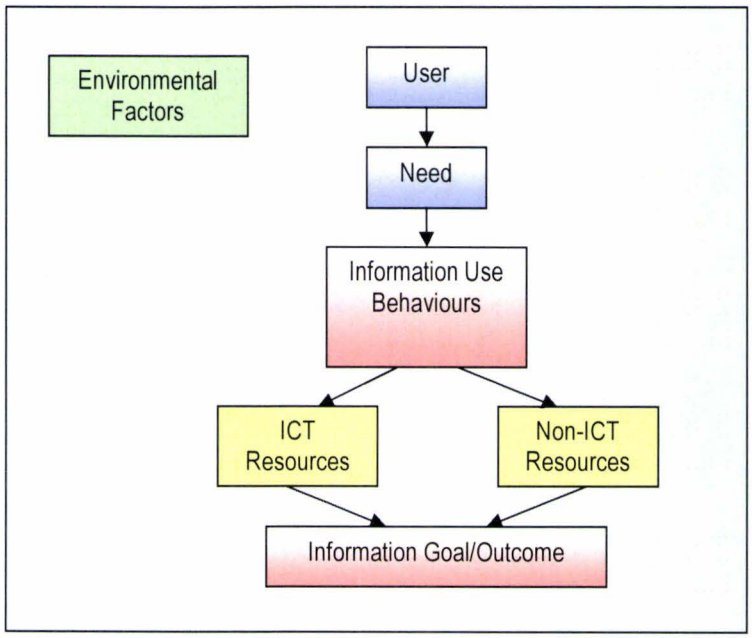


Figure 9: The Information Use Process
Source: Adapted from Wilson (1981)

Figure 9 above shows an adapted version of Wilson's 1981 diagram depicting the information use process, rather than the information seeking process. It also shows how environmental factors may influence the process at any of the steps.

Table 1 displays a summary of the information behaviours as resourced from the literature. These behaviours were originally used to describe the information seeking

process; however, they may also be able to be used to describe the behaviours exhibited by Users using the information already at their disposal.

Behaviours (HIBs):	Description:	Authors:
Passive Attention	A situation where there is no real intention to 'take the information in' by the Subject. It can thus be absorbed from the surroundings.	Neidwiedzka, 2003
Confusion	"People find themselves 'in the dip' of confidence".	Kulthau, 1991
Verifying	Ensuring that information from a source is accurate.	Elllis in Wilson, 1999
Browsing/Exploring	"Semi-directed or semi-structured searching".	Elllis in Wilson, 1999
Extracting	"Selectively identifying relevant material from... a source"	Elllis in Wilson, 1999
Avoidance	Actively avoiding the information	Case, 2002
Multi-tasking	Handling "multiple tasks through task-switching"	Spink & Minsoo, 2005
Collaborative	Colleagues involved in the same work processes	Fidel, et al, 2004
Sharing	The information may be voluntarily passed onto others	Davenport, 1997[2]
Hoarding	Opposite to sharing – may be a use for it by the Subject or not.	Davenport, 1997[2]
Ignore	Lack of motivation or need to use the information results in its non-use.	Davenport, 1997[2]
Adaptive	Two positive behaviours displayed where an obstacle has to be overcome. 1. Overcome the obstacle 2. Change the goal.	Lazar, Jones and Shneiderman (2006)
Maladaptive	Behaviour where the Subject lacks the necessary problem solving skills to overcome the obstacle.	Lazar, Jones and Shneiderman (2006)

Table 1: Summary of behaviours from the Literature Review

2.5.2 Summary Table of Reference:

Table 2 on the following page contains a summary of the authors used in the literature review.

Information Users	Human Information Behaviour	Information Need	Information Seeking Behaviour: Individual	Information Seeking Behaviour: Collaborative	Information Sources	Information Channels	Information Retrieval: Information Systems	Information Retrieval: Other Sources	Information Use	Information Transfer
Julien and Heidi	Wilson (1981)	Wilson (1995)	Wilson (1996)	Sonnenfield and Pierce (2000)	Johnson, (1996)	Johnson, (1996)	Marchionini, 1995	McCreadie and Rice (1999)	Wilson (2000)	Davenport (1997, [2])
Davenport (1994)	Wilson (1994)	Wilson (1997)	Wilson (1999)	Fidel, Pejtersen, Cleal and Bruce (2004)	Wilson (1997)	Wilson (1997)	Lazar, Jones and Shneiderman (2006)	Shahriza (2004)	Kari (2007)	Russell (1996)
Marchionini, (1995)	Neidwiedzka (2003)	Marchionini's (1995)	Ellis as in Wilson (1999)				Harmer & Pauleen (2007)	McKnight (2006)		
	Solomon (1997)	Case (2000)	Kulthau (1991)				Johnstone, Bonner & Tate (2004)	Johnstone, Bonner & Tate (2004)		
	Davenport (1997, [2])		Spink & Minsoo, 2005							

Table 2: Summary of Literature

3 Research Methodology

3.1 Research Paradigm

First and foremost, it is necessary to select a paradigm most suitable to the research, the researcher and the chosen method. A paradigm is a "shared mind-set that represents a fundamental way of thinking, perceiving and understanding the world" (Daft, 1999, p.2). It is made up of two essential components; those of an Ontological part – a Realist Ontology assumes that "objective reality exists beyond the human mind" (Weber, 2004, iv) – the nature of reality; while the Epistemological part explores the relation between what is being studied, the world around this phenomenon, and the researcher (Orlikowski & Baroudi, 1991). That is, how we know what we know, and how we find things out.

As regarding the Ontological part of the paradigm, this study will lend itself to the positivist approach. As quoted from Myers (1997); "positivists generally assume that reality is objectively given and can be described by measurable properties which are independent of the observer (researcher) and his or her instruments". These studies try to challenge theory, in an "attempt to increase the predictive understanding of phenomena" (Myers). Thus, the researcher engages in the study with a framework previously constructed for the purpose of the study. This framework can be seen in figure 15, on page 45.

Frequently, the method undertaken for positivist approaches to research involves the use of statistics and content analysis. This study will utilise a qualitative perspective (see section 3.3) and thus will focus on the content analysis from both observational 'thinking aloud' data collection and structured interviews.

3.2 Theory

This study will incorporate both Activity Theory – to explore the actions and activities the participants will enact during data collection, and Systems Theory, to enable a systems thinking approach to the research framework.

3.2.1 Activity Theory

The theory deemed most appropriate for this study is thought to be Activity theory, for its human centred approach via various activities and the behaviours associated with them. This is preferable to one which is technology centred, and is felt that it bridges the gap between the person and the technology. The study will also take a Systems approach with the design of the framework for the study (see figure 14).

Activity theory is not considered as a strongly predictive theory; but rather more as a "powerful and clarifying descriptive tool." Activity Theory's object is in being able to "understand the unity of consciousness and activity". It features strong ideas of "intentionality, history, mediation, collaboration and development in constructing consciousness" (Nardi, 2005, p.4). It is argued by Activity Theorists in general that 'consciousness' is not made up of those "disembodied cognitive acts" such as those of "decision making, classification, remembering"; but is found in everybody's daily life – in that "you are what you do" (p.4).

Activity theory puts forward a strong belief in mediation, in that "all human experience is shaped by the tools and sign systems we use". These Mediators attach us "organically and intimately to the world". It is also accepted that activity theory is itself simply one such "mediating tool for Research" [which] "offers a set of perspectives on human activity and a set of concepts for describing that activity" (p.4).

There are two widely cited diagrams used within Activity theory research (see Wilson, 2006, Nardi, 2005, and others). The most commonly cited is that of Yrjö Engeström's 1987 diagram, reproduced in figure 10 on the following page. A quick glance at this diagram might possibly instigate confusion, however on closer inspection, if one follows the centre row of characteristics (from Subject and Object,

through to outcome), one can view the start to finish of the process. The characteristics above and below these three contribute and act upon the process; such as those of instruments (or tools), rules, community and division of labour.

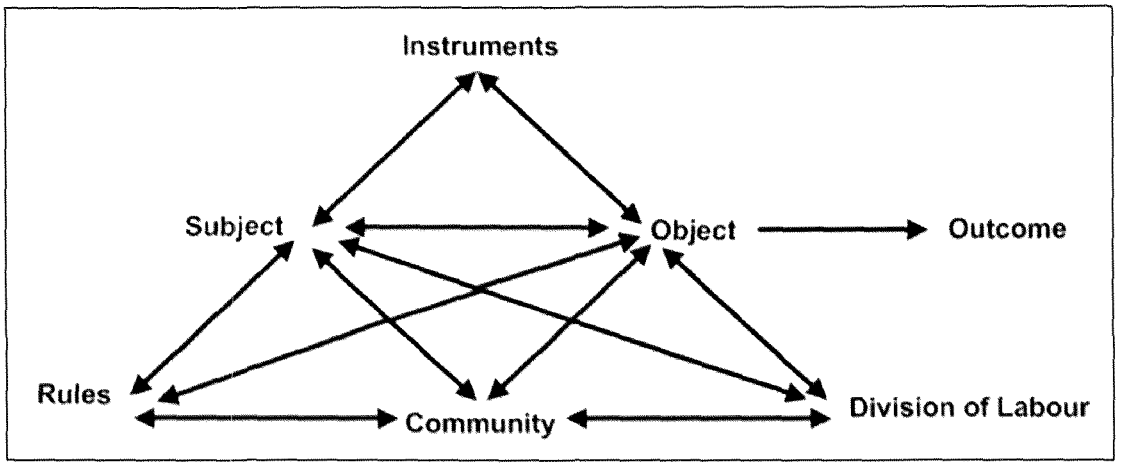


Figure 10: Engestrom's diagrammatic representation of Activity Theory
Source: Wilson (2006)

These days, activity theory is most often used to describe activity in a 'socio-technical system'. This system is comprised of a set of six mutually dependent elements:

- Object - the objective of the activity system as a whole. The Object is the not-yet-ready system/thing.
- Subject - a person or group engaged in the activities.
- Community – the social context; that is all of the people motivated in attaining the goal within the system.
- Division of Labour - the balance of activities among the different people and artefacts in the system.
- Tools – these are the artefacts (or concepts) used by the subject(s) to accomplish the tasks in order to attain the goal.
- Rules – these are the code and guidelines for activities and behaviours in the system.

The second diagram also widely cited by researchers is that of Gregory Bedny, Waldemar Karwowski, and One-Jang Jeng (2003); see figure 11 on the following page. The depiction on the whole appears easier to understand and utilises the same main characteristics as those in the centre of the previous version (from Subject and Object through to the Result [Outcome]), however for Division of Labour, the

diagram depicts another Subject, shown at the top, also interacting with the Instruments, here in the form of tools.

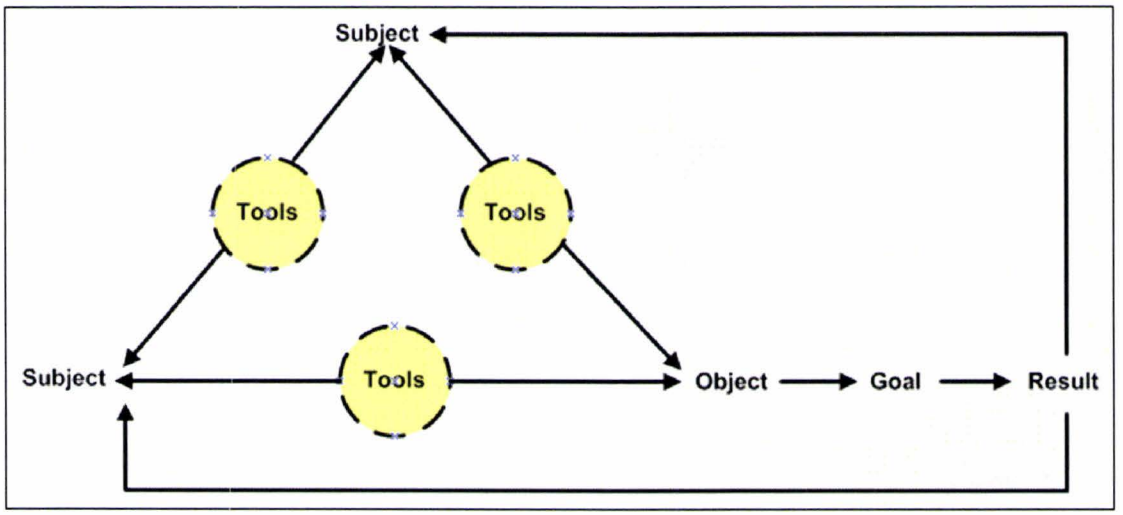


Figure 11: Bedny, et al's triadic schema of Activity (2003)
Source: Wilson (2006)

Note the broken circles in figure 11, as these "indicate that subject-object interaction may be either direct, or mediated through the use of external instruments. By the same token, intersubjective interaction may be direct (speech, gesture), or instrumentally mediated (e.g. telephone, email)" (Case website). Activity theory proposes a strong belief in mediation – "in that all human experience is shaped by the tools and sign systems that we use. Mediators connect us organically and intimately to the world; not merely [as] filters or channels through which experience is carried. Activity Theory proposes that activity can not be understood without understanding the role of artefacts [Instruments, figure 10; and Tools in figure 11] in everyday existence" (Nardi, 2005, p.7). In Activity theory, artefacts are mediators of human thought and behaviour (Nardi).

Also of importance to Activity Theory is theorist Alexei Nikolaevich Leont'ev. His diagram of activity, action and operations seen in figure 12 on the following page helps to distinguish between many of the concepts found in Activity theory. It is important to note that Leont'ev saw Activity as "necessarily connected to the concept of Motive", as it is believed that there can be no activity without a motive (Wilson, 2006, p.6). He also made the point that "'non-motivated' activity is not activity without a motive, but activity with a subjectively and objectively hidden motive" (p.6).

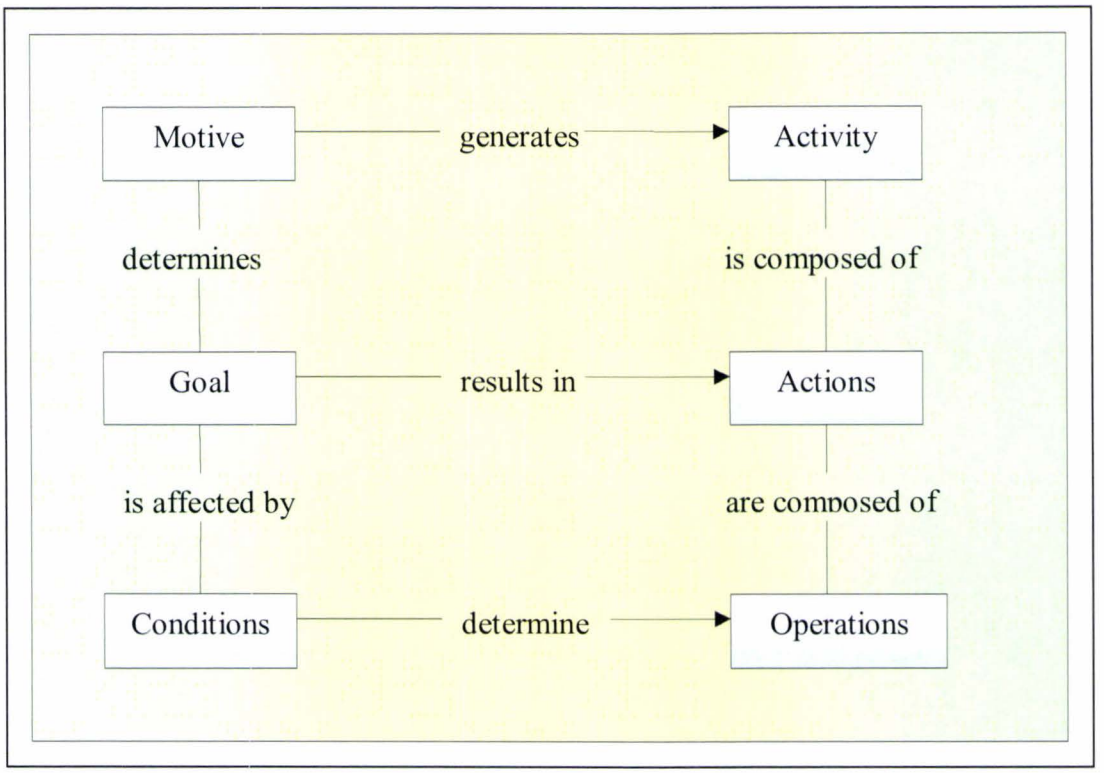


Figure 12: Diagrammatic representation of Leont'ev's distinction between the Activity Theory concepts.
Source: Wilson (2006)

3.2.2 Systems Theory

"Systems thinking is based on the idea that the whole may be more than the sum of the parts." (Johnstone, Tate & Bonner, 2004, online) It appears that Systems thinking is particularly useful in describing "human activity systems; sets of human activities more or less ordered in wholes as a result of some underlying purpose or mission". (Checkland as in Johnstone et al, online)

In order to be capable of this 'purposeful activity', the following conditions in table 3 below would need to be met:

An on-going purpose
A measure of performance
A decision-making process, as part of the transformation of inputs into outputs
A system environment, representing components external to the system that still have an impact on the system
A system boundary, which separates the system from its environment
Subsystems, representing a series of interconnected systems which, together, comprise the system under scrutiny

Table 3: List of conditions which must be met in order to be considered purposeful activities
Source: Johnstone, Tate & Bonner, 2004, online.

The following illustration in figure 13 shows the most basic form of a system model, which fulfils the list of conditions found above in table 3. It was from this basic representation of a system that the research framework for the study was able to be constructed (see figures 14 and 15 which follow).

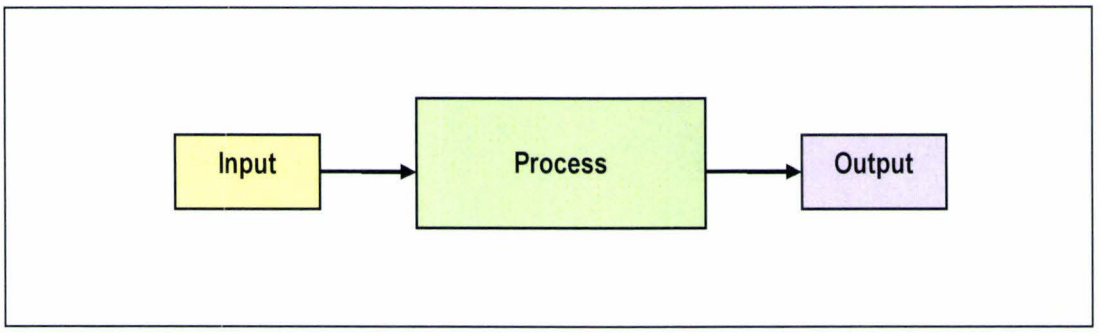


Figure 13: The simplest system model
Source: Johnstone, Tate & Bonner, 2004, online.

It is suggested that "almost all organisational activities can be considered parts... of different systems and subsystems". (Johnstone, Tate & Bonner, 2004, online) This study is going to investigate the activities involved in information use, and so a combination of Systems thinking and Activity Theory seems very appropriate for this study. The completed framework is described in the next section.

3.2.3 Theory Summary

The concepts of Activity Theory will therefore combine both Systems and Activity Theory; and the relevant ideas from Wilson's 1981 diagram (seen in figure 9) and his 2006 Process Model of Activity Theory, to come up with a human-centred framework. These two theories will enable a human centred framework to be developed rather than one which is technology centred; enabling the interaction of the subject with his/her activities and behaviours to be observed. Thus, it is intended to bridge the gap between the person and the technology at their disposal.

3.3 Research Framework

This is portrayed more fully in figure 15 on page 45. Figure 14 (below) displays a higher level version of the framework, and allows for the Systems design to be more fully presented. The process is instigated by an information event out to the left – an Input to the system - which requires some kind of action from the subject. An example could be an incoming email to see/take part in a presentation. The motivation – and beginning of the Process part of the system – is to open the email and see what the person wants. If we refer back to figure 6 (the matrix diagram comprised of source, channel and message) the motivation to look at the email may be from the source (sender) or the actual message (what the presentation is about).

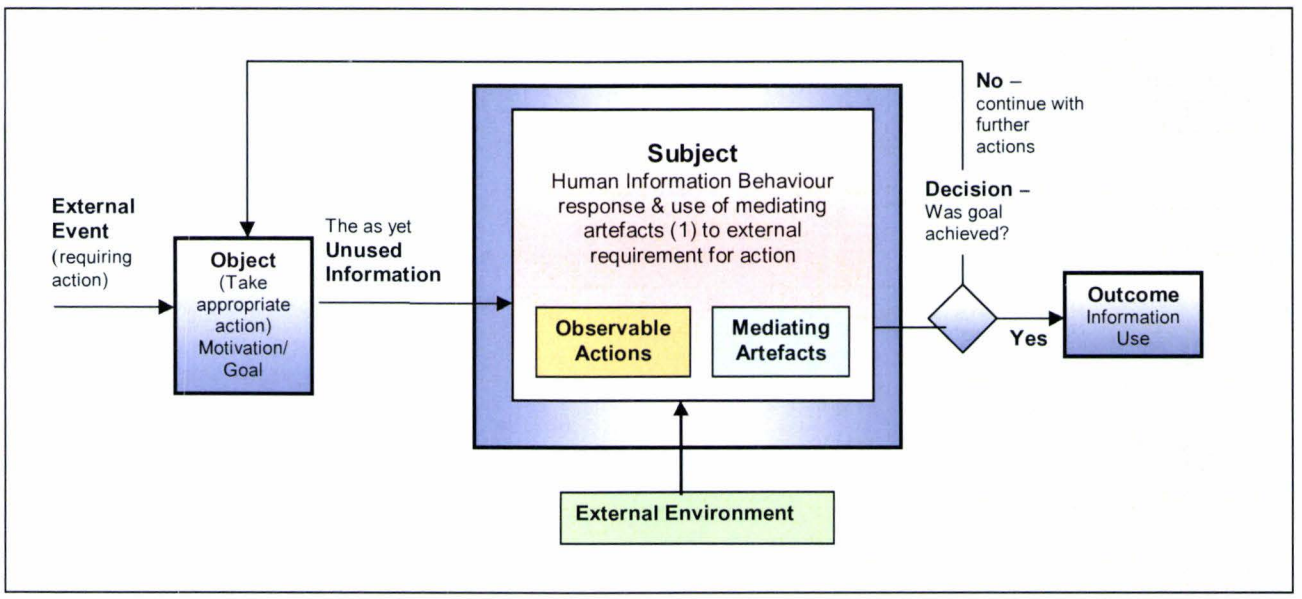


Figure 14: High Level diagram of the Framework for use in the study. Adapted from Wilson's 2006 Process Model of Activity Theory

If the information is relevant or important to the subject, the subject will initiate a goal for the information, and thus will have the motivation to get to this goal. In getting to the goal however, the subject will initiate various behaviours (observable actions, which make up activity), and utilise one or several mediating artefacts, both seen inside the subject's box in both figures 14 and 15. Of course there may be more than one action performed on the information, as shown by the decision triangle, before the goal is attained – the Outcome or output – the actual information use. These further actions may include marking the presentation's time and place in a diary, and then sending off a reply that they would be interested in participating. This may be

followed by saving the email for future reference, or deleting it if there is no further need for it. Each iteration through the framework to the decision triangle will be a single action. Multiples of these will create an activity (as described in Leont'ev's diagram in figure 12). Of course an activity may be completed in a single iteration.

Looking at the framework in light of the list of conditions which ought to be met in order to be considered as purposeful activities (as portrayed in table 3); the first item on the list is that the system must have an on-going purpose. Here it is to transform the incoming information into something usable for the subject. The second item is that there must be a measure of performance. In light of the framework and study, the measure in this case is the individual actions which will combine to create activities. There must also be a decision-making process, turning inputs into outputs; here this is depicted as the Subject, utilising actions and the mediating artefacts thereby creating the transformation. The forth item in the list is that a system environment impacts on the system. This in the framework is depicted as the green rectangle, representing the external environment impacting on the process. Another requirement is that there is a system boundary separating the system from the environment, which can be clearly seen as the rectangle surrounding the Subject.

This study will not be focussing on the Abstract Mediating Artefacts, shown in figure 15 as a white box. The literature review however recognises norms and the cognitive processes involved in the actions of the subject in the literature review (see section 2.3.1 Personal Information Infrastructures), but will not pursue this further due to time constraints).

For a comprehensive list of the three behaviour types to be observed (under Observable Actions in Figure 15), see Information Behaviours Coding Handbook, reproduced in Appendix A.

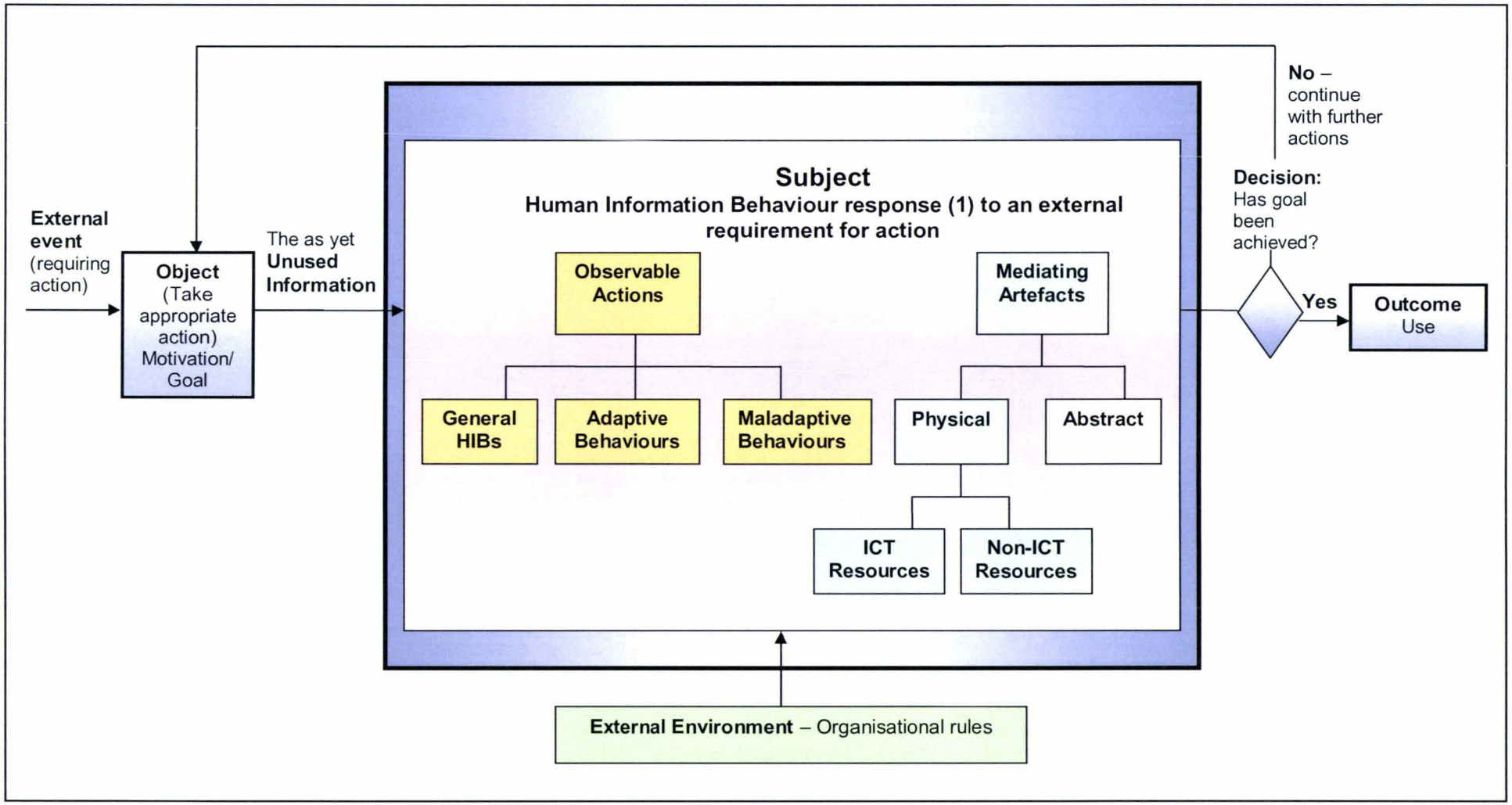


Figure 15: Actual Framework for use in the study.
Adapted from Wilson's 2006 Process Model of Activity Theory.

3.4 Research Method and Instrument

3.4.1 Techniques for Data Collection

"Real men don't collect soft data" (Huberman & Miles, 2002, p.81)

Qualitative research is typically defined with the following features; a "focus on natural settings, an interest in meanings, perspectives and understandings, an emphasis on process, and inductive analysis" (Woods, p.2, 1999). In expanding these features, "experiences in real situations" are sought after, as is the unearthing of meanings that "participants attach to their behaviour, how they interpret situations and what their perspectives are on particular issues" (p.3). Researchers try not to "disturb the scene, [nor] be obtrusive in their methods" (p.3).

Also of importance with qualitative research is the need not to have formed a theory which they need to prove or disprove. However as Woods notes, there is no reason they should not if they want to. Generally they seek to generate theory from data. Table 4 depicts a list of the typical characteristics associated with qualitative research and the qualitative researcher from Marshall & Rossman's 1999 book:

Qualitative Research
Takes place in the natural world
Uses multiple methods that are interactive and humanistic
Is emergent rather than tightly prefigured
Is fundamentally interpretive
The Qualitative Researcher
Views social phenomenon holistically
Systematically reflects on who he/she is in the inquiry
Is sensitive to his/her personal biography and how it shapes the study
Uses complex reasoning that is multifaceted and iterative

Table 4: A list of characteristics of Qualitative Research
Source: Rossman and Rallis; as in Marshall & Rossman, 1999, p.3.

Qualitative research involves the use of qualitative data such as; interviews, documents, and participant observation data to understand and explain social phenomena. "In Information Systems, there has been a general shift in IS research away from technological to managerial and organizational issues, hence an increasing interest in the application of qualitative research methods" (Myers, 1997, website).

A common misconception, but commonly found in discussions of "social sciences, links quantitative styles of enquiry and data collection with a 'hard' view of the world and qualitative approaches with a soft view... [Thus conveying] that quantitative work is courageous, hard biting and [generally] hard work" (Huberman & Miles, 2002, p.81).

This study will incorporate two qualitative methods of data collection. The first will utilise the method of Observation combined with thinking aloud in order to record the actions and feelings of the participant going through their daily interactions with their information events. The second qualitative method used will be that of follow-up face-to-face structured interviews in order to gather information after the fact. It is felt that interviews alone; that is self-reports, are prone to problems of inaccurate recall, in that the participants may "be unable to accurately recall what occurred as a result of the complexity of the situation, intervening events, or inattention" to what actually transpired (Weingart, 1997, p.196).

3.4.1.1 The Observation Method

Silver & Silver (1989) discuss how direct observation is an "important means of gathering data" (p.147). It allows for the gathering of more additional understanding in an objective way, more so than with interviews, which is the second method of data collection. Silver & Silver also consider this method particularly helpful in appreciating a "complete understanding of a system"; in this case the academic and his/her information events, and everything at their disposal in managing them (p.147). Also, this method is seen as the only way of collecting data on academic's behaviours.

Carey and Rusli (1995) argue that "simply observing users does not tell the researcher enough; it must be discovered what the user is thinking. [For example], was a switch in a search tactic the result of abandoning an unproductive attempt [adaptive behaviour], or the result of gaining knowledge from the last few actions?" (p.25) Adding to this point, a user's behaviour "can not be understood without reference to intentionality: is a user organising her office to so she can find something later or so that she will be reminded of something?" (Malone, 1983, p.6)

As a consequence, it is seen as being advantageous to the study that 'thinking aloud' be incorporated into the observational technique of data collection. Audio recording of what transpires would also be preferable to being totally reliant on researcher's notes as the researcher will also be interested in the participant's visual behaviours and will not want to miss any important verbalisations while noting these.

Appointments will be made allowing participants to choose a time appropriate to them and a time where they will be likely dealing with a multitude of external information events. This will be made via an email invitation to participate.

3.4.1.1.1 Construction of the Information Behaviours Handbook

The researcher during engagement in the observation method will also be taking notes, and referring to a specially constructed handbook, thus ensuring that as many HIBs as possible are recognised in the course of the observation, and thus be readily available for later analysis. This may require the asking of questions during the course of the observation (such as how the participant is feeling and what he/she is thinking during various actions undertaken); and also listening to what the participant is saying while he/she is thinking aloud. This observation may be recorded for accuracy in the analysis stage.

The Handbook can be viewed in appendix A.

3.4.1.2 The Interview Method

The study will incorporate a second method of data collection; that of a follow-up face-to-face structured interview (See Appendix B for questions), to be conducted on the day of the observation, or as soon as practicable so as not to negate the recency of the events previously observed. It is seen as beneficial to the study that the participants are able to recall their behaviours, actions and information events from the observational period previously conducted. The Recency Effect "reflects a function of short-term memory... [where] last things are recalled better" (Wiswede, Russeler & Munte, 2007, p.185). The "effect also refers to the effect in autobiographical memory that people recall more recent than remote... events" (Wiswede, Russeler & Munte, 2007, p.185)

A list of the characteristics of a structured interview can be seen in the list in table 5 below:

Prepared sequence of questions
Easier to evaluate results
Inflexible format
Questions limited to predefined areas
Simpler and easier to conduct
Time required to prepare structured questions
Less experience required of the interviewer

Table 5: A list of Characteristics of a Structured Interview
Source: Silver & Silver (1989)

This will enable the researcher to gain further feedback on parts if the study not given insight into by the previous method. Such questions will ascertain:

- ICT preferences
- An idea of when and where they do most of their information events
- Whether they feel the influence of organisational rules
- Medium preferences
- Whether they feel they are productive in dealing with their information
- Whether they ever feel frustrated in dealing with information
- Whether the events captured during the observation are typical events
- Whether there are times during the year that they prefer not to deal with information events
- Whether ICT use is different outside of the office.

It is anticipated that each interview will take approximately 40 minutes. All questions will be open-ended ensuring that there are no constraints set by a fixed set of possible responses. This will allow the participant's to reply freely in their own words. Like with the observations of participants, interviews will also be recorded with their permission.

3.5 Pre-Test

In order to ensure that the research framework, the qualitative methods to be used, and the questions to be asked during the follow-up interviews are the most appropriate for the study, a pre-test will be undertaken with an academic – one which would be representative of those participants involved in the study. This will be carried out

under the same circumstances as an actual participant - that is, in the participant's office with access to the technologies and information afforded that person.

3.6 Target Population

The target population is academics in general, in the field of Information Systems and Information Management. It is felt that this study can substantiate this claim (in general) because of the diverse cultural backgrounds of academics in New Zealand. Obviously this is a particularly large population. Thus the target will be restricted to a sample frame.

3.6.1 Sample Frame

Sample frames need to be a cross-section of the target population, and as such, as unbiased as possible. In order to accomplish this, the study's sample frame will be Information Systems and Information Management academics in Wellington, (approximately 18 in total) who reside at Victoria University of Wellington. Of course not all 18 can be incorporated into the study, and so from this sample frame, a suitable number of academics would be asked to participate.

3.6.2 Sample Size

From the sample frame, the sample size incorporated six participants. These participants are described in table 6 below:

Participant	Age	ICT Experience	Level of Appointment	Access to ICTs
1	60-70	30 years	Lecturer	Continuous (PC, mobile-phone, PDA)
2	50-60	20 years	Senior lecturer	Continuous (PC, mobile-phone)
3	50-60	15 years	Associate professor	Continuous (PC, mobile-phone)
4	40-50	20 years	Senior lecturer	Continuous (PC, mobile-phone)
5	60-70	7 years	Senior lecturer	Continuous (PC, mobile-phone, PDA)
6	50-60	10 years	Senior lecturer	Continuous (PC, mobile-phone, PDA)

Table 6: Descriptions of the six participants who took part

The participants who took part represented approximately one third of the staff in the School of Information Management (from a total of about 18), and as such were highly representative of the group as a whole across a range of criteria including experience with and access to ICTs, and also covered a reasonably broad array of ethnic and cultural groups (which for reasons of confidentiality can not be elaborated

upon). This group of participants is also very typical of information systems academics in Australasia.

All six participants had continuous access to cell phones and computers (desktops of laptops), both at home and at work. Three participants also had their own PDAs. Access to these ICT technologies were not seen as a prerequisite to taking part in the study; however they were to be expected from the participant's background in IS academia.

There is an apparent lack of spread in the ages of those who took part, and the absence of younger staff could be seen as a limitation for the study. However, at the time of the study there were no recent graduates available among the target group.

3.7 The Confidential Nature of the Study

Maintaining the confidentiality of all participants is seen as paramount to the success of the study. Participant's data will not be retained with personally identifiable information such as names and so on. Information will be analysed in the context from which it was derived, that is, the participant's area of expertise, formal training and experience with the subject domain. This will enable comparisons with participants of other areas of expertise and so on.

See Appendix C – Information Sheet - for details of the information sheet used in the survey.

3.7.1 Maintaining Confidentiality

As stated above, comments may be used, without attribution or identification of any individuals who took part. This is taken very seriously, and so the following will take place to ensure confidentiality be maintained:

- Contact data will be collected and kept separate from all discussion notes.
- All electronic information will be kept in a password-protected file, and audio tapes and paper-based data will be kept secure in a locked cabinet.
- The tapes, typed data and electronic files will be destroyed 2 years after the end of the project.

See Appendix C for actual details in the information sheet used in the survey.

3.7.2 Feedback

Contact details of the researcher and the researcher's supervisor will be given to the participants before commencement. They will be allowed to retain a copy and thus be able to make contact regarding any necessary feedback.

3.8 Analysis of the Data

All qualitative modes of analysis are concerned primarily with textual analysis, whether it is verbal or written. It is envisioned that there will be both written and verbal data to analyse and code. The data will first have to be transcribed:

- The first step will be to transcribe the verbalisations from the recording in the observational method. The diary notes taken by the researcher will need to be added to this.
- The second step will be to transcribe the follow-up recording of the interview, together with any notes taken down by the researcher.

Following transcription of the data, an analysis will have to be performed. This will be conducted with NVIVO software, qualitative analysis software available from the university library. This will require the two following steps to be performed:

- To come up with a coding scheme relevant to the characteristics which are being sought after by the study.
- Coding of excerpts from the transcripts - sentences (and/or partial sentences) of the transcriptions which relate to categories decided upon in the first step.

3.9 Alternative measures

It is not anticipated that any alternative methods or sources for data will be required for this study. Victoria University has on hand many possible participants who may agree to take part. A figure of at least six participants is seen as the required minimum to ensure comparisons can be made with the time period available.

4. Results

"I have to be organised, because if I'm not organised it impacts negatively on my efficiency, and ultimately on my effectiveness and productivity."

4.1 Activities:

Activities are "necessarily connected to the concept of Motive", as it is believed that there can be no activity without a motive (Wilson, 2006, p.6).

As is displayed in figure 12 on page 41, an activity first requires motive – that is, something to get the individual involved in the actions needed to complete the activity. Once there is a motive, a goal can be established and an activity created. The diagram explains that an activity is composed of individual actions, which in themselves are composed of operations. This section will elaborate on these concepts in illustrating how activities were embarked upon by participants in the study. It is anticipated that this section will also show how Activity Theory is thus a valid theory for this study and the framework devised as a suitable framework.

It is well worth taking another look at the framework used in the study so as to compare it with the actual actions which transpired to create activities during the observation process. This is reproduced on the following page and ought to make referral easier.

Two activities have been fully described so as to allow this comparison to take place; the two activities being quite different in nature, and belonging to two different participants. The first activity (4.1.1) is an example of where a participant is faced with an information event which is out of the ordinary, and thus requires additional actions and adaptive behaviour in order to get to the goal. The second example (4.1.2) is used simply to enforce the validity of Activity Theory as an appropriate theory for this study.

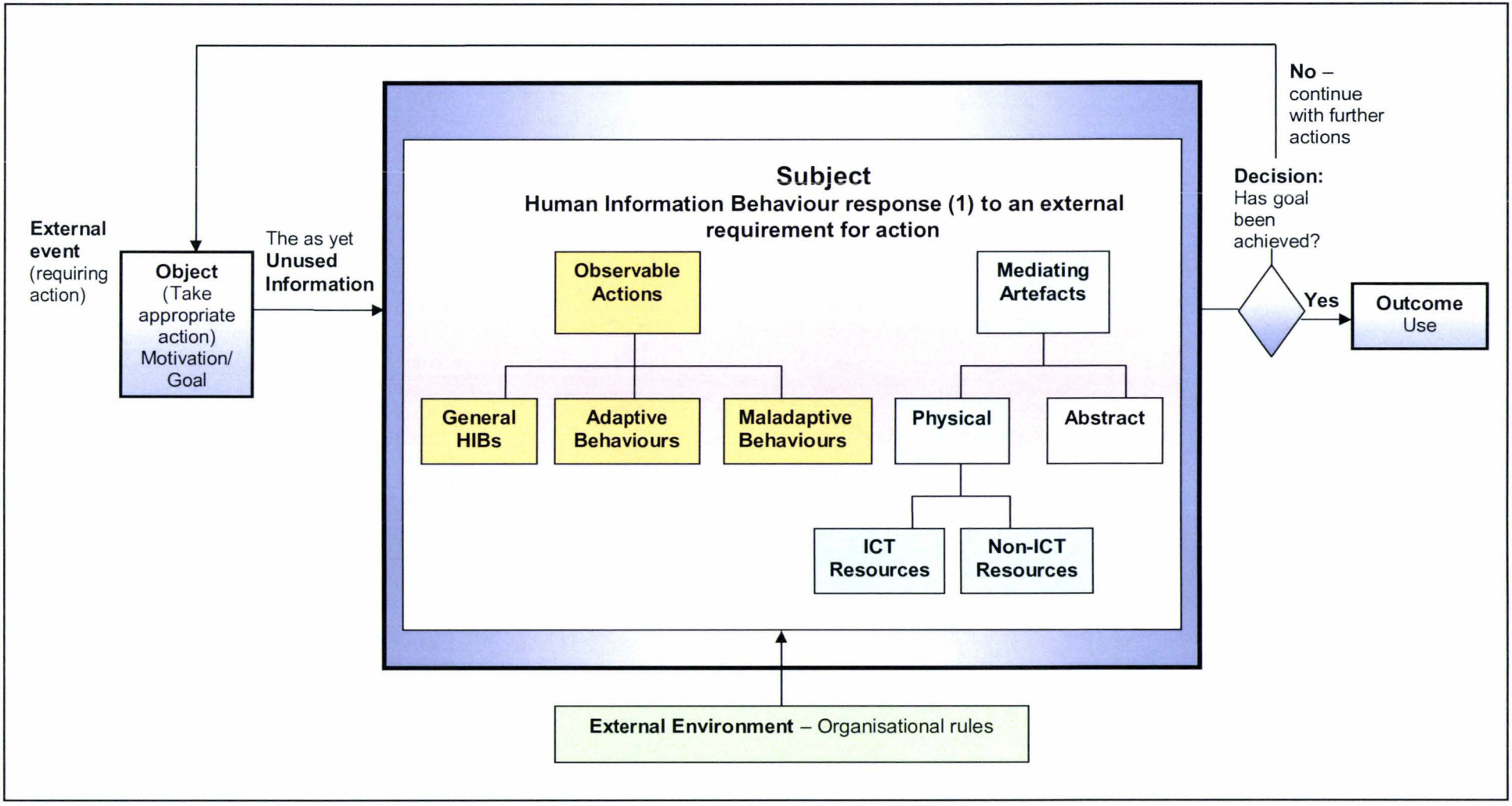


Figure 15: Actual Framework for use in the study.

Adapted from Wilson's 2006 Process Model of Activity Theory

4.1.1 Activity 1

This particular activity was performed by a participant while demonstrating Adaptive behaviour – seen by a change in the object (motive) and thus their resultant actions.

1. **External Event:** Participant receives an email supposedly from a colleague overseas.
2. **Object 1:** (Take appropriate action) Motivation/Goal: To find out what the message contains.
3. **Action 1:** Participant peruses the email. **Observable Actions/Behaviours:** Scanning and Extracting are behaviours evident here as the participant reads the information within the email. **ICT Resources/Artefacts:** Laptop and Outlook (email). **Decision:** Goal has obviously not been achieved, and so the participant goes back for a second iteration of the framework, and thus a further action.
4. **Action 2:** Participant via internal validity checks decides that this is a 'suspicious' email. *"...this is very intriguing... I'm trying to figure out whether this is... SPAM... it's actually using the name of someone that I know... very clever, it's a message... supposedly from a librarian at a Thai Library Lecturer, the name of the Thai Library Lecturer claims to be stranded in Nigeria, and having to pay a hotel bill of $1500, and wanting money transferred to them through Underground Western Union."* **Observable Actions/Behaviours:** Curiosity and Confirming behaviours displayed here. **ICT Resources/Artefacts:** Laptop and Outlook. **Decision:** Goal has still not been achieved, but there is now a new object and thus motivation to spur the participant onwards to further actions.
5. **Object 2**: Here the participant is motivated to find out whether the email is in fact from the person that it is stated to be from. *"I'd be absolutely inclined to panic..."* – the participant relating the urgency to find out one way or the other, the legitimacy of the email.
6. **Action 1:** Participant checks the email address on his PDA for his colleagues last known email address. *"...it's also the email address that's given - I just went into my Palm and checked it – it's not the last email address that I had from her..."* **Observable Actions/Behaviours:** Confirming and Extracting behaviours are utilised here via the use of a PDA. **Additional ICT Resource/Artefact:** PDA. **Decision:** Goal has not been achieved, and so the

participant goes back for a second iteration of the framework, and thus a new action must be performed.

7. **Action 2:** Participant goes through a process of other validity checks to ascertain the validity of the source. *"...the thing that makes me suspicious is obviously the Nigerian connection, and also the language doesn't sound right for her – it sounds like what a Nigerian would sound like... I know there has been a library conference in South Africa, and I'm wondering whether someone has been picking up the names of addresses, ah names at the conference and sending out messages".* **Observable Actions/Behaviours:** Confirming behaviour, via personal knowledge of the supposed sender. **Decision:** Goal has still not been achieved, thus a new action must be performed.
8. **Action 3:** Participant Forwards the suspicious email to his superior. *"I'm actually going to forward it to* <Name withheld> *and just sort of see... I doubt... I think there would be an agency she could go to rather than me if she was stuck and didn't have money... I'm just sending it to* <Name withheld> *in case he knows anything about it..."* **Observable Actions/Behaviours:** Participant is still unsure of the validity of the email and has sent it on to perhaps gain further insight into its origins. Participant shares the information with his superior. **ICT Resources/Artefacts:** Laptop and Outlook. **Decision:** Goal has still not been achieved, and as can be ascertained in the quote for action 3 from the participant, there is still an urgency to legitimise the email.
9. **Action 4:** Participant saves the email into a folder *"I've put this into the 'Save Short-Term'"*. **Observable Actions/Behaviours:** Participant organising the inbox of his emails by moving it elsewhere. **ICT Resources/Artefacts:** Laptop and Outlook. **Decision:** Goal has still not been achieved, thus a new action must be performed.
10. **Action 5:** Participant receives a reply from his superior. "<Name withheld> *came back to me and said oh she was heading off to Nigeria..."* **Observable Actions/Behaviours:** Extracting information from this email creates more of an urgency to legitimise the email as the participant's colleague was indeed in Nigeria. **ICT Resources/Artefacts:** Laptop and Outlook. **Decision:** Goal has still not been achieved, thus a new action must be performed, as the participant's

colleague is now indeed possibly stuck in Nigeria without money – resulting in some Adaptive behaviours being instigated in action seven.

11. **Action 6:** Participant goes through further validity checks regarding characteristics of his colleague. *"...it starts by saying "I'm sorry I didn't inform you about my travelling to a programme called Empowering Youth to Fight Racism". Now that doesn't quite ring true; a, because although I know her, she's not necessarily going to tell me about her travel plans – it's unlikely she would tell me. The other thing is that if she went to Africa... the main thing would be for the 'library' conference, and she would be more likely to mention that, rather than the other programme".* **Observable Actions/Behaviours:** Confirming behaviour, via validity checking against personal knowledge of the supposed sender. **Decision:** Goal has still not been achieved – the participant knows it does not 'sound' like his colleague, however this is not conclusive to 'put his mind at ease; thus a new action must be performed.
12. **Action 7:** The participant does a Google search on the programme mentioned to ensure that the programme exists. *"That was worth doing... it has pulled up is the exact text of the email, so I presume it is a standard SPAM email from African Women Blogs – the exact same email, except for in this case it's from a woman called* <Name withheld>. *I think this is a case where SPAM – another version of the SPAM message has been posted to the Blog... which is slightly bizarre – at least that reassures me that it is definitely a SPAM message".* **Observable Actions/Behaviours:** Adaptive behaviour shown in improvising by doing additional validity checks and Google search which are not the norm for the participant. There is also Confirming behaviour, that the email is indeed SPAM and can thus be ignored. **ICT Resources/Artefacts:** Laptop and Internet. **Decision:** Arguably the goal has been achieved here and thus the email can be discarded, however the participant performs one last action.
13. **Action 8:** The participant updates his superior on the outcome of his validity checks. *"I should actually tell* <Name withheld> *in case he's worried.* [Types a second message to confirm the non-validity of the email] *They would have had to have got both her name and someone else figured out that I was likely to have got email from her, which given that I wasn't at the African conference... was actually quite clever..."* **Observable Actions/Behaviours:**

Curiosity and Confirming behaviours still evident here as he is satisfied that the email is indeed SPAM and can be discarded and curiosity as to how the SPAM managed to 'come about'. **Decision:** The goal is how clearly achieved.

14. **Outcome:** Goal achieved and the email can now be ignored as SPAM and treated as such.

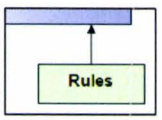
4.1.2 Activity 2

This particular activity was performed by a participant wanting to complete a draft email to send out and confirm a booking for a suitable room for Honours Students to present their projects. It too contains two objects.

1. **External Event:** Participant notices an email in his Drafts Folder which needs to be finalised, relating to the Honours Students presentations. **ICT Resources/Artefacts:** Laptop/MS Outlook.
2. **Object 1:** (Take appropriate action) Motivation/Goal: To finalise the email and therefore send it on to other lecturers/supervisors of those students. *"I need to find out where we're at".*
3. **Object 2:** Motivation/Goal: To gain confirmation of the room booking for the before mentioned event.
4. **Action 1:** Participant picks up the telephone to call <Name withheld> at the School of Information Management (SIM) office. He states that he is "*confirming the room booking for October 9 for the Honours student presentations... could you give me a call back in my office*" to the voice mail. **Observable Actions/Behaviours:** Prioritising and sorting. The participant has prioritised this activity **ICT Resources/Artefacts:** Landline telephone. **Decision:** Goal has not been achieved, as no confirmation could be given.
5. **Action 2:** Participant in the meantime checks the draft – "*this is something that does need to go out, so I'll just spend a little time making sure that I've got it right...*" **Observable Actions/Behaviours:** The participant scans and reads the draft to ensure its accuracy. **ICT Resources/Artefacts:** Laptop/MS Outlook. **Decision:** Goal is still not achieved – email is not sent, and confirmation still not achieved with SIM office.
6. **Action 3:** Participant sends the email on to "*all the Academics and the information systems group and all the students currently enrolled in it...*" **Observable Actions/Behaviours:** Sharing. **ICT Resources/Artefacts:** Laptop/MS

Outlook. **Decision:** Goal is still not achieved as with SIM office, however the sub goal of completing the email and sending it off has been done.

7. **Action 4:** Participant receives phone call related to Action 1. The participant specifies what is required of the room "*...they need a projector and a laptop – so does that mean... that it needs a network connection... and Internet?*" Participant receives confirmation of the room and equipment. **Observable Actions/Behaviours:** Sharing of information and requirements. **ICT Resources/Artefacts:** Landline telephone. **Decision:** Arguably the goal has been attained; however the deed acted upon in Action 3 results in a new external event (incoming email). This can be viewed as a separate activity requiring actions of its own, however as it is related to the previous activity, it too will be elaborated upon.
8. **External Event 2:** A reply is received to Action3. "...having sent out the earlier message, we got an instant response from somebody..."
9. **Object 3:** Motivation/Goal: To find out what the email contains.
10. **Action 5:** The email is opened. **Observable Actions/Behaviours:** Curiosity. **ICT Resources/Artefacts:** Laptop/MS Outlook.
11. **Action 6:** The Participant finds that it is in fact an out of office reply. **Observable Actions/Behaviours:** Scanning/Extracting. **ICT Resources/Artefacts:** Laptop/MS Outlook.



4.2 Environmental Influences:

This section explored whether or not academics feel that they are influenced by their environment. That is, do they feel that the organisation in which they work influences their information events? This part of the study was investigated during the follow-up interview which followed on from the observational part of the interaction with the participant.

Three of the six participants referred to having to work in advance of deadlines, which was a source of frustration *"...they've already put out a request for information on all the courses you might be teaching next year; you have to say what your text book is going to be, and what assessments you're going to have. So that's quite frustrating..."* Another gave a similar view as to the environmental influences manipulating many of their informational events "*...an awful lot of what I do is*

responding to something. You know in responding to organisational deadlines, conference deadlines, supervisions..." to "*...it takes some time to produce these nice booklets to give out to students, and want them to be ready – but sometimes it's just very difficult to work that far in advance"*; and "*book lists have to be in, Student Notes have to be submitted, and so there's a number of dates – like they're a part of the cycle which as part of the university we have to conform".*

Two of the three remaining participants acknowledged that there were indeed rules which they adhered to but did not see that the rules as being obtrusive or a problem in dealing with their information events. *"Rules are rarely a problem..."* and *"I don't think there are any rules where I feel confined..."*

The second source of environmental influence investigated by the framework in the study was also impacting on academics and their informational events. This was in a technological and also a negative way: The first involved the IT department's unadventurous tradition of taking a lax attitude when obtaining new equipment for them. *"...the general conservativeness of the IT group. We have... an approximate three to four year turnover cycle for equipment, so by the time you end up ready for a new one, it's pretty well creaking".* An example given by the same participant illustrated the point that *"...sometimes we're two releases behind in things like Endnote, or we're still on XP..."*

Another point worthy of acknowledging is the IT department's choice of hardware and software my not always be regarded as the appropriate choice for users: *"...Blackboard and Web CT – Web CT in my mind is a better programme, but they decided on Blackboard..."* and *"...if I was acting myself I might be more inclined to use... Open-Source software... given that the organisation supports Microsoft – I take the path of least resistance..."*

All participants felt that they were indeed influenced in some way by the environment in which they work regarding their information events, numbers are shown on the following page in table 7. These influences came from both external deadlines from the organisation for things, and/or the Information Technology architecture in place at the university. At times these influences - particularly the deadlines imposed by the

university - could create mismatches – what the academic needs to get done, and those which the organisation imposes to have done, whether or not the academic is ready for the demands. That is the organisation needs information on classes for the following year before the academic has adequate time to prepare – thus creating frustration and verifying its importance as part of the study framework.

Type of Influence:	Number of Participants agreeing:	Frequency of comments:
Deadlines	4	6
IT Architecture	5	6

Table 7: Environmental Influences

4.3 Frequency of Participant's Information Events:

The point of this section of analysis was to discover whether there were particular pays of the week, and/or periods of the year in which Academics were engaged in more information events than others.

4.3.1 Preferred Days of the Week

For Academics it appears that the vast majority who took part are engaged in information events on a regular basis, with no major preference for specific days of the week. *"I'm pretty much a 'nine to five girl'. I try to be relatively focussed when I'm here... weekdays and working hours... I don't generally work on the weekends"*, and another concluding that *"...in general no, I think I deal with it as it comes"*; that there is no preference for a particular day or days of the week.

For a couple of the academics observed, they are dealing with their information through a seven day week, up to early evening. One stated that *"Its basically 24/7 [laughter] – not quite that bad you know, but I always have a computer on at home... I tend to have it on by about 6.30 in the morning. 7 o'clock sometimes if I'm running late. Anything I do after about 8 o'clock [pm] is more recreational..."* and similarly, *"I log in every day. Some days like the weekends, I just look at what I've got, and then not look at it again until maybe lunch time; again in the evening."*

However, understandably, the actual events which are undertaken out of office hours and occur in the participant's home may be different to those which do not *"...what I*

try to do even though we've got Internet access at home; in the evenings and in the weekends I prefer to work on what I call my 'work things'... writing papers and articles and other things so I'm not distracted. I'm quite disciplined..."

4.3.2 Days or Periods of the Year

Busy periods of the year for Academics engaging in information events tend to occur most greatly during semesters of teaching (particularly at times of due dates of assignments for their students), and the beginning of semesters when everyone is resettling in for another half year; *"probably times that are a lot more admin intensive than other times like beginning of trimesters, all these sort of areas have cycles a lot on when things need to be done and things have to be produced, umm, book lists have to be in, Student Notes have to be submitted..."*

While academics are teaching, information events tend to be at their greatest *"there's no particular day or periods of the year – it centres around whether I'm teaching or my projects are active"*, *"Well it certainly would be high when I'm teaching..."*, and *"...if you're teaching you get a lot more of those* [events] *and obviously they tend to heat up around the times of due dates and things like that..."* There are also classes to prepare for *"...during course prep, yes – extensively, more so than any other times..."*

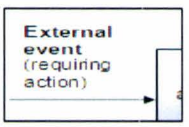
Mondays may hold a greater amount of information events for Academics, as well as the nearing of semester closures. Quiet periods of the year seem to occur during the public holiday times of December and January *"It would be lower in January in terms of the communicated information, because people go on holiday. The second half of December and January* [are slower]." However, while incoming events requiring academic's attention may be low, one participant remarked that *"you do more of your own research and have a great time. You can go in quietly..."* during these slower times. There are also conference dates for academics to meet *"...there are conference deadlines that generate activities, but if you're targeting a particular conference, then you have to meet the date"*

4.3.3 Times of the Day

This section looks at what time of the day academics prefer to deal with their information events. By and large, the preferred time of the day to engage in

information events tended to be in the earlier hours of the morning when the participants first arrive at the office. Typical comments included *"When I get in... the very first thing I do is login... and see what emails have come in particularly if anything needs urgent attention", "...the first thing I usually check is my email, and I work in Microsoft Outlook, both here and at home",* to *"first thing in the morning... because I work best in the mornings".* One participant out of the six involved in the study however, preferred to engage in these events in mid afternoon *"it's about 3.40 – so this is the time of day that I normally do work through my email..."*

In the majority of cases (four out of the six participants), the email programme (Outlook) continues to run during the entire day, with participants regularly checking its status, and/or taking note of incoming emails. See section 4.6.1 and both subsections for more on this behaviour.



4.4 observed Information Events:

This section delves into the information events which occurred during the observation period of each participant. These events were able to be categorised into 19 different groupings. Each of the following categories includes a description of the category and the quantity of each event encountered. See table 12 for a summary of the 19 types of events which were encountered during the observations.

It is important to note here that an Information Events does not mean the same as an Activity; where an Activity can be made up of one or many such Information Events.

1. Administration [17]

Administration-related Information Events involved those received from the School of Information management (SIM) administration office, and those of a general clerical nature. They can be divided up into three categories as regarding the medium in which they are received. Nine were received via electronic means (email), three were in hardcopy form and two were sent and received via the use of a landline office telephone. These events were very general in nature: The telephone interaction was regarding a room booking for Honours Student's presentations, where a quick reply was preferred via this medium. By and large, the electronic events were deleted upon their realisation (indicating that there were perhaps a larger number than recorded

here, as this action seems more instinctual, and may not always have been vocalised by the participant). This category also included news about "the Associate Professor of E-Commerce position that we are advertising"; while the hardcopy events involved administration tasks for the participant to perform such as the re-enrolment for a PHD or other administration task to do. The table below shows the frequency of these events.

Description:	Frequency:
Received from SIM – Electronic	12
Received from SIM – Hardcopy	3
Landline telephone	2

Table 8: Administration Events

2. Check Calendar [4]

This event simply involved the participant checking to see if they have any other appointments later in the day or week. Four of the six participants did a check of their calendars during the observation period. One of these four used the calendar on a PDA as a preferred technology for this event.

3. Call for papers (examples IS World, Chapters) [8]

This event involved the participant receiving emails which were asking for articles or papers for journals and such. Again there were both electronic and hardcopy versions of this event. Four of the five electronic events were in the 'call for papers' line, while the fifth was a response from a paper previously submitted. The three hardcopy events were a call for papers which had been previously printed off by the participants prior to the observational period. Table 9 below summarises these events:

Description:	Frequency:
Electronic Events	5
Hardcopy Events	3

Table 9: Call for Papers Events

4. Colleague [7]

These information events involved information from colleagues working jointly on journal papers or articles or jointly supervising projects for students. Information events filed under 'Colleague' were also in both electronic and hardcopy form. Six were electronic in nature and were all comprised of papers or projects being undertaken by the participant with a colleague, or past student. The sixth was a hardcopy version of a colleague's PHD proposal which was requiring the attention of the participant. See table 10 below for a summary of these events:

Description:	Frequency:
Electronic Events	6
Hardcopy Events (PHD proposal)	1

Table10: Events from Colleagues

5. Conference or Seminar based [15]

These events chiefly dealt with informing participants of upcoming events such as conferences or seminars. Once more, these events were found to be in both electronic and/or hardcopy form. 11 of these events were in electronic form of which five were events related to seminars. Four of these 11 electronic events were related to conferences, while all four of the hardcopy events were related to conferences.

Table 11 below shows how these 15 events were broken down into five categories:

Description:	Frequency:
Electronic events related to seminars	5
Hardcopy events related to conferences	4
Electronic events related to conferences	4
NZ Computing Society general meeting	1
University exhibition	1

Table 11: Conference or Seminar-based Information Events

6. Discussion Groups [8]

These eight information events are fairly self explanatory, and involved receiving emails related to topics of interest to the participants such as Call Centres. These could be about upcoming conferences, World Universities Forum, AIS World and so on.

7. Interest (personal) [12]

All 14 of these events relate to personal interests and range from checking the weather and sports to hobbies such as Kayak advertising, club newsletters and Ticketek.

8. Interest (work related) [15]

Six of these events relate to emails being received by participants related to the field of Information Systems/Management, such as; blogging in libraries, web-based design training and other technologies. Two involved vacancies at the university, two concern IS World updates, while others include a delay in the delivery of a book from Amazon, and a check on the Pacific Village portal which a participant had set up.

9. Investigative [7]

These information events involved the participant needing confirmation from somebody on some kind of issue, requiring interaction with another. Two participants displayed this need via their information events; in particular the participant involved in Activity One in section 4.1.1, in which this behaviour was observed in seven out of the 10 observed events. This was for three separate issues which arose at the time – the first was for the email SPAM outlined there and involved four confirming-related information events including one to his superior and several with Google searches and a check on the participant's PDA. These three events were not external events triggering actions; but events triggered internally by the participant, and as such are not recorded as external in that section of this paper, but as actions performed. The second involved three events with ITS confirming a change of email address for the participant, using both landline and email ICTs. The third involved a single event in which the participant confirmed that the successful enrolment of a student was carried out for an email list.

The other three confirming-related events were observed on the participant involved in the second activity (4.1.2). This also involved using both email and a landline, and were all related to the same activity. The external event which triggered these confirming events was the email in the participant's drafts folder.

Table 12 on the following page summarises these Investigative events.

Description & Medium:	Frequency:
Landline - Both incoming and outgoing events	3
Email - Both outgoing events	2
Internet - Outgoing Google search	1
PDA – to check last known address	1

Table 12: Investigative Events

10. IT based [3]

The three events categorised here are also described in the next section (Investigative), where the participant interacted with ITS in order to ascertain whether the address to their email list had been changed without their knowledge. This first involved landline interaction followed by an email outlining what had transpired and finally a look at their (ITS) new portal.

11. Notification or reminder of meeting [2]

This category is also self-explanatory. One of these two events concerned forwarding on information received from students about a meeting and the other concerned a meeting about pay and gender in libraries.

12. Out of Office reply [2]

This is another category which needs little description. One was received to an email sent during the observation period (see Activity One), while the other had been received the late the day before by another participant, related to an enquiry about HEC forms.

13. Outside working hours (not work related) [6]

These six examples given during the interview process are fairly predictable events. They include reading IS World and Community updates, accessing and replying to personal emails, uploading photos onto the Flickr site, plus checking weather forecasts, and newspapers.

14. Papers and articles being worked on [>1]

These were hardcopy versions of papers and articles being worked on by the participant. Information was not given as to the amount of papers there.

15. PHD related [3]

There were only three information events related to PHDs being undertaken by the participants. One referred to an email about a meeting coming up with the participant's supervisor, another participant referring to there always being 'stuff' related to their PHD being done (also referring to several hardcopy printouts of information), and the third in a similar vein to the second.

16. Query [1]

There was but one event related to queries (not student-related). This was based on a paper submitted to a journal, where the participant needed to follow-up with a colleague on the paper in question.

17. Reply [3]

Three information events were related to replies either given from others or received by the participant for a previous enquiry (not related to students). One includes the reply from Action 5 in Activity One (4.1.1). Another was a response from a response given by the participant, and lastly, a response from an enquiry made via an archiver tool used by the participant to find some information.

18. SPAM [>7]

There were seven instances of SPAM-related information events encountered during the observation process. These were generally of an advertising nature, however Activity One (4.1.1) is an example of SPAM which is not so general or straightforward.

19. Student related [14]

There were 14 information events related to students. These included three in hardcopy form. These were put into 10 categories, with the request for a meeting being the most popular. See table 13 on the following page for these categories and their frequencies.

Description:	Frequency:
Requesting a meeting	3
Applications for exemptions (credit transfer) (hardcopy)	2
Requesting feedback on a project	2
Reply to students' request for action	1
Check discussion board for queries from students	1
Update student details	1
Notification of venue for Honours presentations (Activity Two; 4.1.2)	1
Query from overseas student in USA	1
Previous student's PHD proposal (hardcopy)	1
Notification of an extension course (USA)	1

Table 13: Student-related Information Events

4.4.1 Information Events Outside working hours

This was a question asked during the interview to ascertain the amount of time the participants worked on information events away from work. *"...you might be waiting for a certain email – so then you would be checking it more often. Usually I would check it at least once in the evening - It would be like 10 minutes, just checking some things... if I'm coming into work late, I would check it at home before I leave. And at the weekend I check it as well."* Another similarly remarked *"I tend to leave here* [work] *by three o'clock most days, I go home and plug in again, and then I'm working. And I stop for dinner, and I'm still working in the evening until about eight or nine."*

Two participants remarked on the similarities of home and office – that being at either location no longer makes a difference, and in fact appears to be the case for them *"It's like my office* [home] *– no difference - or when I'm travelling on conferences you have extra factors to consider; costs. If you go to an Internet Café to open mail – have to be more efficient – be more decisive..."*, *"To me, home or office makes no difference, because I've got Virtual Private Network which means what I have here is at home... Even when I'm away on trips I can access the VPN..."*, and *"...what's work and what's not work are becoming blurred, precisely because of the influence of the adoption of these technologies..."*

4.4.2 Summary of Information Events

There were in total 132 information events recorded. Interestingly, of these 132, only 14 were related to students. 25 events could be termed as 'time wasters'; that is they were deleted upon their realisation without much in the way of scanning, and certainly no extracting of the information. These were made up of SPAM - one SPAM in particular taking up a large amount of the Academic's time (termed investigative; see Activity 1), discussion group lists, and IT based, where the academic had to take time out to find out why his email address had changed.

Administrative events accounted for 17 events on their own, however others including out of office replies (2), reminders of meetings (2), and replying to correspondence (3). Research is comprised of 35 events; call for papers (8), correspondence from colleagues (7), conference/seminar based events (15), papers and articles under work (>1), PHD related (3), and a query (1). Teaching (14 events) is made up of the following; student-related.

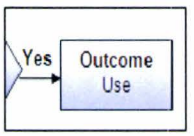
The functions of the academic are traditionally broken down into three categories; Administration (20%), Teaching (40%) and research (40%). Table 14 summarises the events as they pertain to the three high-level functions of the academic's working life. Not counted in the table are the following (33 in total); Out of office hours (6), interest personal (12), Interest - work related (15); as these do not relate to the three higher level categories.

Function:	Frequency:	Percentage without TW:	Percentage with TW:
Teaching	14	19	14.3
Research	35	48	35.7
Administration	24	33	24.5
Time Wasters (TW)	25		25.5

Table 14: Table showing a high level analysis of the Information Events

This creates an interesting summary, with administrative events accounting for one third of the total and research accounting for a half (a fairly high amount) and those related to teaching at a lower 19% (a total more suited to administration). When including 'time wasters' or nuisance events into the mix, these suddenly account for one quarter of the total events for the academic. This begs the question as to whether

it is too easy these days for technology to allow these events to occur. SPAM surprisingly only accounts for seven of these events (however as depicted by the > symbol in section 18 this total may is much larger).



4.5 Observed Information Outcomes

This section went into the information outcomes – that is, what the participants did with the information upon using it. These outcomes were categorised into 11 different groupings. Each of the following categories includes a description of the category and the quantity of each outcome encountered. See table 18 for a summary of the types of information outcomes encountered during the six observations.

1. Abandoned/Ignored – no action [3]

These events included job advertising at Victoria, a call for papers with no relevance to the participant, and a check for postings made by students to Blackboard – requiring no action as there were no postings.

2. Deleted [>37]

34 electronic information events were deleted (possibly more than those which were voiced at the time of the observations) and three hardcopies were physically binned. See table 15 below for details of these events:

Deleted Event:	Frequency:
Administration	2
Conference or Seminar related	7
Discussion group	5
Interest - Work-related	6
Interest – Personal	5
IT-based 1	1
Notice/reminder of meeting	3
SPAM	>7
Student-related	1

Table 15: Information Events resulting in deletion

Of the six participants who took part in the study, one deleted eight out of eleven information events, another deleted 23 events out of a total of 37; while a third

participant deleted one. The remaining three participants did not delete any electronic information events – two commenting that they never delete emails, preferring instead to save and file them, while the third commenting that SPAM gets deleted.

2.1 Hardcopy binned [3]

The three physically binned examples included two conferences which had expired and another which was not likely to be pursued. This was from a fourth participant who did not delete any electronic events.

3. Saved [>17]

There were 17 information events stored which were voiced during the observation. Other events which may be similarly stored were categorised under Placed for Further Action (9 to follow), plus in a similar fashion to Deleted above, some events may not have been vocalised. Table 16 below summarises these Saved electronic events:

3.1 Filed – Electronic [9]

Saved Event:	Frequency:
Colleague	4
Conference or Seminar-related	1
Confirm validity	1
Discussion Group/newsletter	1
Interest – Personal	1
Student-related	1

Table 16: Saved electronic Information Events

3.2 Filed – Hardcopy [8]

Two of the six participants had hardcopy information events to attend to. Six of these events belonged to one participant; with five of these relating to conference or seminar deadlines and one to a book chapter deadline. The sixth and seventh were related to hardcopy versions of application for exemptions from two students. Table 17 below summarises these Saved hardcopy events:

Retained/Filed Event:	Frequency:
Conference or Seminar-related	5
Book Chapter Deadline	1
Student-Related	2

Table 17: Retained/Filed Hardcopy Information Events

4. Forwarded [3]

There were three instances of events being forwarded to other people. These included one to a superior, one to a colleague and another to the IT department (ITS) in order to ensure that the recipient attained the entire story or context of the situation.

6. Information extracted – no other action [14]

There were a total of 14 events which resulted in information being scanned and extracted, but had no other function or related action taken. These are shown in the below in table 18:

Event:	Frequency:
Check Calendar	4
Meeting	1
Interest – Work-related	3
Interest – Personal	5
Student-related	1

Table 18: Events with no further action taken

7. Hardcopy signed [1]

This event involved an administrative matter (hardcopy information event) which needed to be signed

8. Placed for some future action [20]

12 of the 20 events place for future action outside of the observation period were electronic in nature and could be placed into the following seven categories in table 19:

Event:	Frequency:
Administrative	2
Colleague	1
Interest – Personal	1
Interest – Work-related (IS World)	3
Out of Office Reply	1
Results from search with Archiver tool	2
Student-related	2

Table 19: Events placed for a future action

Those events in hardcopy form were placed into the following six categories of table 20:

Event:	Frequency:
Administrative	1
Colleague	1
Conference/Seminar related	1
Interest – Work-related IS World	>2
Previous Student's Honours Project	1
Project collaboration	2

Table 20: Events placed for future action in hardcopy form

9. Printed [5]

Five events in all of the observations which took place resulted in the information being printed out. Four of these were conducted by one participant. Of these five events, two were examples of calls for papers, while one was an attachment, one student-related and another was a working document. These are summarised below in table 21:

Event:	Frequency:
Call for Papers	2
Attachment to an email	1
Student-related	1
Working document (work in progress)	1

Table 21: Events leading to Printing

10. The Event resulted in 'Other Actions' being performed [3]

Three Information Events resulted in other actions being undertaken by the participants, including updating student information, subscribing someone to a discussion list, and finally an administrative event dealing with the Academic Statutes committee.

10.1 Replied to Sender [1]

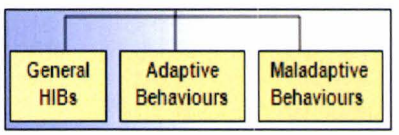
Replying to sender occurred only once during all of the observations, and involved a participant replying to a student who was requesting a meeting which the participant could not confirm at the time requested for.

11 Sent [2]

Surprisingly, this outcome was only utilised twice during the observations of the academics. In one of the two examples, the participant opened up a draft email, completed it and then sent it off to relevant staff and students in the Honours Programme.

4.5.1 Summary of Information Outcomes

As can be seen from the above list of Outcomes (1 - 12) and associated tables, there are a large number of information events which come in to the Academic, but which add little value to the information. A large number of events end in deletion (37), while 20 events are placed for some future attention and/or action; while only 17 events were saved or filed and a total of 14 events where the information is extracted but which there is no further use for it. See table 26 for a summary of these outcomes.



4.6 Information Behaviours

A total of 17 behaviours were observed from the participants during their interaction with information events. One behaviour described in the literature review was not exhibited, and is explained later in section 4.6.2 Unobserved Information Behaviours. Refer to table 23 for a summary of this section on information behaviours, as there is a lot of information contained within this section.

4.6.1 Observed Information Behaviours

1. Adaptive [2]

This behaviour would appear in a situation where a user of information is confronted with an obstacle and would thus lead to the participant exploring alternatives to the 'norm' in order to solve the obstacle, and thus adaptive behaviours are adopted. This solving technique may either relieve the problem and thus overcome the obstacle in order to attain the goal; or a new goal may be instigated.

Unfortunately there were few instances of this behaviour to observe. The main example uncovered during the observation process is fully documented in section 4.1.1 Activity One. This was where the participant being observed received a suspect email, and rather than just leaving it, investigated how it could have been sent. The

way this process began is quoted from the transcript as follows: *"Now, this is... this is very intriguing... I'm trying to figure out whether this is... I think this is SPAM... 'Cause it's ah, this is very clever SPAM... it is actually using the name of someone that I know... very clever, it's a message from... supposedly from a librarian - a Thai Library Lecturer, the name of the Thai Library Lecturer claims to be stranded in Nigeria, and having to pay a hotel bill of $1500, and wanting money transferred to them through Underground Western Union...."* The participant then went through various personal validity checks (see 17 – Verifying) to ensure that the email was not genuine, including searching Google with passages from the email, and finally overcoming the obstacle and thus confirming its non-legitimacy.

A second example of adaptive behaviour was uncovered during the interview process, and concerned 'frustrations with technology', and how these can disrupt academic's information processes. *"...last year we went through some bad patches where the system went down, and I don't get – I'm always prepared – yes I'm always prepared – I've always got a backup plan of things to do. Because there's always an alternative..."* This example also fits with the Organised/efficient behaviours found later in this section (11). In the past, technology glitches like the one mentioned may have lead to mal-adaptive behaviours being adopted, such as that of frustration and resignation. This adaptive behaviour thus has resulted in making the participant more efficient in their work processes by ensuring that technology glitches no longer impair their informational goals, and allows for a goal change if the unexpected does occur (another adaptive behaviour).

2. Avoiding [7]

This behaviour entailed the participant to be 'actively not wanting to deal' with the information at the time of the observation or external event being monitored. The literature was not specific as to whether avoidance refers to avoiding it just now (the present) or completely avoiding the information in the future as well. Therefore in this instance, the participant avoids looking at it – however he/she may want to, yet there may be reasons to not inspect it at that particular time. This therefore relates to an academic's time management priorities; see section 5.6.1 Time Management.

There were six instances of this behaviour recorded during the observation periods. Two of these examples concerned administration information events, and were hardcopy in nature. The latter four examples involved calls for papers, conference details (in hardcopy form), information updates from IS World; and an advertisement for an Associate Professor at the university.

The first of these administration-type events involved forms for the participant to fill out; *"...one exception which is I've got a couple of 'adminy' things that I'm supposed to fill out and I have a slight allergy to..."* This quote referred to several papers on the participant's desk awaiting action. Referring back to the framework, if the motivation and goal are not present with the information event, the resultant activity will not be acted upon. The following from the same participant enlightens further why administration tasks fail to ignite that motivation/goal, other than to ascertain what the event contains... *"I have a thing about my PHD enrolment and the reason that sits there is because the whole process annoys the hell out of me... forms that you have to fill out, but they have all the information... held on the university records, like your ID number and your start date and the course code... it just really irritates me that I have to spend my time retrieving this information which is already really available to administration..."* Clearly the form would eventually be filled out, but at the time of the observation, the motivation to do so did not exist.

In comparison however, the following information events – although avoided at the time of their observations – clearly have a time at which they will be further acted upon. The first two concern IS World Information Community Updates... *"...a marketing thing, really interesting, but it's very, very time consuming - I've got quite a lot on my plate... so I resist even looking at those – I will look at them – I usually look at them over the weekend... sometimes they have got really interesting things that would... help with teaching – case studies or interesting resources..."* Avoiding these types of information events is also showing prioritising behaviour (see 12; Prioritising), in that they must be avoided for the moment and attended to later (again time management).

Another example follows where the participant simply does not have time to engage in further activity, even though the content of the event does spark some interest - it is

not enough to create the motivation necessary for the activity to begin, and so the event is avoided after being scanned. "*This one again is an offer, a new email discussion group about virtual* [inaudible word]... – *if I had more time I might well spend some time following this up and reading it, but at the moment I've got enough on my plate without reading that extra stuff...*"

3. Confirming [9]

Confirming involved the participants having a need to confirm that some action performed on the information event at hand, had in fact been performed via another action or information event. This first example is again taken from Activity one (section 4.1) "*I think there would be ah, an agency she could go to rather than me if she was stuck and didn't have money... I'm just sending it to* <Name withheld> *in case he knows anything about it...*" that being the librarian who may or may not be stranded in Nigeria. Other examples of confirming behaviour included checking the calendar for important meetings "*Okay, and at this stage I need to go into my calendar just to see who else I'm late for today. I have a bunch of Shepherding meetings*" and "*...so I go to Calendar – I look at the seven-day a week folder, and then look at after your interview* [currently engaged in] *and I've got nothing – Lunchtime*".

During the observation period, one participant found that the address to one of the mailing lists that he is responsible for has been changed without his knowledge via an enquiry through one of the information events encountered that day. This situation then leads the participant to calling the IT department (ITS) to confirm the change "*I might see if there is anyone at ITS helpdesk that knows about that... I'm dialling 5050... 'Hi it's* <Name withheld> *from School of Information Management... I've just noticed that the address that messages come from has change... that's got implications for people who are filtering messages from the list. So I'm trying to find out if that's a permanent change or a temporary glitch...'*"

Another example of this behaviour involved the same participant needing to confirm the status of a new subscriber to a mailing list - that is to ensure that a previous action had resulted in her subscription. Also, confirming that there is nothing important left to be replied to "*Now I've got no more messages – now I go to reply, to see if there*

are any I should be responding to – no nothing..." and "*the other thing that I do... is just have a quick check through and 'half-see' if there's anything else that I should have done today that is going to create a problem if I don't get round to doing...*"

4. Confusion [6]

This is a fairly self-evident behaviour, where the participant while engaging in an information event is left confused. This is often the result of receiving unexpected information events, and may quickly be resolved by simply remembering something forgotten such as in this example; "[this is] *something from the European Institute for Advanced Studies in* [inaudible words]. *Now, I'm wracking my brains a bit here... first off, why should I be getting them? Ah what I think happened I reviewed for one of their conferences at the request of* <Name withheld> *and somewhere along the line in doing the review I have a feeling I had to join...*"; or engage in some basic actions to resolve the confused state, such as that in the previous section, where the participant had to deal with the IT department. While the situation with the IT department (ITS) was resolved, this lead to further confusion with the participant's filtering system no longer fully doing its job "*Because of this change in the email list address, I'm actually starting – it was puzzling me – I'm getting a number of administrative messages; that would normally have gone into my Administration folder*".

Another example of technology creating confusion for one of the participants was where the participant was confused by the way the technology was behaving regarding archiving of emails "*And one thing that is kind of weird about the archiving is when you set a folder – like if I set a folder here – they are there forever – so that even if I go back to my archive for umm, like these archives there. Say if I open a folder now like for like you know, Interview with Paul Atkinson – that folder would also appear in my 2001 archive, even though I do it now [2007] – so it will automatically have all your folders, for all the years, even though obviously some didn't start until 2007*".

This behaviour (confusion) like frustration may later lead to adaptive behaviours being adopted in order to determine the correct the current situation (again, see Activity One which began as a suspect email) "*I know there has been a library conference in South Africa, and I'm wondering whether someone has been picking up*

the names of addresses, ah names at the conference and sending out messages, but I... it's really quite intriguing".

5. Curiosity [14]

This behaviour is fairly self-explanatory, in that the participant being observed is engaged in an information event simply out of curiosity, and has no other goal or motive for doing so. The following few examples from the observations illustrate information events undertaken simply out of curiosity via the Internet; such as what is happening in the news, weather and sport: *"I have to confess at this stage I usually check what's going on in the world, by having a quick look on the web...", "...first as I go to Newsmedia and I look at Bruce Simpson's Aardvark", "...the other thing I usually check is Newstalk ZB...", "...firstly I go to sports and then to weather",* and *"I often logon to my bank account... today's payday - just to check it's gone in..."*

Another web related event associated with curiosity involved the checking out of a portal he had set up *"The other thing which I love is a portal which I have been setting up called Pacific Village... a professional online network, linking public servants around the pacific, and what I do is because I've sort of designed this web."* There were also examples where the participant was curious to see who is online; *"I usually check the discussion board as well as the email to see if there are any postings to reply to..."* and *"...sometimes I logon to Skype, and I see* <Name withheld> *on – she's my PHD student, she and I don't talk much at this stage – she's busy..." page, I keep an eye out for how often people are communicating with one another."*

This next example of curiosity on behalf of the participant was instigated after contact with ITS, who referred him onto their new ITS portal: *"...they've got this new system where I can have a look at the ITS portal to see progress – maybe I should try that out – I haven't actually looked at this before, but in theory I'm supposed to be able to go into the customer portal..."* Clearly the participant was curious upon learning of this new portal's existence after confirming the mailing list's address.

Other information events conducted out of curiosity with a personal element includes information events about hobbies (see the appendix), and work-related curiosity, in that the participant wants to be kept informed of things happening in the relevant

field. All events recorded in this section also have relevance to Scanning (13) and Extracting (6), which are behaviours utilised during this behaviour in order to satisfy the curiosity felt by the participants.

6. Extracting [29]

Extracting behaviours refer to the actions performed on the information already at hand when selectively identifying relevant material from within the information. Clearly this behaviour is most often used in conjunction with scanning, where information is first to be scanned for relevancy, and the information which is sought can be extracted at the same time. These events were in both electronic and hardcopy form. (Also see 13 Scanning/Browsing).

Many of the examples of Extracting refer to the extraction of details after first scanning the information event, and do not require further action from the participant. "*...second one was vaguely of interest – it was a conference in an area that I am interested in Mexico, but, yeah, I'm not going to get a chance to go there...*", "*...first two messages are notices of meeting seminars in the faculty that I really don't have an interest in...*", and "*this is a message about training in web-based design from the States, which as much as I would like to do, I don't have time to do this...*"

In comparison with the previous examples of Extracting, many entailed further action on behalf of the participant, which was more the norm. "*...this is a slightly tricky one... this is from yeah, in our Distance Teaching, we've got some students who are studying from the United States under a consortium arrangement, where they're enrolled at their home university... but doing our courses, and this is an email from the Syracuse University Administration which has the rather bizarre subject line – incomplete letter to instructor...*" This email resulted in the participant checking previous information events related to this as the participant responded "*I'm not in the habit of sending incomplete emails*".

This example once again takes us back to Activity One (section 4.1) where information uncovered by the participant using Google resulted in a 'hit' for the suspicious email and the participant thus extracted the following information "*That was worth doing, because in fact what it has pulled up is the exact text of the email, so*

I presume it is a standard SPAM email from African Women Blogs – so yeah, the exact same email, except for in this case it's from a woman..."

This next example was sent by one of the participant's students and required updating the student's details *"Now that's an email from one of my students - they are working on a group project, and they're actually giving me some information about what they are actually going to be – yeah what the subject is..."*.

7. Hoarding [2]

This is where the subject may not do anything with the information except to simply store it. It may be thus added to more information which has been gathered in this way. The subject may wish to keep the information without an intended goal or a need for doing so. This definition is not taken from the literature; however the act of hoarding information is referred to by Davenport (1997) as a possible information behaviour.

This behaviour was not very prevalent among the participants, and observed a total of only two times. While it may on the surface seem that it only occurred twice, it appears that all academics retain emails and store them as archives to later access them as desired; *"I won't delete it because I tend to keep my mail and umm for quite a long time before I eventually chuck off all the ones that are say more than a year or so old..."*, while this may sound like hoarding, often there are reasons for academics to retain emails; *"I do use it quite a lot* [archives] *searching back through old emails, because maybe you...* [did a] *a paper with somebody a year ago – and then you need to go find out about it – or maybe you taught a course a year ago and you remember you had a guest speaker and you want to get in touch with them."*

Other examples given during the observations include retaining emails so that addresses for discussion groups can be brought to mind, and past interactions with students can leave an audit trail, and so forth.

8. Ignoring (no motivation to act on the event) [10 + assorted SPAM]

Ignoring the information would require a lack of a 'need' or motivation and/or goal to initiate any actions upon an information event. The information is therefore left

unaltered. This definition is also not taken from the literature; however like the act of hoarding information, ignoring information is also referred to by Davenport (1997).

The participant doesn't bother to open it and ascertain what it contains – will check sender though and may delete outright. Most SPAM and some personal emails tended to make up the bulk of the use of this behaviour in the office. Two examples were found to be non-SPAM in nature, with the first concerning scanning the titles of various hardcopy events and then choosing to ignore them *"...have a really quick squizz through them here now, and most of it I am going to completely ignore – it's really not relevant to my research interests..."*, and the second totally ignored and deleted as the participant is regularly in contact with the sender as to what events are coming up *"...there is something from Ticketek and that I will probably just delete, okay?"*

9. Mal-Adaptive Behaviours [9]

Here the user may see the obstacle as 'unsolvable' and thus the user may resort to; Frustration, Withdrawal, Regression, Aggression, Resignation or Fixation. There were no examples observed from the participants that suitably fit into this category; resulting in the behaviours described however there were some examples of behaviours where inaction or avoiding the event will actually lead to a future problem or having to deal with the event again. The first example here deals with sorting through various hardcopy events, and ends with the events being put back as if not touched; *"at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them* [laughter] *Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin..."* and *"There are a couple of messages here that have been opened... I tend to resist this – I feel that – I'm going to open a message I feel I should deal with it... not have it sitting in the inbox partly opened'; plus "You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I may do that before she comes, or I may wait until she comes and be a little embarrassed that I will have to do it after she's gone..."*

Other examples deal with having email up all the while at work in their office. While one participant commented on this exercise being advantageous – *"I keep my email up all the time and tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you."* All other participants agreed how this action results in being less productive in their work habits; *"I try to discipline myself not to look at it – I'm afraid that I do all the time... It would probably be better if you didn't see it – switch it off", "I'm not sure if that's ideal for productivity purposes, but it's just the way I am. Mine's going all the time..."* and *"It* [productivity] *could be a lot more productive... I think one of the problems is that I just find it irresistible not to constantly check emails."*

During the course of being interrupted by emails while for example researching, it is conceivable that frustration may arise if the event takes the participant away from the work at hand for an extended period.

9.1 Frustration [8]

Specific examples of information events creating frustration and technology creating frustration were separated and stored separately in the NVIVO database. Also see section 4.7.1 Frustration with Technology. Information events causing frustration as a mal-adaptive behaviour were separated from other mal-adaptive behaviours as well. *an Out of Office Reply... a half-day employee... frequently need to contact* [her] *with HEC-type things and research and study leave and conference leave... very often she is not there, you know you get an Out of Office Reply, which is a little bit frustrating."* Another frustration voiced by a participant involves keeping track of the many articles and papers; *"...where and at which stage they are, now... this is taking a long time... and then sometimes you realise, my goodness I submitted this so many months ago and I've not heard from them, or... you submit the final paper they wanted and okayed and you've not heard exactly when the thing is going to be published – so you have to follow that up..."*

10. Multi-Tasking [2 recorded, all participants engaged in]

This behaviour was evident where participants may have handled "multiple tasks through task-switching or engage in multi-tasking information behaviours" Spink & Minsoo (2005).

During the observation process, the majority of participants had multiple windows open on their computers, indicating that multi-tasking is a daily occurrence with them. Another feature as seen under the mal-adaptive section (9) is the recurring trait of having email open constantly throughout the working day. This action along with other windows being open to work on with their information events indicates multi-tasking as being a predominate facet of the academic's working life; *"...I'll just TAB across to Outlook and see if there's anything there. I usually have anything up to eight windows open at a time, so, and different applications running.*

11. Organised/efficient behaviours displayed [17]

These behaviours involved the participant actively displaying behaviours which would make their interaction with information more efficient and professional. As one participant explained *"I have to be organised, because if I'm not organised it impacts negatively on my efficiency, and ultimately on my effectiveness and productivity."* An example of utilising an organised/efficient behaviour which works for that individual is in printing off important information events in which to respond to at a later date: *"...you can't just rely on memory, you can't just rely on telephone calls – you've got to make notes about things, and I do find that printing out the stuff I've got to attend to and give people feedback on* [works]..."

Another means of keeping track of the things to get done was illustrated by a participant in that *"on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it"* for immediate and not so immediate deadlines for things such as submission of papers, and so on. Another way of keeping track of things to do, this time on a daily basis is with the use of the PDA which has *"my to-do list for the day. So by and large everything I'm working on is a task in the to-do list".*

Still another technique of keeping efficient track of information events is this one – the process of using colour-coding with folders for indicating prioritisation and temporary storage of hardcopy information: *"...I colour-code my folders – usually for external organisations. Yellow is for external to SIM; SIM use – SIM committees and things like that are usually Blue;, except if I have to work on them very specifically - and then I put them in a Green folder – green stands for having to work on them –*

green stands for having to work!". Also used are trays, also indicating varying urgency requirements; *"... what I have here is* [basket trays] – *these are things that I must do – a pile to do. These are not an urgent to do. So I've got to write off some report at some stage and Benoit and I are working on an article together..."*
Other ways academics feel they can be more efficient is in dealing with their email. Simply closing it down when concentrating on something which needs doing is one such example, as is making use of the time spent on public transport by responding to email. Another example of efficient behaviours is an example given in Adaptive Behaviours (1), where one such academic always has a back-up plan for technological 'glitches'.

12. Prioritising [33]

This behaviour entailed participants prioritising their information events. This behaviour first involves selecting which events to respond to first (such as prioritising email to open) *"when I open my email* [I] *quickly scan down and see who they are from – there might be ones that are more urgent than other ones, or ones that I've been waiting for".* This was a popular observation with the participants, with all making similar remarks to this one. The sender of the email is scanned first *"I look at – it's usually in terms of the programme directors. They go down from Dean and Head of School, maybe Faculty stuff, Faculty stuff is very important - and then I go down and look at for instance the Programme Directors..."*

There were several examples of academics prioritising a specific work-related activity related in many cases to student issues. *"...his request for agrotats was declined. Now this is actually serious... I really need to go into this in depth... its very important for this student and I need to ensure that I give the student the best attention I can... because obviously something has gone awry... he came in yesterday in quite an agitated state – so that's quite urgent."*; and *"...there's a request from a Chinese student. You can see because the font is in Chinese script... wants a credit transfer... wants an appointment this afternoon at 2 o'clock..."* Another example here is the updating of the student project which resulted in immediate action (see Updating; 16).

Also of importance is a decision on whether to go through another iteration with the emails or leave them for another time later (the participant was about to leave work). Obviously if awaiting something important, the participant may well prioritise this iteration. At the other end of the prioritising spectrum are those events not seen as important to check "...*the next one down is the Family and Friends folder, from my wife about some matters of personal family health, so I won't bother responding to that at this moment...*"

Also of relevance to this section is the timeline example discussed in the section on Organised/Efficient behaviours (11), and the colour-coding of folders and use of trays for hardcopy information (also seen in 11, and 15.2 Sorting/Organising Information – Hardcopy) to show their importance and ensure those events are not forgotten.

13. Scanning/Browsing [31]

This behaviour involved semi-directed or semi-structured searching through the information already at hand with the User. Scanning and Browsing behaviours also encompass prioritising the emails in which to open (see 12, above); where participants first scan their inboxes for their priority emails, and engage in the most relevant events.

Scanning was a major part of an academic's information event process. They allow for quick deletion of unimportant emails *"what I do is open up the message and quickly scan and delete. In fact probably quite a lot of them will be deleted", "This is an email discussion group list about open access publishing... deleted"* and *"a conference notification, which I'm not particularly interested in, so I'll delete that".* Those events which go further than this initial scanning step generally will lead to information Extraction (6) – that is if the scan warrants further involvement it leads to this behaviour.

There were a couple of instances where participants did a quick scan in order to ensure that nothing important was missed from their events at hand *"now I go to reply, to see if there are any I should be responding to – no nothing..."* and *"have a quick check and 'half-see' if there's anything else that I should have done today that is going to create a problem if I don't get round to doing".*

Scanning also involves figuring out whether something is SPAM or not without putting more energy than necessary in carrying out this task; *"De-spam folder – there's a whole bunch of stuff in there – just quickly scanning down it... nothing in there that I want to open, so I'm gonna delete the entire bundle – gone"*. Other examples of scanning included events related to hobby use *"I can just sort of skim over those and – I probably won't ever bother reading them"* and electronic compilations of articles *"if it's a journal you're interested in you, you can scan through the table of contents and see if there's an article you're interested in"*.

14. Sharing [1]

Sharing information with others is where the sharer of the information can pass it on another, but does not have to. It should not be confused with the act of reporting information which is in itself not voluntary. (Davenport, 1997) Such as it was, voluntary sharing of information did not occur often during the observation process. Clearly it might in other various situations which merit sharing and lending credence to its inclusion as an information behaviour; such as the following example – the sole example from the study: "*...have a look at the latest message... it's just to say we've got a meeting Monday at one o'clock... but just to remind her... I will forward that to her... and just say something like "Hi* <Name withheld> *... at 1pm on Monday..."*

15. Sorting and of organising information [23]

This behaviour is similar to that of 11, in that sorting behaviours could be seen as a subset to that of being organised and efficient. They have been separated here for ease of analysis.

15.1 Electronic organising and filing [13]

This typically involved participants after having received the information, electronically storing the information in some way. While similar in context to the 'save' outcome, this serves to ascertain in 'what way' the information is stored and viewed.

15.1.1 Organising Information

Organising electronic information was a common practice for two of the participants. This involves sorting the information before, for example, browsing the inbox; "... *when I look at email it's in date order, but I'm looking at my bulk email, I order it*

into Subject order; the idea being then that messages that are connected will be grouped together, and with a bit of luck if there's a number of messages on the same topic, I'll end up reading the most recent message, so that with a bit of luck I'll only need to read the most recent message of the group..." And, upon completion of the exercise, *"...I'll return my inbox to being in date-order."*

15.1.2 Filing (Saving) of Information

This part of the behaviour involved participants 'putting' the information somewhere – such as, in temporary folders *"I might just wipe that out... so I'll put that in the short-term folder... I work on the basis that if I think I might need to look at it some time in the next two to three months, it goes into 'save short term'."* Longer-term storage for events which relate to specific work-related issues generally tend to have their own storage area; *"I try to move things into folders if I want to keep them. Like I've got a folder for Courses – the courses that I teach; and I've got a folder for Research Papers; a folder for my Research Students – like the ones who are doing Masters or Honours or something like that; and then some folders for other projects."* Also, in case of possible future issues raised about the correspondence, it will be filed long-term; *"I think I'm just going to file this – but because of the administration issues involved in this, I think I will file it in the folder for that course, just in case in six months or a year there is an issue about this, so that's where it will go."*
This can also be done automatically, as one of the participants demonstrated: *"I tend to have rules and alerts* [with incoming email], *and it does some pre-filtering. Anything that I have a definite knowledge of what I plan to do with, gets put into a filter. So I've got one from family and friends, another one related to my personal hobby. Anything that is from somebody that I'm not expecting or don't know, or isn't a regular correspondent, goes into my deleted items, and the purpose of that is I'll have a quick look, and if it's not from anybody I want I just literally finally delete it."*
This thereby saves the participant the time of manually dealing with the emails as they arrive.

15.2 Hardcopy Organising and Filing of Information [10]

In much the same way as electronic information is stored electronically in 15.1; information is also stored in hardcopy form. As remarked in section 11 Organised and

Efficient behaviours, hardcopy information can be filed (temporary and long-term) according to their urgency via several means.

Information could simply be organised in neat piles on the participant's desk or adjacent table *"'These are different papers – articles – journal articles that I'm working on at the moment..."*. Organising hardcopy information temporally in one case incorporated the use of colour-coding of folders which has already been discussed; and the use of trays, which during the observation process were utilised for a number of purposes also; "... *this is the 'to read tray'*", *"This tray is for awaiting responses from others"*, *"... those over there are documents that are waiting for meetings I am going to have either today or tomorrow..."* and so forth.
Long-term storage or filing of hardcopy information came up but once during the observations *"These are to file away, and the filing cabinet is quite well organised... so I can file these away..."* All participants who took part in the observations had filing cabinets in their offices allowing for this action.

16. Updating [1]

This behaviour was observed only once, and was the result of students submitting information requiring the participant to engage in updating their details *"they are working on a group project, and they're actually giving me some information about what... the subject is* [of their project]. *So this is something I should probably take some action on – what I'm going to do is add to the information about this particular group in Blackboard, the information of what they are actually doing. So I'm going into Blackboard now... and going into Manage Groups... I'm modifying the name of the group to reflect the topic that they've decided to work on"*.

17. Verifying [14]

This behaviour could be used in validating the reliability or authenticity of an information source – and thus, as stated in the literature review, the information contained therein is accurate.

As can be ascertained from the examples, this behaviour would not have been possible to be substantiated without incorporating thinking aloud into the methodology. It involves the participant going through a thinking process;

"...however it comes from the university (VUW) so it's a trusted source" and *"if it's sent by someone I know and the topic is something I'm interested in, then I know it's a message I should pay attention to, and I open it, and any attachments that come with it – it's a safe source."*

Two participants remarked on the contents on emails – the sender's unique mannerisms - as verifying the source of the information on top of the supposed sender. *"... It's also the way in which people communicate. I know that people have got sort of communication mannerisms, so if a piece of communication comes from a certain person, I know that so and so has sent me that..."* and this piece of Activity One – see section 4.1; *"...the other thing I tend to use for verification... – the message actually talks about going to there for a programme... it starts by saying 'I'm sorry I didn't inform you about my travelling to a programme called Empowering Youth to Fight Racism'. Now that doesn't quite ring true; because although I know her, she's not necessarily going to tell me about her travel plans – it's unlikely she would tell me.*

One participant also check his PDA in order to verify the address of a sender of information *"it's also the email address that's given - I just went into my Palm and checked it – it's not the last email address that I had from her... umm, which makes me a little suspicious."*

4.6.2 Unobserved Information Behaviours

Two of the 13 behaviours discussed in the literature review were not encountered during the study, and are outlined here.

1. Collaborative

This information behaviour from the literature review which did not feature during any of the observations. That is not to say that the participants do not engage in this behaviour, but that under the conditions and perhaps times of the observations, this behaviour was not required of them. Collaborative behaviours are described by Fidel, et al (2004) as a process in the context of information seeking where colleagues are "engaged in the same work processes" (p.994).

2. Passive Attention

This was the second behaviour not encountered during the study. This behaviour was likened to that of taking information in (absorbing) without intending to, such as that of having a radio or television on in the background and not actively seeking to absorb that information.

4.6.3 Productive Versus Non-Productive Behaviours of Academics

This section mostly originates from the interview question as to whether the participants felt that their behaviours on the whole are productive or not. There are also pieces of data which were observed and also used here.

4.6.3.1 Productive Behaviours

This section is comprised of the comments and excerpts from the interviews and observations which implied academic's productive behaviours at work. These behaviours can be seen in more detail in the following sections of 4.6 - Observed Information Behaviours; 1 – Adaptive where a participant is always prepared for the unexpected occurring by always having an alternative in place; 11 – Organised and Efficient Behaviours, where participants discussed the importance of being organised and productive via timelines, colour-coded folders, to-do-lists, note-taking, printing hardcopies and closing down email programmes; 12 – Prioritising, where participants scan for importance in inboxes; and 15 – Sorting and Organising Information, where information can be stored both temporally and long-term in folders and filing systems.

However, when asked of whether they thought their behaviours were very productive, there was only just one wholly on the affirmative; *"Yes, very* [productive] – *I love my information... I organise my life around that* [Life as an Academic - research, teaching and administration]. *Even if it means getting in early in the morning... ¼ to 8 sometimes, and hit the emails, so that by nine I can do the work..."*

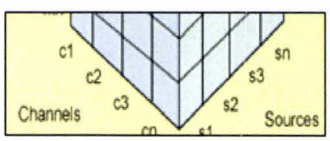
Most agreed that their behaviours could be more productive, if not for the email programme diverting their attentions. All but one participant keeps their email up all day long while at work; *"I prefer not to get distracted and can concentrate on work, otherwise it can be just watching this all the time* [incoming email]. *It can be very*

distracting so I can switch off and just focus." One participant prefers to keep email up and enjoys the breaks they offer *"... tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you..."*

4.6.3.2 Unproductive Behaviours

This section on the other hand is comprised of the comments and excerpts from the interviews and observations which implied academic's unproductive behaviours at work. These behaviours can be seen under section 4.6 - Observed Information Behaviours; 9 – Mal-Adaptive Behaviours. These behaviours were observed dealing with both hardcopy information as well as incoming electronic information. Many examples of academic's preferences on the whole to keep their email programmes running throughout their time in the office (it appears to be somewhat of an addictive behaviour) were evident.

Most participant's agreed that they were not very productive workers, in main due to their distraction thresholds with email; "*... could be more productive...*" as one participant commented; and *"I didn't realise how inefficient my practices are..."* said another; plus *"... I have very low distraction thresholds, as it doesn't take much for me to do the TAB/ALT thing or whatever ... I really have to drive myself if I want to be truly productive"* was described by a further participant.



4.7 Preferred Medium

1. Face to Face (Talking in person)

Three participants explained their preference for face-to-face communication if it were possible, in order to make communication a better experience; *"If I really had a choice I would say I would probably prefer to deal face-to-face if I could. And certainly I find it hard to deal with people solely by email..."* and *"I like face-to-face because it incorporates so many things..."* and *"I would probably choose to meet people".*

One participant erred on the side of caution when asked of this as *"...there are some things I would do only face-to-face because I wouldn't want any written record. Like for example if I want to go into negotiations with the head of school about something, I'd much rather do that face-to-face, sometimes there's something you want to say – and I'm very conscious that email leaves a record..."* And *"I might be having a conversation with another lecturer about a student, and then they forward it to the student, but they've kind of left that original conversation on the email that you didn't want passed on – that you didn't want the student to see."*

2. Email

Email was by far the most preferred medium for academics communicating information *"I have email up all day every day... so that would be the big winner..."* This was mostly due to its convenience as both a mobile communication device and the fact that it leaves an audit trail *"...one of the things that people seem to love about email is that it leaves a kind of paper trail... that is extremely convenient... it is certainly good to have a short confirmation of perhaps meetings you have with people; or agreements..."*, *"It's convenient, and most of the time it's faster when it's working"* and *"One advantage [of ICT] is if you travel you can get your email anywhere."* Another not so obvious convenience of email was noted by one participant *"I'm strongly email-oriented... I'm not a particularly social person, so I sort of interact face-to-face with people if I know them or have a strong interest in them and/or their work."*

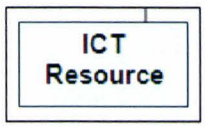
3. Landline

The landline was preferred by one of the participants during specific situations *"I use the telephone because sometimes email just gets really stupid when you're emailing somebody back and forth. It's just easier to pick up the telephone – often especially I do that... when I'm trying to arrange – like when we've go conferences and things... often I use the telephone for things like that."*

4.7.1 Summary of Preferred Mediums

Email did end up the preferred medium for academics. Reasons for this preference tended to focus on the traceability of events. Other possible reasons may include the ease of shuffling events with the push of a few buttons as evidenced by the previous

section on Outcomes; where events can be left for a future action, deleted or filed. Email however does have a side-effect; that of creating more volume of events for the academic than may really be necessary by allowing spurious events to enter the academics working life (discussion groups for which they can not remember signing up for [see 4, confusion], and so on); thus a mixture of both important and unimportant events needing to be 'shuffled' interrupts the academic's work routine.



4.8 Information Communication Technologies (ICTs)

This section delves into the types of ICTs that Information Systems Academics prefer to utilise both at work and after hours. However, it first looks at how Academics get frustrated with technology.

4.8.1 Frustrations with Technology

The main frustration with technology concerns the boot up/logon time the laptop takes to get itself going. Those familiar with the cell phone know that it is pretty much a seamless quick process of the phone being switched on and becoming available for use within seconds. Not so with the laptop.

1. The Laptop

The laptop while used by all participants, tended to have one flaw – one which tended to be most annoying. This defect was the way in which the laptop powers up and tends to take a long time to become available. This trait of the laptop is reflected in the following excerpts; *"I first need the laptop to come up and behave itself - that's 90%-ish of the time that it does exactly what it is supposed to do. 10% of the time; which is quite a high percentage of failure – [the laptop's] really frustrating... it doesn't boot properly, or* [it] *doesn't connect properly", "I hate the way my profile takes such a long time to load, and actually the way my PC powers up..."* and *"...one of my perennial frustrations... is just how long it takes to fire up when I actually want to use it. It takes usually anywhere between three and 10 minutes, depending on how recently it's been cleaned up, and I get very ratty when it takes 10 minutes".* Clearly this delay is a frustrating experience for most people.

2. Personal Digital Assistant (PDA)

This device, while there are no comments about its speed to boot up; it certainly seemed to have other faults. *"... [It is] not an efficient tool. And I think the other thing... is that it's a glass screen, and although it has a fold-out keyboard, it's not like an ordinary cell phone where you can do it by touch"* and *"It's a horrible device, it's extremely expensive to use for any serious searching. Even with full screen, it's still a very small amount of real estate."* For further information on PDA frustrations see section 4.8.2 – Preferred ICTs; 2 – PDA.

3. Chain of Technologies

Another source of frustration commented on was to do with the chain of technologies involved in using a laptop. Knowing where the fault lies which has somehow locked you out of what you are doing can be frustrating;*"...[The Laptop's] connected to a docking station – the docking station is connected to a bridge – the bridge id connected to the router – the router's connected to the ISP – and from the ISP we have a link into Victoria's VPN – and the VPN is connected... the various servers here at Vic... you do a search and you have the possibility that the ISP's access to the outside world is misbehaving – and suddenly there's a micro-dropout because we're all dependent on Telecom – and suddenly you have a message that says 'VPN client not responding...' - you have to try to figure out which link broke, and who you complain to."*

4. Synchronisation between Technologies

Synchronising between different technologies has also been a frustrating experience for several academics *"...you can synchronise Outlook with the Palm, in practise I always seem to have problems. I think it's partly because I synchronise my Palm both on my home PC and on this PC"*.

5. The IT Department

The IT Department at the University also seemed to create various frustrations. It may be a fault the department has made *"...they've also lost my 2005 archive when they switched over to the new system"* where the participant stated would have come in handy. See also 4.6 Information Behaviours; 3 – Confirming for the frustration and

confusion created when a participant's address was changed without notification, which also had implications for the filtering system being used.

6. Usability

Poor usability is also an issue for academics, and causes frustration. As one participant pointed out *"I want it to be totally intuitive, so I don't have to read in an instruction book"*, indicating how they would prefer technology to be. Formal university information systems which have to be used by academics in the course of their work can also be a cause of frustration, such as the poor usability of *"the Grants System which isn't very user-friendly – a system I get really irritated with"*.

Other software programmes used by academics in the course of their day can also cause frustration; *"MS Word has got... better but its still close to being too smart and sometimes it knows what you want and some times you have trouble saying you don't want to do that... there are still a few bugs... and strange behaviours in Word that can be really irritating."*

4.8.2 Preferred ICTs

The preferred technology by academics participating in the study largely agreed that it was the Laptop which best served their purposes; with many referring to the PDA as an 'inefficient' tool and the cell phone as something others can get hold of them with, as generally they don't use those much either. There was a clear winner for first, but not much in the way of a second or third.

1. Laptop

The laptop was by far the preferred technology by all participants. Several participants in fact commenting on the fact that they use the same laptop both at work and at home *"I use a laptop and I carry it backwards and forwards... it avoids all the synchronisation problems that you have with desktops, which is neat, and I have virtual private network connections, so it's just as if I'm here even though I'm at home"*. They also seemed to find using the laptop handier as it is there in front of them anyway; *"I'm sitting at my computer all day anyway, so I tend to use* [the] *PC functions*, [for example] *the calendar, rather than cell phone functions"* and *"I use*

[my cell phone/PDA] once in a while to check my appointments, but otherwise it's all laptop".

2. Personal Digital Assistant (PDA)

All participants agreed that there was some kind of frustration involved in the use of their PDA. One participant had bought his own PDA, while another three had them given to them by the faculty (Apaches – PDA and cell phone in one). The remaining two participants appeared to have no motivations for adding this piece of technology to their repertoire. In fact there were no positive comments made about the device. *"...it's extremely expensive to use for any serious searching. Even with full screen, it's still very small, [and] it's still a very small amount of real estate – so I've never done any serious web searching on [it]..."* Also the fact that they are Telecom PDAs, one comment made concerned its limited use overseas *"I'd have to get a Vodafone Roamer – so I had to use my own cell phone."* One of the participants said *"I use that once in a while to check my appointments, but otherwise it's all laptop"*, indicating its limited use in daily activities, and the preference for the laptop.

The major use of these PDAs seemed to be for checking appointments (not for their cell phone use as with the Apache); otherwise the participants preferred to use their laptops. It seems that the main deficiencies of this technology are the size of the screen – for scanning of information, the size of the screen for the nature of the work may be very impractical.

3. Cell Phone

The Cell Phone suffered much the same fate as the PDA, but for different reasons. While no comments were made regarding its faults; many made similar remarks as regarding it as *"...something that people call me on rather than the other way round..."* and *"I really don't use my own cell phone a lot at all..."* to *"...that really proves it because I've lost mine and I'm not finding it difficult"*. It is very apparent that the cell phone is not a tool used for work purposes at all; *"I don't ever work with my mobile phone"* and *"...it's kind of a distant kind of third place behind computers and regular telephony".*

One comment made was relatively positive, regarding the technology as something which they might utilise *"...if I had a more mobile job or lifestyle..."*, and if they could get it to work properly and get email access through it *"...there were occasional times where it could have come in handy"*.

4. Landline

The landline was acknowledged as a preferred medium for getting a quick response from the recipient – when required – and thus this immediacy ranked its importance higher than the laptop in such instances. Participants felt that this option was preferable to them than their cell phones as students and colleagues could get hold of them at home or at the office via their landlines, or by email. In-between these times, they can of course be reached by their cell. *"...quite a few students all have both my phone numbers. And students can phone me at home..."* Additionally, as remarked in 4.7.3, the landline can be more efficient via direct communication than email.

4.8.3 Time off from ICTs

The information for this section was gathered via the interview and asked the question of whether the participant is ever deliberately away from ICTs. Only one participant answered in the affirmative; *"Yes, sometimes I like to go to a few places that are just out of the reach of ICT; like my birthday, around April this year, so... we went to the Wairarapa, and we were just totally out of cell phone contact."* Other answers responded in the negative *"Absolutely - only those times where my arm is right up the middle of my back and my wife's pulling it!"* and *"No, no, never [laughter] – that's why my laptop goes home with me every evening* – <Name withheld> *says it's like my security blanket..."* plus, *"Even when I'm on annual leave I check my email everyday"*.

4.9 Summary of Results

This section merely seeks to summarise the information gathered and described in the Results section 4 into six tables (22 – 26). The order of these tables is the same as the order of the sections in which they summarise. These tables have been compiled into one 'mega' table presented in table 28 at the end of the Discussion section.

4.11.1 Information Events

Information Event:	Description of Event:	Frequency:
Administration	Events received from School of Information management (SIM) office.	17
Call for papers	Events received pertaining to writing articles or papers.	8
Check Calendar	Calendar is checked for future appointments.	4
Colleague	Events received from colleagues working together.	7
Conference or Seminar based	Events received informing of upcoming events.	15
Discussion Groups	Events received related to topics of interest via discussion groups.	8
Interest [personal]	Events related to personal interests away from work.	12
Interest [work related]	Events related to the field of Information Systems/management.	15
Investigative	This event requires follow-up action to confirm what is contained in the information.	7
IT based	These events were instigated by the participant to get information from the IT department.	3
Notification or reminder of meeting	Information pertaining to upcoming meetings and such.	2
Out of Office reply	Received because recipient of previous email unavailable.	2
Outside working hours [not work related]	Events undertaken away from the office.	6
Papers and articles being worked on	Hardcopy events being worked on.	>1
PHD related	Concern participant's PHD projects.	3
Query	Participant needed to query an event with a colleague.	1
Reply	Events related to replies given from others or received.	3
SPAM	Unwanted emails, often advertising.	>7
Student related	Events received from students.	14

Table 22: Summary of the 22 categories of Information Events
See section 4.4 for more information.

4.11.2 Observed Information Behaviours

Behaviour:	Description of Behaviour:	Frequency:
Adaptive	A problem solving behaviour utilised when confronted with obstacle.	2
Avoiding	Actively avoids dealing with the information.	7
Confirming	A need to corroborate the result of a past action on an information event.	9
Confusion	Dealing with an information event leaves the participant in a perplexed state.	6
Curiosity	An information event is acted upon out of inquisitiveness.	14
Extracting	Participant selectively identifies material from within the information.	29
Hoarding	Information is stored without a motive.	2
Ignoring	No motivation or goal in mind to act on the information event.	>10
Mal-Adaptive	No problem solving behaviour used – may result in time-wasting.	17
Multi-Tasking	Concurrently working on two or more activities.	>2
Organised/efficient	Displaying behaviour making efficient interaction with their information.	17
Prioritising	Ordering information events according to their priority or urgency.	33
Scanning	Semi-directed/structured searching through information.	31
Sharing	Information is passed onto others voluntarily.	1

4.11.3 Information Communication technologies

Technology:	General Description of Preference:	Number of Owners:
Laptop	Its ease of use and portability (same one at office as at home). All responded positively.	6
PDA	Good for checking appointments. No other uses cited.	4
Landline	Good for quick feedback/confirmation.	6
Cell Phone	Used only for others to contact them. No other uses cited.	6

Table 24: Summary of the Participant's preferred ICTs

Technology:	Description of Frustration cited:	Frequency:
Laptop behaviour	The laptop tends to take a long time to become available when switched on.	3
PDA	Inefficient and costly tool to use are most cited annoyances.	3
Synchronisation	Problems between home and work set-ups.	2
IT department	Change-over to new systems resulting in loss of data. Delays in getting new IS software and hardware.	3
Usability	Frustrations with unintuitive IS systems at the university.	2
Frustration Free	Understands limitations of technology	1

Table 25: Summary of the eight cited ICT frustration categories
See section 4.8 for more information.

4.11.4 Information Outcomes

Information Outcome:	Description of Outcome:	Frequency:
Abandoned/Ignored	Events with no relevance to the participant.	3
Deleted	Information events were deleted or physically binned.	>37
Saved	Information events were stored.	17
Forwarded	Information events were forwarded to other people.	3
Information extracted	Material from within information event identified; no other action taken.	14
Hardcopy signed	Hardcopy information event signed and delivered.	1
Placed for future action	Placed for future action outside of the observation period.	20
Printed	Information event is printed out (hardcopy produced).	5
Resulted in action being performed	Event resulted in other actions being undertaken.	3
Sent	Information sent off after alterations	2

Table 26: Summary of the 11 categories of Information Outcomes
See section 4.5 for more information.

4.11.5 Environmental Influences

Influence:	Description of influence:	Frequency:
Informational	Reacting to organisational deadlines.	4
Technological	At the 'mercy' of the IT department.	4
Informational & Technological	No rules where feel confined, however acknowledging that there are rules to which they adhered to.	3

Table 27: Summary of the categories of Influence from the Environment
See section 4.2 for more information.

5. Discussion

This section will follow the same flow as the Results section, discussing each subsection in turn thereby ensuring its inclusion here in isolation.

5.1 Activities, Framework & Theory

The main aim of the activities section was to validate the worth of both the theory used (Activity theory) and the framework created as an amalgamation of both Wilson's 2006 Activity Framework, and to explore the individual at the centre of the framework; their information use, behaviour and ICT use in order to achieve their information goals. Figure 15 has again been reproduced on the following page to aid reference to the framework.

The activities studied in section 4.1 confirmed that the participant's activities in (while dealing with information events) could indeed be broken down into individual actions, taking on the traits involved in Activity Theory. First the participant requires the actual event itself to occur, and then the motivation to act upon it. This motivation ensues from an intended goal. Once this is ascertained, the participant engages in the actual information use via various observable actions and behaviours, via the physical Mediating Artefacts. The result certainly proved the Theory's worth in the study; and that of the Framework's inclusion also, as each action made by the participant could be traced through the framework, in multiple iterations if required, via the decision diamond before ultimately, the Outcome could be achieved.

The first activity observed in detail involved a total of 10 observable actions once the external event had taken place, and one observable outcome. The activity utilised the laptop and PDA as the ICTs of choice; and also used Microsoft Outlook and the Internet. This activity also involved a change in goal and motivation when the participant took on some adaptive behaviour in order to overcome the obstacle of not knowing for sure who the sender was.

The second activity made use of two objects as the participant had two goals in mind after opening a draft email. One of these was to get confirmation of the room in

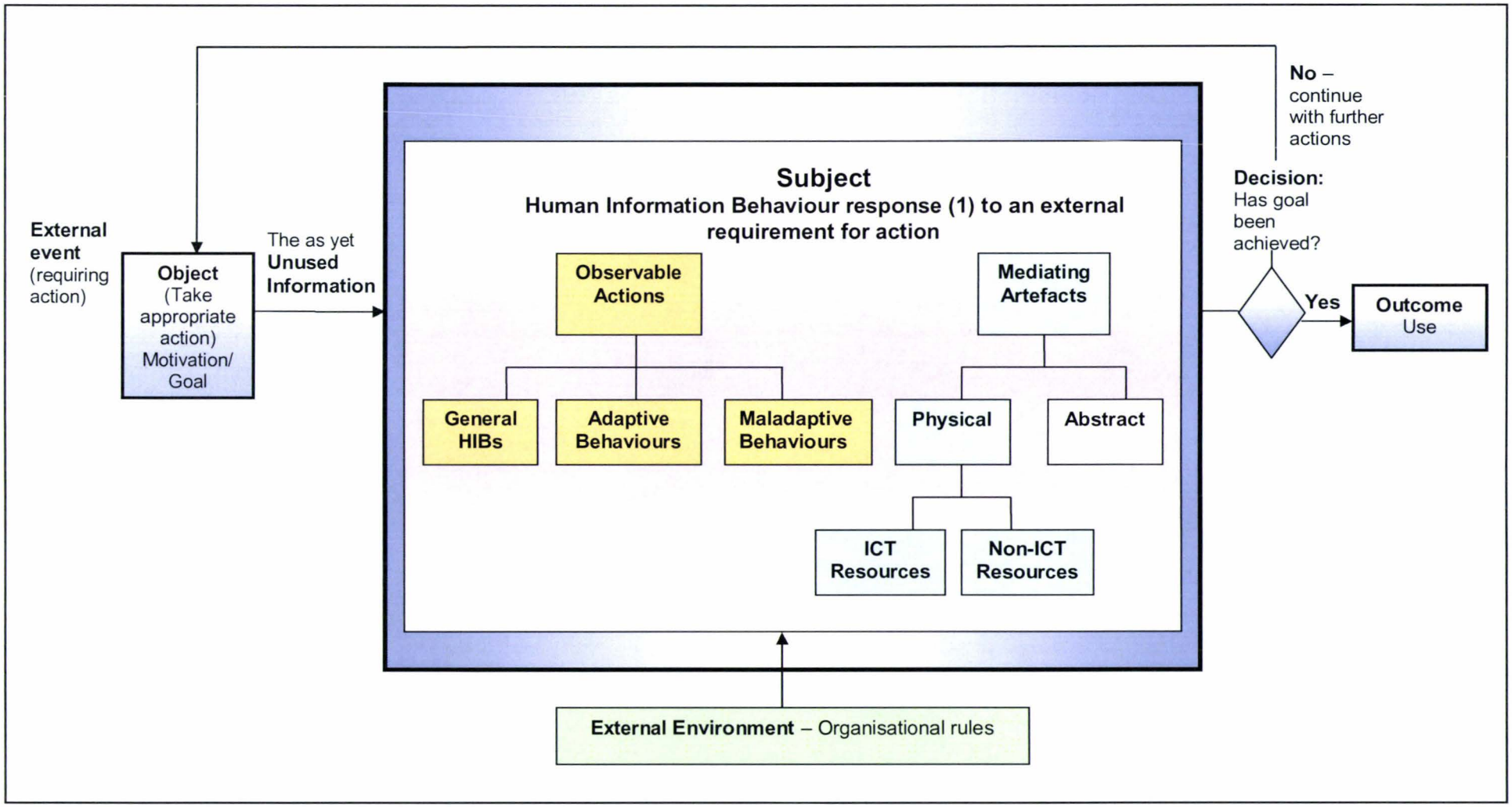
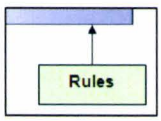


Figure 15: Actual Framework for use in the study.

Adapted from Wilson's 2006 Process Model of Activity Theory

question, and the other to complete the email and get it sent out to the students. This activity's ICTs of choice were the Laptop and the Landline, plus MS Outlook and MS Word. External event two, while related to the first event, was another (smaller) activity.

It can thus be construed that activity theory does indeed help connect an individual's goals and behaviours with technology, and allows for the person to be put in the centre of the study.



5.2 Environmental Influences

All participants who took part in the study commented of the fact that there certainly are influences from the environment in which they work which do manipulate their information events and hence their behaviours. These were in the form of both organisational deadlines and organisational policies about information technology. Many felt that it was difficult to adhere to some deadlines because they were so far in advance and required decisions on the following year's classes. Clearly these policies are not people centred, but for the organisation, perhaps a necessary evil.

One of the participants however felt that these influences did not in affect him, although he was aware of their existence and as such adhered to them. The fact that they do exist and he does work with them suggests they do in fact have some kind an influence on his activities at the university; but does not find them as 'frustrating' as other academics.

Thus their existence and influence on the participants made their inclusion in both the framework and the study a valid addition.

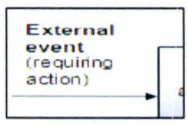
5.3 Frequency of Participant's Information Events

Three interesting points came out of this section on Frequency of Participant's Information Events. Perhaps the most interesting and intriguing point to make is the fact that only one out of the six who took part said that they were ever away from ICTs, and that it was only on special occasions that they did so, as in the example used; a birthday took the participant briefly 'away from civilisation'. The other

participants tended to be in agreement that they would never voluntarily do this, and if they were to go away, they would have their laptops with them, or at least have access to cyber cafes along their way.

The second point of interest to make from this section was the fact that only one participant tried to maintain a Monday to Friday (and office hours) routine to their information events. Other participants tended to conform of the slightly 'tongue in cheek' 24/seven regime with their events; pointing out that they prefer to "deal with them as they come". Clearly there is some work/life overlap here, where work is not relegated to a 9am to 5pm regime, but appears to be by choice.

The third point to make here is the fact that information events for academics on the whole tend to be cyclic in nature, particularly when teaching. There always seem to be deadlines to be adhered to, such as information on the following year's courses, and the beginnings of trimesters "where things need to be done". This cyclic nature of their information events can of course to attributed to their environmental influences (see 5.2).



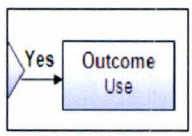
5.4 Information Events

The information events encountered during the study were compiled into 19 different categories; of which 14 were strictly received from the School of Information Management (SIM) office. While this is an exact count, many of the other events encountered were highly administrative in nature also, such as checking the calendar, dealing with the IT department, notices of meetings and so forth. The behaviours encountered with these events might be quite different when compared, for example, with information searching behaviours. Also high on the events list were both personal and work-related interest events, and events associated with conferences and seminars.

The cyclic nature of information events remarked upon in the previous section is also of relevance to this section; however during the observations this was not apparent – perhaps because of the timing of the data collection stage of the study (mid-semester). Academic's preference for laptops (see 4.8.2 and 5.8) appears to contribute to the blurring of work/life boundaries, as some participants actively logon when they arrive

home and continue to work into the early evening; however as one participant pointed out, "anything after 8pm is more recreational". One participant in particular actively avoids (see 4.6 and 5.6 Observed Behaviours) reading some events as they are highly time consuming and would require the participant's active attention. Consequently, for this person, home is actually a better 'work environment' for particular activities in that they are free from any distractions at work. Clearly the participant will use scanning and extracting during these after hour workings, and thus the use of the laptop with its 'screen real estate' is an advantage in this situation, adding to the preference of the laptop over the PDA.

Another point to reflect on, relevant to this and to section 5.8 Productive Versus Non-Productive behaviours, is how the time of day varies between academics in dealing with information events. The majority of participants prefer to have email up all the time, preferring to see events upon their arrival. It was only a small minority who confirmed their preference for checking their events at specific times of the day, hence allowing them to focus uninterrupted on their work and research activities.

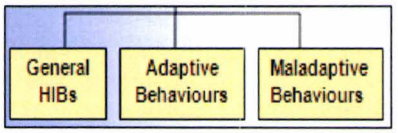


5.5 Information Outcomes

The most surprising element to come out of the section on Information Outcomes is the relatively high number of events which lead to deletion. While two of the participants actively retain most of their events for upwards of one year in archival form, there were a total of 37 (stated deletions) – only seven of which were comprised of SPAM (a smaller number than the actual, as many SPAM events were deleted in bulk having been filtered an stored in a separate file).

One interesting feature of this section on information outcomes is the high number of events which tended to be shuffled around without adding much value to them. With more than 34 deletions, 20 events placed for future further action, three forwarded onto others, 14 which had some information extracted from them and 17 events were saved in a folder. This makes a total of 91 events out of the 102 events encountered. This makes for a lot of activity on the part of the academic, but not necessarily non-productive work/behaviour, as a deletion is still a goal achieved for a piece of spurious information.

5.6 Information Behaviours



10 of the 12 behaviours discussed in the literature review section, and summarised in table 1 on page 37 were encountered during the observation periods. An additional seven behaviours were come across during the course of the study (see the full table of Observed Behaviours on page 46; table 13).

5.6.1 Time Management

A running theme throughout the information behaviours encountered during the observations of the academics was one of 'scarcity of time' and thus Time Management, which seemed responsible for many of the behaviours observed such as avoidance, mal-adaptive, multi-tasking, organised/efficient behaviours, prioritising behaviours, sorting behaviours and both scanning and browsing.

With the mal-adaptive behaviours encountered during the observations, the main characteristic of this behaviour was in having their email up continuously during the day - a habit the majority of academics seemed to have acquired. Seen as a disruptive influence by the majority, this was thus relegated to being mal-adaptive behaviour practice, causing unproductive behaviours to eventuate (see both sections 4.6 (9) and 4.6.3.2). This habit can also be attributed to time management, as many of the outcomes encountered in sections 4.5 and 5.5 tended to defer the event (in that not much was in fact done with it); however it still caused the initial interruption, and therefore some unproductive break in the course of their work.

The behaviour of Multi-tasking (with email as one of their open applications) was also encountered frequently, and as such also represents the issue of time management. Academics often have to manage multiple deadlines (both organisational and non-organisational), and during the observations it was noted that the majority had more than one open application open for them to engage in more than one activity.

There was also a theme of time management making its presence felt with the behaviours of Organised/Efficient Behaviours, Prioritising Behaviours and Sorting and Organising of Information. Comments retrieved from these behaviour sub-

sections (4.6.1 (11, 12, and 15)) tended to reflect the need to be organised and efficient with their information events because of the impact on their effectiveness and productivity. This was accommodated via various methods, including timelines for deadlines, and various colour-coding systems indicating varying priorities, and thereby making time management easier to maintain.

Scanning and browsing were both behaviours and a means in gathering information within a short amount of time. Academics could thus utilise this behaviour when deciding whether to delete something outright, or to save the event; or any of the other outcomes presented in section 4.5 which may have came about. The choice of technology as previously noted, is perhaps reflected here for the 'screen real estate', which would enable scanning to be accomplished in an easier fashion. Also as previously noted (in section 5.5), many events had involved quite a lot of shuffling without adding much value to them. This was perhaps a result of utilising their time wisely, and perhaps attending to it again at a later date.

Avoiding information events may also be a 'tool' in the academic's behaviour repertoire for adhering to their goals of time management. The types of events which were run into here were those in which the participant intended to look the information away from the office. In particular when concerning information-dense events, participants tended to prefer to leave these for weekends at home rather than spending gratuitous amounts of time in the office on them.

The other type of avoidance involved incoming hardcopy events from the administration office, which tended to be left until closer to the due dates, or on due dates. Avoidance observed here can also be attributed to a feeling of resentment felt by those who know of technology's capabilities; particularly when participants are asked for their details which are stored within administration databases, and already at their disposal. It is common to assume that when technology is involved, people expect it to add value for them - not by creating more work instead.

Also worthy of mention to an academic's need for good time management was the fact that they often had more than one source for their diaries; with one participant in particular academic having three versions – one on the laptop for accessing in the

office, one on the PDA and one hard copy version (book style), the latter of which was the preferred medium for taking on their person. Technologies are therefore not really assisting academics with managing mismatched time frames and deadlines.

5.6.2 Other Observed Behaviours

Other behaviours exhibited by academics included that of Confusion. Confusion seemed mostly to arise from unexpected odd or strange behaviours with their computers and from events which would leave them wondering why they have gotten a particular information event. As one participant seemed to ask himself fairly often during the observation period "*I don't know who the hell he is, but it comes from IS World*". This observation also raises the question of whether or not it is now too easy to get subscribed to mailing lists, as obviously situations like these where one does not know why one is getting particular events tends to suggest unnecessary time is being spent on events unnecessary events.

The behaviour of Curiosity is one which allows academics the ability to easily peruse things of interest to them, both of a personal and work-relate nature. They are also able to see who else is online and enables interaction with them if they so wish to do so. These events – particularly related to personal interests seemed more typical with the male participants as the female participants did not appear to partake in these events during the observation period.
Extracting was by far the most popular behaviour – much to be expected. While Scanning and Browsing could be utilised as a time saver in quickly ascertaining its importance, extraction of the information also had to occur at some point in order to gain more insight into the event and thus utilise the most appropriate outcome.

Frustration was a behaviour exhibited mainly during technological faults and performance of their laptops. Examples such as those of slow loading profiles, glitches with archives and other faults tended to be at fault. Out of office replies were also a source of frustration for academics.

Another behaviour – Updating - was observed only once, and was utilised as a direct result of an external event from a student. Finally, Verifying; while having similarities with confirming, was given its own subsection, as validating the source of an event is

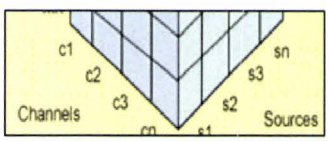
considered as quite an important issue, and as such was one which came up several times during the observations.

5.6.3 Unobserved Information Behaviours

Two behaviours discussed in the literature review were not observed during the course of the data collection for the study. One, that of Passive Attention was not really expected to be found, as incoming information events would require a person's full attention, at least for the first initial scan of the event. The second behaviour not observed during the study was that of Collaborative behaviour. Collaborative behaviours are undoubtedly valid information behaviours for academics; and probably utilised during various projects and papers of which they may be working on. As the majority of the observations took place early in the morning, it may perhaps not have been a good or convenient time for work of this nature to commence.

5.6.4 Productive Versus Non-Productive Behaviours of Academics

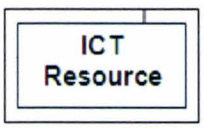
It was interesting to note that the majority of academics did not describe their behaviours as being productive. Most put this finding down to the fact that they like to keep their email programme running throughout their time in the office. As discussed in section 5.6.1 Time Management, this behaviour could also be a trait of utilising time management, and preferring to get these events out of the way, as well as simply being curious as to whether someone has sent them something.



5.7 Preferred Medium

This section of the study was conducted to ascertain which medium an academic would prefer if given the choice. Email came out on top here, the main advantages being that it leaves an audit trail and is 'extremely convenient', obviously there is no need to leave the office to communicate, and it breaks down the barriers of location (of being in the same building, city, or country). Not to mention that the majority of participants have the email programme running all day. A major disadvantage of this medium is also part in parcel with its relative ease at moving information around via the reply function. As one participant remarked, a conversation via email was forwarded to the student without the participant's agreement. Needless to say, the participant is more cautious as to what goes into emails and the audit trail it leaves behind.

While email seemed to be the medium of choice, face-to-face also seemed to be a preference for half the participants. However due to it's somewhat impracticality in many cases, email became the preference for the majority.



5.8 Information Communication Technologies (ICTs)

The laptop definitely came out of the study as the most preferred ICT, together with email. All others, including the landline, cell phone, and PDA were a distant second. This mostly appears to be because of the audit trail it leaves behind (remarked upon in the previous section), in which the participant can access and recall all of which has transpired in that interaction rather than relying on recall alone. Two participants stated that they have their own Virtual Private Network (VPN) in their homes, and using the same laptop both at work and at home was advantageous in that their was no real difference in being at either locale. This technology directly (as in section 5.4 Information Events) contributes to the blurring of the work/life boundary for academics.

Issues regarding the PDA were made apparent in the interviews, with comments such as 'a horrible device', being too costly to use, the screen and keypad being too small to make good use of, and so on. One participant who retains three versions of a diary prefers to carry a hard copy version rather than utilise the diary function in their Apache (PDA/Cell combination). Is it an issue of not knowing how to use the technology well enough? Or the fact that several academics in the study remarked on the fact that they prefer technology and new applications to be 'user-friendly' and 'intuitive', and do not enjoy reading through an instruction manual? It may simply be (as remarked by one participant) that these one-stop-shop technologies are seen as being more of a requirement in 'more mobile occupations'.

The Cell Phone suffered much the same fate as the PDA, instead of utilising their Cell Phone or Apache as a mobile information tool; it/they instead became a tool in which other people could contact them on. In fact several participants remarked that they never use them – one participant even stated that they had lost their mobile and was not finding it difficult to function without it at all.

The question here is why is the laptop/PC such a popular choice for academics when more mobile one-stop-shop technologies are becoming more 'mainstream' in business, such as the PDA and modern Cell Phone, or the combination of both - Apaches? Part of the research question for this study was to enquire how academics manage the various technologies at their disposal. It appears that they prefer to manage one technology, upon which they have become very dependent (likened to a security blanket by one participant, and all but one participant can leave it behind and escape for a limited period).

5.9 Summary of the Discussion Section

The discussion section has highlighted a number of things in relation to academics and their use of technology to achieve their information goals. Clearly through email and the hence the laptop, academics can better accomplish this. As there is an international nature to their work, and a lot of browsing which requires large 'screen real estate', there is a convergence on this single technology.

As described in section 5.6 Information Behaviours, many of the behaviours academics tend to exhibit are inclined to point to a need for tight time management. These were observed in the behaviours of avoidance, mal-adaptive, multi-tasking, organised/efficient and prioritising behaviours, which through other mediums such as face-to-face meetings or phone calls, could not have been achieved as easily or efficiently as with email and the laptop. The PDA would allow email interaction, but with the need for screen real estate, this ICT would not be near as productive.

The main deficiency of this medium is the fact that it allows for a large amount of spurious events to also take place; hence the rather large number of deletions taking place, which of course do not support their desired goals, nor add value.

Table 28 on the following page brings together much of the results and discussion section material for a more immediate impression of what was uncovered.

Information Events	Observed Behaviours (HIB)	Medium (ICT & Non-ICT)	Outcome	Productive Event for Academic? Did event add Value?
Administration [17]	Avoiding / Scanning	Laptop (Email) / Landline	Information extracted / Delete / Saved / Future action (hard copy)	No
Calendar [4]	Confirming / Scanning	Laptop (Calendar)	Information extracted	Yes
Call for Papers [8]	Scanning / Prioritising	Laptop (Email) / Hardcopy papers	Save / Future action	Yes
Colleague [7]	Extracting / Prioritising	Laptop (Email) / 1 Hardcopy	File or Save (hardcopy & electronic) / Future action	Yes
Conference [15]	Ignore / Prioritising	Laptop (Email) / Hardcopy papers	Information extracted / Delete / Throw out / File / Save	Yes / no
Discussion Groups [8]	Scanning / Confusion / Ignore	Laptop (Email)	Delete / Save	No
Interest (personal) [12]	Curiosity / Extracting	Laptop (Email & www)	Information extracted / Delete / Save	Yes
Interest (work) 15]	Curiosity / Extracting / Scanning	Laptop (Email & www) / Hardcopy	Information Extracted / Delete / Future action / Print / File	Yes
Investigative [7]	Adaptive / Confirming / Extracting	Laptop (Email & www) / Landline	Information extracted	Not really
IT-Based [3]	Confirming	Laptop (Email) / Landline	Resulted in action / Delete	Not really
Notification / Reminder [2]	Confirming / Extracting / Sharing	Laptop (Email)	Information Extracted / Delete / Forward	Yes
Out of Office Reply [2]	Frustration / Scanning	Laptop (Email)	Delete	No
Outside working hours (personal) [6]	Not observed	Laptop (Email & www)	Not observed	Yes
Papers & articles being worked on [>1]	Organised	Hardcopy	Future action	Yes
PHD related [3]	Organised	Laptop (Email) / Hardcopy	Future Action	Yes
Query [1]	Extracting / Prioritising	Laptop (Email)	Future action	Yes
Reply [3]	Extracting	Laptop (Email)	Information extracted	No
SPAM [>7]	Scanning / Ignore	Laptop (Email)	Delete	No
Student related [14]	Extracting / Organised / Prioritising	Laptop (Email & Blackboard)	Resulted in action / Save / Print / Forward / Delete	Yes

Table 28: 'Mega' Summary Table of the Results of the Study

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Referring to table 28; all references to Calendar and Email [as ICTs] refer to Microsoft Outlook as used with the laptop. Both investigative and the IT –based events are termed as 'not really' productive as they both refer to events which took the academic away from his/her working activities and 'sidetracked' them into investigative work as to why the event had arisen. While the events were sorted and understanding attained, they were still rather a diversion from the academic's work.

The far right column of the table depicts whether the event was a productive one for the academics or not. This is an interpretive result gathered from both the observed behaviour of the academic and the resultant outcome. As an example of this, Discussion Group events were on the whole unproductive for the academic, often seen as at first curiosity as to who sent it and why, and then deletion as the outcome. Another behaviour encountered was confusion in that they could not remember why they were sent a particular email from the sender, which also would often end in deletion. This adds to an assumption of technology allowing useless or unneeded/unwanted events to take place. This will be remarked on further in the Conclusion section.

An interesting fact which emerged from the study was the use of other people as a non-ICT resource at the disposal of academics. While it appeared that most information arrived via email or post (such as hardcopy mail from administration), there was no physical communication (besides the three examples of using the landline – an ICT) with other people. Email can perhaps be seen as a way of by-passing this medium of communication, which would take up more of an academic's time.

6 Conclusions

The objective of this study was to provide an in-depth qualitative analysis of the academic; the information events that one encounters, the behaviours exhibited by them and the technologies utilised by them in making their information encounters an effective experience. Indeed, the research question at the head of the study was entailed 'how do Academics manage the integration between various Information and Communication Technologies (ICT) and non-ICT sources to support their information behaviours (IB) and, therefore, achieve their desired outcome?' Other rhetorical questions asked at the beginning of the study all seemed to query their behaviours regarding 'the plethora of technologies available to them', 'what information behaviours are exhibited in regard to the myriad of new technologies available today' and 'how people interact with technology'. Clearly there was some expectation that academics in the field of information systems would be making use of a variety of technologies and managing them in some way through their information behaviours. Surprisingly, this was not to be totally the case.

The most preferred ICT for the academic was definitely the laptop. Together with email, this was pretty much the only ICT that participants would use during their day – and in fact in their time away from the workplace. The landline would probably be next, sitting alongside the laptop in their office; an ICT which enables a quicker response time than email. The one-stop-shop technologies which were expected to have made at least a small impact were bundled together at the other end of the spectrum – in a fairly distant third place. There are many issues surrounding email – perhaps myths, perhaps not – but does email imply that individuals are more available to others via this medium? Does it also mean - or is it assumed - that individuals receive more important/urgent events via email? Perhaps this contributes to the desire to rely on this one technology, and engage in multi-tasking activities with email in constant use throughout their day.

Other possible reasons for this divergence on a solo technology – and as remarked on in the discussion section - may be the result of preferring technology to be more user-friendly, intuitive and constant, as most or all of the participants use the same laptop both at the office and again at home in the evening. This has repercussions to the

blurring of their work/life boundary, but keeps things relatively simple technology-wise. As stated in the Discussion section, two of the participants have Virtual Private Networks (VPN), thus making any change in location of little importance to them.

Another interesting and intriguing point to make is the fact that only one out of the six who took part said that they were never away from their ICTs (or for that matter ICT - singular), and that it was only on special occasions that they would ever want to do so. Perhaps harking back to the previous comments made about important/urgent events being received via email may make the possibility of ever being out of contact for extended periods out of the question for most. Actual comments made during the course of the observations suggested that such periods to be very minimal indeed. This is also probably a contributing factor to the majority of participants preferring to have email up all the time - in fact preferring to see events upon their actual arrival.

It was observed during the study and course of interviews that four participants had use of PDAs, two of which use it for its calendar functions; and two who appear to despise the machines. As for the cell phone, these appear to have only one function too – a tool for others to get in touch with them while they're away from the home or office; that is, away from a landline. Also discussed in section 5.9 is one of the major disadvantages of the PDA - that of being its screen size. Academics spend a large amount of their time browsing large amounts of information, and screen 'real estate' is a major deficiency of this device, which would make browsing a much less enjoyable activity.

In answering the research question in regards to the academic's management of ICTs, the answer is simply there is no real need to manage technologies, as predominately, the academic will favour the laptop to do all their information work on. However, in managing this sole ICT, academics do exhibit a myriad of behaviours, many of which reflect their need to use their time wisely.

The study looked at depth into the human information behaviours exhibited by academics, and a total of 17 behaviours were uncovered. The literature review suggested at least 13 would be observed; however two of these were not present at the observations, making an additional six. Most behaviours exposed during the

observations tended to do so because of a need for diligent time management. Of the total of 17, the seven of avoidance, mal-adaptive, multi-tasking, organised/efficient behaviours, prioritising behaviours, sorting behaviours and both scanning and browsing were found to be of this nature – remedying the seemingly scarcity of time available in the academic's day. These behaviours, in addition to the feeling of having a shortage of time to work on their events may be what contributed to the relatively high number of events which lead to the information outcome of deletion during the course of the study.

Despite time management being a major theme throughout the study, the majority of academics who took part in the study did not describe their behaviours as being very productive. Most put this finding down to the fact that they like to keep their email programme running throughout their time in the office; thus causing them distractions from the work at hand. This practice of running the email programme may be born from habit, but may also be, as previously stated, that there is an assumption that important information arrives via this medium, and thus the opportunity must not be missed to receive and ratify it. The act of prioritising email is a way of ensuring important emails are tended to first and not missed (such as from the Dean), which is also of course, an environmental influence acting on an academic's behaviour.

The behaviour of confusion arose at several times during the observation process. Confusion tended to be a reactive behaviour typical on receiving information from a source to which the participant has to concentrate on why the event occurred; "now wracking my brains a bit here"; and why am I getting these emails? This arouses the possibility of the ease with which one can be added to mailing lists; and also questions how easy it is for technology to allow for this addition to be made. Are academics in fact receiving emails for which they have no need? Thus, creating wasted time in their otherwise busy schedules? Other sources of this time-wasting behaviour were found to come from the technology itself – mal-functioning archives, address changes and temperamental laptops.

The framework used during the course of the study for examining the many actions which went into making up the activities, encountered during the observations was found to be very effective in illustrating all aspects which were under investigation.

This framework together with Activity Theory seemed an ideal fit, complementing the data analysis and outcomes. The framework also confirmed the existence of environmental influences on the academic's working life, which tended to create a somewhat cyclic nature to their information events – particularly during times of teaching and beginnings and endings of semesters.

The study also highlighted the fact that there is not a lot of literature available today pertaining to information use behaviours. The majority of studies to date have tended to focus of information seeking; hence the gap in knowledge that this study hoped to help bridge.

7. Implications

There are many things which can be implied from the findings in this study. First is the usefulness of System and Process design methodologies, which show both the unsuccessful and spurious activities together with the useful and technology-centric activities which most traditional methods tend to concentrate on. However, the study and framework made a focus on information use only and did not include information searching, as this was felt to be a widely researched domain already. Including information searching may have yielded more variation and interest in the results. The framework could thus be modified to include this characteristic.

Second is the ubiquity of email versus the distraction it creates for both important and urgent events, and those of a spurious nature which are all bundled together. The laptop together with email; while not as compact as other mobile information devices at the disposal of users, still gives the impression of the person being at the office while actually perhaps being overseas on a holiday or relaxing with a coffee in front of the television. It is however not a very human-centred technology, as people seem to be spending a lot of their time organising and managing their incoming events. Many of the problems associated with these events tend to be in the events themselves, in that there is a large amount of these spurious events coming in, which are not really adding much value – if any to the academic. An example of a more person-centred system could be one with integrated calendars - one in which incoming emails relating to conferences to which the individual has an interest in could automatically update their calendar.

The study also found that even the technologist-type of academic who has these other technologies freely available to them also often found these one-stop-shop technologies to be frustrating, confusing and often poorly adapted to their needs. They also tended to avoid using them; hence this laptop convergence referred to often in the study. This convergence towards the laptop and email now seems to have become somewhat of a lifestyle for many academics and not just as part of their job. Being engaged in information events both at home and in the office has thus moved the equilibrium of the work/life balance for many.

The study also uncovered the fact that many people are on lots of different cycles - many beyond their control; hence their need for time management and the shuffling round of many of the events which come in to them. There are also difficulties with mismatched, competing and largely external (from the environment) deadlines, such as those for conferences, teaching semesters and also from administration.

8. Limitations

This research paper is subject to certain limitations. The main one being that there were a total of six participants, and all participants were from an Information Systems or Information management background. This restriction allowed for the study to be carried out within the time constraints which were in place. Even so, it is felt that it can be generalised out of its New Zealand-based location as the six participants were from a variety of ethnic backgrounds/cultures and so not confined to New Zealand academics.

9. Acknowledgements

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The author would also like to HUGELY thank all six of the participants who kindly took part in the observations and interviews, as their valuable input was greatly appreciated; and without whose contributions, the study could not have been done.

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Appendix A: The Information Behaviours Coding Handbook and Definitions of the HIB Terms

General Information Behaviours

Passive attention
This is a situation where there is no real intention to 'take the information in' by the subject (Neidwiedzka, 2003). Therefore the information is passively absorbed from the individual's surroundings.

- Maybe radio/Television in background with advertisements

Verifying:
Verifying involves the process of ensuring that the information obtained from a source is accurate (Ellis in Wilson, p.254).

- Validity/reliability/authenticity of source
- Validity of information with secondary source
    - Who? Person/website? Etc.
        - In person
        - Email
        - Telephone
        - Website
        - Library
            - Website
            - In person

Browsing/Exploring for particular information in existing resources:
This involves "semi-directed or semi-structured searching" (Ellis in Wilson, p.254), in the search for information. In this situation, where we have the information, it will involve semi-directed or semi-structured searching through the information already at hand with the Subject.

- Emails – Collaborative?
    - From whom?
        - Colleague?
        - Superior?
        - Friend/family – work related (calendar).
    - Through email listing (inbox)
    - Through a particular email
    - Through a document attachment
- Books
    - Read
- Documents

Extracting pieces:
This involves "selectively identifying relevant material from an information source" (Ellis in Wilson, p.254). This definition refers to the search for information, therefore in the case of this study it will refer to the actions performed on the information already at hand when selectively identifying relevant material from 'it'.

- Copy/Paste etc from email/document
- Highlighting passages
    - Computer
    - Paper
    - Photocopy passages
- Documenting from information pieces

Avoidance of Information:
This involves actively avoiding the information (Case, 2002). That is, not wanting to deal with it, whether now or at a later date is not explained. In this scenario it can be either of the two cases. This will require details behind why the avoidance has occurred.

Multi-Tasking:
"Humans handle multiple tasks through task-switching or engage in multi-tasking information behaviours" Spink & Minsoo (2005). This would thus involve dealing with more than one information event at one time, such as:

- More than one email
- Combination of two types of information events

Collaborative:
Fidel, et al (2004) describes this process in the context of information seeking where colleagues are "engaged in the same work processes" (p.994). Therefore, there may be more than one person working on the same information event.

- With whom?
    - Via what medium is it performed? ICT/non ICT resources?

Share with others:
The sharer of the information can pass it on to others, but does not have to. It should not be confused with the act of reporting information which is in itself not voluntary. Davenport (1997, [2])

- Who are these people?
    - Colleagues
    - Students
    - Friends
- In person or through ICTs?
    - Eg telephone/email/in person

- Exchange
    - With whom?
    - What information is expected in return?

Hoard:
That is, the subject does not do anything with the information except to simply prevent it from being used by others. It may be thus added to more information which has been gathered in this way. The subject may wish to keep the information without a goal or need for doing so. This definition is not taken from the literature; however the act of hoarding information is referred to by Davenport (1997) as a possible information behaviour.

- Opposite to sharing

- Why is this option used?
  - Keep ahead of others?

Ignore:
That is, there is a lack of a 'need' or motivation and/or goal to initiate any actions upon the information event. The information is therefore left unaltered. This definition is also not taken from the literature; however the act of ignoring information is referred to by Davenport (1997) as a possible information behaviour.

- Untrustworthy source?
- Unneeded information?
- Not in the mood to reply?
- Why?

1. *Adaptive Behaviours*

Overcome obstacle to attain goal?

- Technological?
- Informational?

Change to a new goal?

- Why?
  - Unmovable obstacle? Is it:
    - Technological?
    - Informational?
    - Interpersonal?

- Is this new goal as good/suitable as the original?
  - Why is this easier to achieve?
    - Technology change?
    - Information source change?
    - Interpersonal easier?

2. *Maladaptive Behaviours*

- Seen as 'unsolvable' to participant; result in:
  - Frustration
  - Withdrawal
  - Regression
  - Aggression
  - Resignation
  - Fixation

- Why has participant resulted in this outcome?
  - Technological?
  - Informational?
  - Interpersonal?

Appendix B: Interview Questions

What is your formal training with information/communication technologies (ICTs)?
What is your area of expertise?
Do you have particular days of the week where you prefer to instigate more information events?
Do you have particular times of the day where you are more likely to engage in information use?
Do you feel that there are days (or periods) of the year where your information use is particularly high?
Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
How do you feel about these influences?

What are your most used information/communication technologies?
Are there technologies which you feel could make interaction with information easier and more efficient than you currently use?
Are there technologies which you could use (available to you) but you do not feel competent enough to use efficiently to make your interactions with information more successful than they otherwise could be?
Do you ever feel frustrated by technology while interacting with information?

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
What sources of information do you prefer? ICT/non-ICT
What methods are open to you to confirm the validity of information and/or sources?
Do you feel overall that your information behaviours are productive?
Do you feel they could be more productive?
Do you feel that the information events displayed today reflect an average amount on a typical day?
Do the information events today reflect largely the types of information you deal with on a regular basis?

What types of information events would you consider to be out of the ordinary – if any encountered today?
Were there any environmental factors, such as organisational rules, influencing your information events today?

Were the technologies which were utilised by you today typical of the information events you deal with on an average day?
Can you give some examples of the technologies you use fairly often but did not feel the need to use today?
Can you give examples of technologies you may have used in the past but prefer not to now?
Are there any environmental factors, such as organisational rules, influencing your choice of technologies?

Are there any times of the year that you choose not to interact with ICTs?
Do you engage in information events often outside of work hours and outside of the workplace?
Are these information events similar to those which took place today?
What ICTs do you prefer to use outside of the workplace?
How much time would you spend on information events on average in an evening?

Appendix C: The Information Sheet

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wānanga o te Ūpoko o te Ika a Māui

SCHOOL OF INFORMATION MANAGEMENT

CONSENT AND INFORMATION SHEET

Observation and debriefing Interview

Project: "It isn't all about you": The Management of ICT and non-ICT Information Sources via Human Information Behaviour.

Objectives: The objective of this study is to gain a New Zealand academic's perspective as to their information needs and the information behaviours that they use in order manage the plethora of technologies which exist today; supposedly making information use and retrieval as efficient and effective as possible to the individual.

General Information: The study is intended to find out what human information behaviours are exhibited by New Zealand academics at Victoria University. These behaviours will be explored via observation, note-taking and the 'thinking aloud' technique; followed by a semi-structured interview.
As examples of information sources and use, we will be exploring ICT and non-ICT sources of information together with formal and non-formal sources of information. We also hope to gain an insight into the plethora of uses to which the information is put.

Time Requirements: The thinking aloud observation part of the project ought to take at least two hours. This may be different for each participant, as it will depend on the amount of time he or she will have available.

The following interview is envisaged to take approximately 40 to 60 minutes, preferably to be held on the same day, or the following day as that of the observation.

Confidentiality: Selected comments may be used, without attribution or identification of you, in published papers. Contact data will be collected and kept separate from the discussion notes. All electronic information will be kept in a password-protected file, and audio tapes and paper-based data will be kept secure in a locked cabinet. The tapes, typed data and electronic files will be destroyed 2 years after the end of the project.

You may withdraw from this research without giving reasons at any time up until the completion of data gathering on 15 October 2007. In the event of withdrawal, any information you have provided to date will be removed from the project

Additional participant debriefing notes: Thinking aloud and observation.

This form of data collection can be seen as confusing for many people. This method requires participants to engage in information events from various sources while talking aloud to the researcher the actions which are being performed, why they are being performed, and how the participant is 'feeling' while doing these actions.

While the participant is engaged in this technique, the researcher will observe and take notes on how the situation is progressing, the participant's demeanour and behavioural characteristics. The session may also be recorded with the participant's permission.

The method therefore requires participants who would feel at ease with this type of data collection method, as it may be seen as invasive.

Feedback: If you would like to receive a copy of the results, please send an email to either of the two contacts listed below.

A copy of the final thesis will be held in the Victoria University of Wellington Library.

Contacts:
This research project is being supervised by Ms Mary Tate of the School of Information Management. You can contact her on (04) 463-5265 or mary.tate@vuw.ac.nz.

My name is Paul Atkinson, and I can be contacted on 027 2468 410, or at atkinspaul@student.vuw.ac.nz any time if you have questions about any aspect of this research.

Appendix D: Consent to Participate

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wānanga o te Ūpoko o te Ika a Māui

SCHOOL OF INFORMATION MANAGEMENT

Consent to Participation in Research

Researcher's Journal and the Debriefing Interview

Researcher: Paul Atkinson atkinspaul@student.vuw.ac.nz

I have been given and have understood an explanation of this research project and the confidentiality conditions. I have had an opportunity to ask questions and have them answered to my satisfaction. I may withdraw from this research without giving reasons at any time up until the completion of data gathering on 15 October 2007. In the event of withdrawal, any information I have provided to date will be removed from the project

I agree to participate by allowing the researcher observe and record my interactions with ICT and non-ICT sources of information; and to record my various behaviours, actions and words in regard to the information and technologies I interact with. I agree to participate in 'thinking aloud' while responding to information events. I also agree to participate in a debriefing interview at an agreed convenient time to myself after the observation is completed. I consent to the collection and use of my perceptions, experiences, opinions and information for this research. I understand that use of my opinions for any other purpose will require my written consent. I understand that all comments made by me will be treated in confidence.

All information provided by me will be kept confidential to the researcher and his supervisor. I understand that selected comments may be used, without attribution or identification of me, in published papers or conference presentations.

Contact data will be collected and kept separate from the discussion notes. All electronic information will be kept in a password-protected file, and audio tapes and paper-based data will be kept secure in a locked cabinet. The tapes, typed data and electronic files will be destroyed 2 years after the end of the project.

Name: _____

Signed: _____

Date: _____

Appendix E: HEC Approval

HEC- 2007-048

SIM HEC Application Form

Victoria
UNIVERSITY OF WELLINGTON
Te Whare Wānanga
o te Ūpoko o te Ika a Māui

SIM HUMAN ETHICS COMMITTEE
Application for Approval of Research Projects

Please email applications to your supervisor, who will then email it to a SIM HEC member for a preliminary review.

Note: The Human Ethics Committee attempts to have all applications approved within 6 working days, but a longer period may be necessary if applications require substantial revision.

1 NATURE OF PROPOSED RESEARCH:

(a) Student Research X

(b) If Student Research Degree **MCA** Course Code **INFO 591**

(c) Project Title: **"It isn't all about you": The Management of ICT and non-ICT Information Sources via Human Information Behaviour.**

2 INVESTIGATORS:

(a) Principal Investigator

Name: **Paul Atkinson**

e-mail address: **atkinspaul@student.vuw.ac.nz**

School/Dept/Group: **School of Information management**

(b) Other Researchers Name Position

(c) Supervisor (in the case of student research projects): **Ms Mary Tate**

3 DURATION OF RESEARCH

(a) Proposed starting date for data collection – After HEC approval has been granted.
(Note: that NO part of the research requiring ethical approval may commence prior to approval being given):
Data Collection will take place as soon as HEC approval is given

(b) Proposed date of completion of project as a whole:
The project has a formal end date of late February 2008, however it is seen that the project ought to be complete late in 2007.

4 PROPOSED SOURCE/S OF FUNDING AND OTHER ETHICAL CONSIDERATIONS

(a) Sources of funding for the project
Please indicate any ethical issues or conflicts of interest that may arise because of sources of funding e.g. restrictions on publication of results

Page 1 of 10

Small gifts may be offered to research participants. These will be funded from my MCA research fund.

(b) Is any professional code of ethics to be followed — N
If yes, name — N/A

(c) Is ethical approval required from any other body — N
If yes, name and indicate when/if approval will be given — N/A

5 DETAILS OF PROJECT

Briefly Outline:

(a) The objectives of the project

This study is an exploratory investigation into the human information behaviours of academics as they proceed to use information gathered from a variety of different ICT and non-ICT technologies.

Academics receive information from a wide variety of formal and informal sources, and utilise an increasingly wide range of technologies. Despite this, information systems research often centres on the technology artefact, rather than the human being, who may be negotiating a wide range of technologies, systems and information sources. People apply a rich context to interpreting the information they receive. This study will therefore close the gap in recognising the human being at the centre of this interaction.

(b) Method of data collection

Data will be collected by the researcher observing and keeping a journal of the subject's experiences while dealing with a variety information sources over a multitude of technologies. It will be supplemented via "thinking aloud" observations. A debriefing interview will be held later on completion of the journal.

(c) The benefits and scientific value of the project

There has been a steady trend for people to interact with a wide variety of sources through an ever increasing number of technologies. How do academics respond to information events? What do they do with information once they have it? How well do academics cope with the various technologies? What are their favoured technologies for putting information to use? What kinds of information do they receive? What do they do with the information? What obstacles might they happen across?

Working with information involves examining it and applying judgement and or procedure to determine the next course of action. The many options open to them will be process and context specific.

The contribution of this study is in gaining a New Zealand academic's perspective as to their information needs and information behaviours that they use in order manage the plethora of technologies which exist today, supposedly making information retrieval and use as efficient and effective as possible to the individual.

This unique New Zealand insight will contribute the body of knowledge which already exists via overseas studies in Human Information Behaviour. It will also fill a gap in the existing knowledge pertaining to HIB in managing the integration of these information and communication technologies in turning received information into purposeful action.

(d) Characteristics of the participants

Participants will be academic volunteers sourced through Victoria University. Ideally they will reflect a spread of age and gender, but other than that, no other special attributes will be required.

(e) Method of recruitment
All participants for the study will be volunteers, sourced through contacts and advertisements around the university.

(f) Payments that are to be made/expenses to be reimbursed to participants
A small gift may be offered.

(g) Other assistance (e.g. meals, transport) that is to be given to participants
There will be none.

(h) Any special hazards and/or inconvenience (including deception) that participants will encounter
There is no hazard of inconvenience aside from the thinking aloud observation technique which will be utilised for data collection, and which some participants may find a 'hassle".

(i) State whether consent is for: (Please indicate as many as it applies)

(i) the collection of data **Yes**
(ii) attribution of opinions or information **No**
(iii) release of data to others **No**
(iv) use for a conference report or a publication **Yes**
(v) use for some particular purpose (specify) **Yes – MCA thesis**

Attach a copy of any questionnaire or interview schedule to the application

(j) How is informed consent to be obtained (see paragraphs 4.31(g), 5.2, 5.5 and 5.61of the Guidelines)

(i) the research is strictly anonymous, an information sheet is supplied and informed consent is implied by voluntary participation in filling out a questionnaire for example (include a copy of the information sheet) **No**
(ii) the research is not anonymous but is confidential and informed consent will be obtained through a signed consent form (include a copy of the consent form and information sheet) **Yes**
(iii) the research is neither anonymous nor confidential and informed consent will be obtained through a signed consent form (include a copy of the consent form and information sheet) **No**
(iv) informed consent will be obtained by some other method (please specify and provide details) **No**

With the exception of anonymous research as in (i), if it is proposed that written consent will not be obtained, please explain why
Written consent will be obtained.

(k) If the research will not be conducted on a strictly anonymous basis state how issues of confidentiality of participants are to be ensured if this is intended. (See paragraph 4.3.1(e) of the Guidelines). (e.g. who will listen to tapes, see questionnaires or have access to data). Please ensure that you distinguish clearly between anonymity and confidentiality. Indicate which of these are applicable.

(i) access to the research data will be restricted to the investigator

No

(ii) access to the research data will be restricted to the investigator and their supervisor (student research) **Yes**

(iii) all opinions and data will be reported in aggregated form in such a way that individual persons or organisations are not identifiable **No**

(iv) Other (please specify)

(l) Procedure for the storage of, access to and disposal of data, both during and at the conclusion of the research. (see section 7 of the guidelines). Indicate which are applicable:

(i) all written material (questionnaires, interview notes, etc) will be kept in a locked file and access is restricted to the investigator **Yes**

(ii) all electronic information will be kept in a password-protected file and access will be restricted to the investigator **Yes**

(iii) all questionnaires, interview notes and similar materials will be destroyed:
(a) at the conclusion of the research **No**
or (b) two years after the conclusion of the research **Yes**

(iv) any audio or video recordings will be returned to participants and/or electronically wiped **Yes**

(v) other procedures (please specify):

If data and material are not to be destroyed please indicate why and the procedures envisaged for ongoing storage and security **N/A**

(m)Feedback procedures (See section 8 of the Guidelines). You should indicate whether feedback will be provided to participants and in what form. If feedback will not be given, indicate the reasons why.
Participants will be offered the opportunity to see any papers which result from the research.

(n)Reporting and publication of results. Please indicate which of the following are appropriate. The proposed form of publications should be indicated on the information sheet and/or consent form.

(i) publication in academic or professional journals **Yes**

(ii) dissemination at academic or professional conferences **Yes**

(iii) deposit of the research paper or thesis in the University Library (student research) **Yes**

(iv) a case study used for teaching purposes **No**

(v) other (please specify) **N/A**

Signature of investigators as listed on page 1 **(including supervisors) and Chair of SIM HEC.**

NB: All investigators and the Chair of SIM HEC must sign the form, then send it to Perumal Pillai for filing in the University's Research Office once the electronic application has been approved.

Paul Atkinson ..... Date 29/08/2007

..... Date .....

..... Date.....

Supervisors:

Mary Tate
..... Date 20 August 2007.

..... Date.....

Chair of SIM HEC:

Brenda Cheung
..... Date 20/8/2007

APPLICATIONS FOR HUMAN ETHICS APPROVAL

CHECKLIST

- ☐ Have you read the Human Ethics Committee Policy?
- ☐ Have you read the Faculty of Commerce and Administration's HEC Guide?
- ☐ Is ethical approval required for your project?
- ☐ Have you established whether informed consent needs to be obtained for your project?
- ☐ In the case of student projects, have you consulted your supervisor about any human ethics implications of your research?
- ☐ Have you included an information sheet for participants which explains the nature and purpose of your research, the proposed use of the material collected, who will have access to it, whether the data will be kept confidential to you, how anonymity or confidentiality is to be guaranteed?
- ☐ Have you included a written consent form?
- ☐ If not, have you explained on the application form why you do not need to get written consent?

Are you asking participants to give consent to:

- ☐ collect data from them
- ☐ attribute information to them
- ☐ release that information to others
- ☐ use the data for particular purposes

- ☐ Have you indicated clearly to participants on the information sheet and/or consent form how they will be able to get feedback on the research from you (e.g. they may tick a box on the consent form indicating that they would like to be sent a summary), and how the data will be stored or disposed of at the conclusion of the research?
- ☐ Have you included a copy of any questionnaire or interview checklist you propose using?

Appendix F: Participant Transcriptions

Observation 1

Participant One – 31 August 2007. 9.35am – 11.15am
50 minutes total recording time – Observation & Interview

This is <Name>, its 9.34am Friday morning the (ah)... 31st of August, and I'm just doing a pilot test for Paul's research at the moment, so I'm just sitting down at my computer most really I'm trying to actually write in particular my PHD relating to ah the nature of trying to fix theory from the point of view of <indeterminable> and looking at the research on service quality from the point of view of theory. So quite a bit of what I'm doing is just related to that and a lot of the time ah basically just using Micro Soft Word, but sometimes I'm going off and looking at articles and books and sometimes I'm looking at online sources or online databases... ah to collect extra **"refuge"** references. So that's basically quite a lot of what I'm doing, so most of the incoming would be ah pretty much to do with administration or **"refuge"** because I'm not teaching this trimester.

I've also got my email up. I keep my email up all the time and tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you... So I've just got a couple of things here, I've got an email from Amazon.com – its come in and that's about a book that I ordered by Jenny Board Boon called Measuring the Night – Conceptual Issues in Contemporary Psychometrics, and Angela has written to me saying the order has been delayed – delivery's delayed... Given me a bunch of options – do I want to cancel or you know whatever. Well I'm kind of pissed off with it delayed but it's not really that much of a big deal. They reckon it will come about the 10th September and that's basically okay, so I don't really need to do anything with that... I'm just going to basically... I'm not going to delete it – I'm going to hang onto it in case I need to refer to it. I just looked at that mail and just going to make a ***** in my inbox. It doesn't need any particular action – its just for your information kind of umm...

And I've got a mail, an incoming mail from <Name> who's a PHD student. He's sent me a question about mixed methods and validity in ah quantitative methods and wants to come talk to me, so I replied to that and just said sure... umm, you know that's going to be ongoing that will have a follow-up, so in fact I'm scrolling up now I have another mail from <Name> a response from my response which basically says great then I'll see you later, so that's I guess some point she'll be coming into see, so probably I should be doing some preparation for that... Umm, well definitely I should but where we are actually I'm not sure, umm (laugh). You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I I may do that before she comes, or I may wait until she comes and be a little embarrasses that I will have to do it after she's gone, but (laugh), and also there will probably be some stuff that's gonna follow after that.

And I've got this... what it is... I have no idea. I'll just find out umm, <long pause> ah, I have something from the European Institute for Advanced Studies in <indeterminable>... Now, wracking my brains a bit here, but first off, why should I be getting them? Umm, ah what I think happened I reviewed for one of their conferences at the request of <Name> and somewhere along the line in doing the

review I have a feeling I had to join... so I guess that now means I'm a member and I guess that also means I'm going to get their newsletters from time to time – I'm not too sure if that's a good thing or not... umm, I'm just going to look at the newsletter now and see if it looks interesting... umm well, well it looks kind of interesting, not extremely interesting, umm, various conferences coming up, some of which might be interesting. There's one on relationship management in CRM which is definitely an interest of mine, its in Brussels coming up in November, deadline the 14th September, but anyway I don't think I'll be smitten to that but it could be interesting in the future. <long break> lots of stuff in Europe, but basically which is a hell of a long way away... what's here in New Zealand, various workshops, conferences in 2008, ah... <long break> so on the whole I think umm, kind of not that interesting really umm, but there again, I won't delete it because I tend to keep my mail and umm for quite a long time before I eventually chuck off all the ones that are say more than a year or so old, umm and umm I'll just leave that lurking around in my umm inbox or I may umm move it, in fact I will put it in with my little umm which is the further the *** I thought you know the information about upcoming umm research related events – so that's, I have a filter for which I put on for all the incoming items, so it will just come straight here to my inbox and so every now and then I look through it to see if there's anything that I will be responding to, so I move the European Institute umm of Management ah newsletter to here, which seems like a reasonably good place for it.

So, that's pretty much my inbox for the time being, so you see it's fairly small as I'm not teaching at the moment. Umm, so I'm just going to take a break from that now, umm and umm its now about 9.52, so that's taken around 15 minutes, umm and ah if anything else comes in I'm meant to respond to I'll get back to it.

Yeah I mean, I quite like the little micro-breaks that incoming emails give because I like, although, I tend to kind of work away on something, my subconscious I don't you know I'm a bit too restless to just sit, and you know I tend to get up and take a little walk, you know I, so what I find is that incoming emails or telephone calls or whatever I generally don't kind of they don't bother me too much, umm, because I'm actually often quite I'm quite happy to-to take you know three minutes or three minutes away from what I'm doing, and just, you know it just kind of than go back to it – you know, I'm-I'm I don't tend to lose my thread, umm, I'm quite sort of tenacious about things and so I tend to be quite you know, quite reactive – you know, stuff happens and you know I do something about it.

Umm sort of one exception which is I've got a couple of 'adminy' things that I'm supposed to fill out and I have a slight allergy to umm, actually looking at the things I have here are mostly stuff on my desk is research related at the moment I would say – yeah, they should be around all my piles which pretty much all used but needs to do with my umm, thesis, but I've got two, got two other things here, umm... two... yeah three perhaps ah in the pile which is sort of waiting perhaps for [too much noise]. I have a thing about my PHD enrolment and the reason that sits there is-is because the whole process annoys the hell out of me because umm, they don't seem, like they send you out forms that you have to fill out, but they have all the information that is already held on the university records, like your ID number and your start date and the umm, course code and all that kind of thing, and its, and-and I have to, because I'm doing this once a year – I have to look them up every year and it just really irritates me that I have to spend my time umm retrieving this information which is already

really available to administrative, so I tend to kind of vote with my feet a little bit by dragging my heels on this particular job, which is-is a bit naughty, because it inconveniences <Name> and other people– but yeah, so that letter has been sitting there because when I look at it I feel cross and don't do anything about it, umm, ah, but that's something another sort of event that happened that I really ought to be doing something about it at some stage.

Then I also have on my desk umm, <Name>'s PHD research proposal which he is presenting next week and again I really need to be – again is in hard copy form; umm, ah, so I can get that from the SIM office which is the normal way that <Name> can distribute them. I really ought to be giving this some reasonably serious attention; umm, <Name> is a close friend and colleague and he also has a topic umm, that has quite a lot of synergy with my ah research interests umm so umm yeah so I do feel that I ought to umm go through this reasonably carefully, and I know another piece of work of <Name>'s which relates to... Umm, oh, umm maybe a few things here which are in hard copy - I have another piece of work of <Name>'s which relates to the 408 project he did a couple of years ago which I supervised and I'm really looking at that – partly I want to probably site some aspects of it in my own research and also I'm looking to write it up or we'll publish one part of it I'm not too, publish another part of that umm as a conference paper.

And, then I have various other bits and pieces of things to possibly follow up umm, various opportunities for writing papers or whatever which I printed off ISWorld.com, what I tend to do is-is when I go through it and have a look at ISWorld, so I might just have a look now, umm so everything I have for 'e' umm, I have a filter, so every now and then I go through, and then I have a sub-directory which I call follow-up and so if I see anything that I think perhaps I might want to act on I put it in the follow-up directory, which then becomes sort of like a short-list of opportunities which then I eventually do-do something about, and then which I don't. Umm, several of which are good opportunities but at present I'm really kind of focussed on getting a lot of the writing done for the thesis so, umm, so I'm just looking here I've got ah a Theory Development Workshop on ISIS, ah, I've got umm a course of chapters on the Handbook of Research on Contemporary Theory <indeterminable> Moral – ah – I've picked these out because I'm doing quite a bit of work on theory just at present.

I've got a whole wallpapers and a new journal of Marketing Channels and ah, which-which I could fit with some of the multi-channels research I've done but have not yet published. Umm, I got a call for papers for a conference in Taipei in December, umm, e-business conference in to be perfectly honest my main interest in that is I have a friend in Taiwan I quite like to catch up with, but really I don't think that's going to happen. Umm, ah, yeah so, that's a bit of a, anyway, flying a kite really so, I'm umm probably should biff that out because I'm not really that serious about it – umm, yeah, so those are kind of sitting there on the back-burner kind of thing, umm, probably most of them have dates coming up quite soon, I'm actually not going to do anything about them, umm...

What I sometimes do is I actually do is on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it umm, but that's the sort of things I'm reasonably serious about. I don't think I'm a hell of a serious about the... this one's 1st September, which is tomorrow – so I'm not gonna be doing that... this one's 15th

September – that's the e-government chapter so I guess that's still a possibility – I'll hang onto that – another one 1st September – that's not gonna happen. This one is... a proposal – that's possible, actually that might be quite good because you just have to prepare a two/three page proposal outline of a chapter and then you have time to write a chapter ah after that and so <indeterminable> I'm going to hang onto that one – I'll keep that one in my pile. Umm, and then on marketing channels – that's just a 'for your information' about the journal and I am quite interested in publishing in that, and so I will keep that in my pile. And so, what I am going to do with these is I just basically kind of sat them up and they act as a kind of a reminder, or I may – I either just leave them there – I'm looking at Taipei and I'm gonna get rid of that paper and leave it in the dump [trash] – and the others I will just leave them there as a little back-burner reminder or I may enter them into my online diary or I may enter them in their hardcopy reminder that I pin up on my wall so I can keep an eye on the dates umm, at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them <laughs> Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin umm...

So while I'm on the <indeterminable> opportunity have a really quick [18.45] squizz through them now here and most of it I am going to completely ignore – its really not relevant to my research interests – Oh, here's a Victoria ad for an Associate Professor in E-Commerce so that's gone out on my <indeterminable> umm something on a journal on electronic commerce research I have published in before but no specialised research element was relevant to me – so that's pretty much the end of my distractions and that is pretty much the pile of stuff that either is sitting on my desk in hardcopy or has come in via email I ought to be doing something about umm...

There might be one other which is ah, it's an admin task which really has come in – it was tucked under my door by <Name>yesterday which I haven't done anything about yet... It seems to have a bit of a theme doesn't it? - In how I ought to be doing something about it, umm, it was tucked under my door and is an offer of study for a student but who we think sort of well we rather reluctantly accepted into the honours programme, umm <Name>and I interviewed her, umm by email we are making her an offer and she must have filled out her enrolment form by now. This is our letter basically writing back – so <Name>looks after that umm, so I'm doing that because Brian's on leave at the moment so I'm kind of acting for him because umm, I'm taking over the role next year, so actually I'm going to do something about that right now, and get it off my desk. And then I'll get back to writing up what I was doing. Okay, so I'm just going to sign that paper and walk it down to umm down to the office umm down to <Name>, okay.

Interview

What is your formal training with information/communication technologies (ICTs)?
Oh, it's very extensive, but in terms of the technology I may use, ah currently, actually relatively little. So I mean I've done courses in all kinds of heaps and heaps of different programming languages and office umm tools, over like from the 1970s really, so I mean I've really worked really many report writers and word processors and spreadsheets and programming languages and they have tools and you all have operating systems and you know all kinds of stuff over the years, and but, I've pretty

much spent my life in Microsoft Office and then there's the library databases and maybe a few other services like some of the Oracle systems, that we use for grants applications, the HR Kiosk and so on both of them basically a universal system. I haven't really had any formal training, umm in any of those I'd say, umm there's a general sort of a function you pick up or whatever, so umm, yeah. **[23.00]**

Do you have particular days of the week where you prefer to engage in more information events?

Umm, well I don't generally work on the weekends – I've got a teenage family – umm, so my usual pattern I usually work at work, I mean I do occasionally take work home – reading or marking or you know, or if I'm really on a role I might go back [to work] and do a bit more writing in the evenings or something umm, but generally I'm, you know, I'm kind of a you know, I'm pretty much a 'nine to five girl'. I try to be relatively focussed when I'm here and I don't, yes, so I'm weekdays and working hours pretty much would be me mostly, yeah. **[24.00]**

Do you feel that there are days (or periods) of the year where your information use is particularly high?

Oh yes, I mean teaching or university work is usually cyclic and so what you do is going to depend on what your current responsibilities are and so particularly if you're teaching and so you get a lot of [information] events – which of course is entirely fair enough. If you're here you get a lot of people contacting you – well enquiring even, clarifications and you know complaints, and you like why did I get this grade? – or you know whatever. But obviously if you're teaching you get a lot more of those and obviously they tend to heat up around the times of due dates and things like that, umm. There are probably times that are a lot more admin intensive than other times like beginning of trimesters, all these sort of areas have cycles a lot on when things need to be done and things have to be produced, umm, book lists have to be in, Student Notes have to be submitted, and so there's a number of dates – like they're a part of the cycle which as part of the university we have to conform to so they all generate associated period of things you have to do, umm, there are – I guess there are conference deadlines that generate activities, but if you're targeting a particular conference, then you have to meet the date. Umm, like I've been involved in ***** *** [tracks?], **[25.57]** and that's obviously extremely busy. Again like, you know, you get kind of clumps of related things, so its kind of hard to generalise things and say like there's a typical day because that's not like, say for example, when our hitch [or pitch?] track was about to close, well I probably spent two or three days mainly responding to various things to do with that, you know, like then it was all kind of done and dusted, you know, I don't think about it again until for another however long, until we start typing it for the next year, so its like in terms of you tend to get clusters of things that are all related to one another because they are all related to a particular external event or cycle or whatever. Then once that's finished, then that cluster will be completely replaced by a cluster of something else. Yeah, that would be how I would characterise it.

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?

Oh well, definitely, I think, well in fact, with the exception I guess you could say of research projects that I have initiated myself, an awful lot of what I do is responding to something. You know in responding to umm, organisational deadlines, conference

deadlines, umm supervisions that I've made a commitment to, etc, etc, etc. So there's a lot of pretty reactive things – a lot of what I do is pretty reactive

What are your most used information/communication technologies?
I have **email [?]** up all day every day... so that would be the big winner. I use email a very great deal. I use Text Chat a bit, I Google Chat with a few people that, yeah, so umm, as well as email I do have synchronous chat sometimes with people that I consider contacts. I do get quite a lot of telephone calls. I get quite a bit of stuff coming in various hard copy forms as well I guess, umm, but yeah, definitely like a huge proportion would be basically Microsoft Office, Library Databases, email and various other usually administrative systems.

Are there technologies which you feel could make interaction with information easier and more efficient than what you currently use?
I get irritated by the relatively sort of silo-ised nature of a lot of the university systems. And a lot of them are pretty kind of crappy I guess, umm. Yeah, like things that we have to use, that we have no choice like the HR Kiosk, and the Grants System. Both are really kind of unfriendly and unintuitive, umm and annoying, and you know if I didn't have to use them I definitely wouldn't <laughs>. And they make me kind of grumpy every time I have to use them, because I think why do I have to put up with them. I think there's quite a lot of stuff and quite a lot of approvals stuff that sort of circulates – I think some kind of work flow would, you know, like things, and we tend to use email – I mean not by me, but by us, from what will fit in an email, whatever; but it's a rather hit or miss with things sometimes, because sometimes the person you're emailing, they don't get back to you and, then some you need to follow it up and there's no sort of process to it you know to choose things for approval and get your notification back and so on, and, or there are a few that the Grants System – which feel I hate so much – it actually does send out automated advice about applying for grant applications and stuff like that which is one of the few reasonably good things that it does. But a lot of the stuff we have to do doesn't, you know there's no kind of work flow. So I've often thought that what would be helpful would be to have better workflow technology. Apart from that, I think our – yeah, I mean generally the technology that we use is okay. Its probably more around the inconsistency, incompatibility silo-ising, poor usability, poor/low integration between systems – that sort of thing – that rather than any of them. Most of the technologies are individually sort of <indeterminable> so you do tend to spend a bit of time moving back and forth – that would probably be my main issue

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be?
Umm, I haven't really have any success with – I've had a couple of goes with trying to set up my cell phone so I could umm, so I could get email messages on it, but I didn't have any success with that, umm. I probably don't really need it but there are occasional times where it could have come in handy, umm, [Interviewer: I'd agree with that!]. Apart from that I guess probably, I use cell phones to their full advantage, but a lot of that is because I'm sitting at my computer all day anyway, so I tend to use the, you know, PC functions, say the calendar or whatever rather than cell phone functions. The ability to integrate seems to be coming up a bit, but, say for example one really huge problem that I have is integrating home and work diaries and

commitments, and so I will get, for example an invitation to something personal at work and I'll forget to take it home, I'll make a commitment maybe to do something late – one of the kids take them to the dentist or the hospital or something - I'll make a commitment at home and I forget to put it in my diary at work and I have a [***] that is a bit thin – like something that enabled me to centralise my appointments, both work related and personal, and capture them once regardless of where I was and have it in a single place that could be integrated so that it would come up with – pretty much with notifications on my machine while I was working – that would be really, really helpful. That's probably the biggest area where things tend to kind of fall through the cracks.

Do you ever feel frustrated by technology while interacting with information?
Oh, yes! I hate the way my profile takes such a long time to load, and actually the way my PC powers up, there's a few points where you just need to kind of press a couple of buttons or make a couple of clicks. I mean like, for example, Outlook, I have umm, a programme called <indeterminable> and Copy that copies, ah synchronises between the network and my local hard drive, but if you don't start it when you first start your – or when you first logon, it kind of gets itself in a knot, and then it can't open the mail, and then you basically have to restart your, but its really annoying because it takes quite a long time to model, and I can't leave it long, like make a cup of coffee or whatever because I've got to kind of wait for a couple of prompts that I need to respond to. So I sit there every morning thinking how long it takes to load up. I do get frustrated by things like poor usability, and one that I particularly hate is the umm Grants System which isn't very user-friendly – a system I get really irritated every time I have to use it. Umm it's a really annoying way of having to do that particular job.

I get annoyed when things don't work, like for example, MS Word has got quite a bit better but its still close to being too smart and sometimes it knows what you want and some times you have trouble saying you don't want to do that you want to do something different, and there are still a few bugs occasionally that you stumble across and strange behaviours in Word, and that can be really irritating. You know, like for example, doing camera ready papers that used to be specialised off, that specialist typists did, but now you do your own – so if you're doing camera-ready work, you have to be pretty whizzy with Word, and know you know, umm, be whizzy with Power Plus formatting and templating and all that sort of thing. But every now and then you get some either you're sent a template and it's got some little problem in it, or you create a template and yet have a great deal of difficulty trying to conform to the formatting requirements – so that can be exceptionally irritating, when you've got something that's finished, proof-read, and the text is all done and all you're trying to do is beat it into the right format, and its definitely annoying when it just won't or, I mean, it might be operator error, but you know when for whatever reason you know, you're having trouble when it should be like a last minute tidy-up and you don't want it to turn into this great kind of 'do or die' battle, umm, with Microsoft Word, but that seems to never apply <I even find that MS Word is bad on tables> - Yeah, [laughs].

What mediums of information do you prefer? [That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet]
Well, I think technology can be convenient, umm, and I do use it a great deal, umm, and I use email a great deal, ah, but on the whole, I prefer to email with people I

already know, umm, I guess if I really had a choice I would say I would probably prefer to deal face-to-face if I could. And certainly I find it hard to deal with people solely by email. I mean I find that you know, that the relationship needs to be kind of, or it can be better if it's reaffirmed by meeting them occasionally. I mean, sometimes it happens the other way round, you know I've had people umm that I've initially had an email correspondence with someone but never actually met, umm, you know, but I do find that if I have actually seen them and talked to them, umm, I tend to have more confidence, umm, and commitment. If I had a completely free choice I would probably umm choose to meet people.

Having said that, I think there is kind of a place for both, because one of the things that people seem to love about email is that it leaves a kind of paper trail, and you know that is extremely convenient. So, you know, it is certainly good to have a short confirmation of perhaps of meetings you have with people, or agreements, or, you know, actions umm, yeah, so I would say they have quite a complimentary – like in my ideal world they would have quite a complimentary role there. Technology would act as a kind of secretarial support function, perhaps you might say for, umm for your normal business functions. So it would help in documenting things, searching for things, umm, you know, preventing <indeterminable> that sort of thing. So yeah

Do you feel overall that your information behaviours are productive?
Yeah. Umm, well it's sort of hard to imagine, you know, what life used to be like, I guess, umm. I, I mean we probably do stuff that we wouldn't do if couldn't do it – and would never really miss it, you know, I mean for example I'm not talking about the presentation umm of documents, well I guess its really more about things that need to be pretty well presented if they're going to be published in a journal. But, for example for internal material that's just going to circulate around the university or around some – it probably doesn't actually need to be immaculately presented as it is, you know, but the fact that Word is out and you can do it means you spend time kind of making it look nice, you know, so I think the possibilities that have opened up by technology – yeah, we would probably spend time using them.

And you know, the fact that you can dash off an email to somebody – that may actually intensify the level of communication – like so you may actually end up spending time communicating with them more, whereas if you couldn't do it, you know, you wouldn't really miss it, umm. So, so, I think it's more like for every individual event – except for when things kind of fall between the cracks between different technologies, and that's definitely annoying. On the whole I think they are you know, like if you're gonna do the activity anyway, then doing it with technology is usually more productive, but I think you may end up doing activities because you can that may not actually be strictly necessary, so in that sense there may be negative issues there.

Do you feel they could be more productive?
I think you spend a lot of time – unproductive time kind of adapting to their technologies. You know, you have your own profile, like say for example, you know if I want a document – I mean there are various links and stuff like that you can spend quite a lot of time digging around through file hierarchies and things like that, you know because that's the way the computer sees stuff, you know, whereas you know, like for me for example, I tend to keep a lot of stuff you know, kind of current and

open at the same time – I mean it would be quite handy for me to be able to just kind of you know, <indeterminable> follow work in progress of different sorts you know that would take me directly to the, you know, the things that I'm working on. It would be handy to kind of cluster things so that if I have umm, you know a presentation and ah spreadsheets, Word documents that are all kind of associated with a topic – it would be quite good to, you know I mean, yeah, like on the whole like we spend a lot of time adapting to the way, to the way the system views things and we do because on the whole we still prefer to do that to not having it but, it can still be an awful lot there – it could be a lot more centred around the person and their working style than it is – there's some level of adaptivity – I think that adaptivity could be a lot greater than it is – yeah.

Can you give examples of technologies you may have used in the past but prefer not to now?

I don't need to switch to my cell phone – in fact it would be annoying to go over to the cell phone. And also of course I don't have a PDA which some people use – and it would be interesting – and I have never used one – can't say I will ever or not, but certainly I think that if I had a more mobile job or lifestyle, then I probably would use my cell phone quite a bit more. But I'm pretty much usually either at home or at work, or somewhere in between; and you know, and so at home we have email and a landline, at work I have email and a landline, so I'm pretty available. So I think on the whole, the cell phone seems to be something that fills in a few of those gaps like if I'm travelling, or if I'm out on the weekend – but it's not my preferred technology. Yeah, so it's kind of a distant kind of third place behind computers and regular telephony really for me. And that really proves it 'cause I've lost mine and I'm not finding it difficult. I probably will get another one, or at least I'll try really hard to find that one. Oh, and another thing, I've had cell phones on and off since the early nineties because I worked for Telecom and had a cell phone when they first came out and had one of the you know, quite early models – so I have had a succession – I must have had... I don't know how many, but lots and lots of different times over what must be close to 15 years now – no maybe not quite that long. I got my first one when my daughter was about two, and she's now 13 – so yeah, maybe 10 or 11 years or so I've had different cell phones; but I haven't really kind of lived with them that much, or really gotten into using all their sort of capabilities.

Are there any times of the year that you choose not to interact with ICTs?

Umm, well... I think sometimes if I'm on holiday – depending on where I'm on holiday – but I'll tend to check email if I have the opportunity to do it, umm. Even if I'm away I travel with my laptop, umm, and often if I find a Cyber Café – so I would say yeah, I'm a bit of a – kind of a PC or computer-email addict kind of thing – I don't mind not so addicted that I get up upset if I don't get to check my emails or whatever, but I have relatively easy opportunities to do so I would certainly do it rather than not. I mean at the airports if they have free email access then I would definitely logon – so generally unless I've deliberately gone away to get away from things, I would generally be connected to email and internet and stuff – yeah.

Observation 2

Participant Two – 6 September 2007. 8.20am – 9.50am
80 minutes total recording time – Observation & Interview

Now usually when I get in, in the morning – the very first thing I do is login because I have a laptop so I always take it home with me because there is always something to do. So I logon and see what emails have come in particularly if anything needs urgent attention. So it takes a little while, umm, to come up, you know all the messages for today. As I indicated there were some that arrived late last night, so I deliberately did not access those. So I look at who they have come from to see if there's anything - any response that I am waiting for from someone that might be urgent. So that's number one. And then it's usually if it's from umm the Dean or the Head of School – that usually gets priority treatment.

There are some for instance from our ISWorld Information Community updates from LMAR which is a marketing thing, that sort of thing, umm, really interesting, but it's very very [time consuming?] <indeterminable> - I've got quite a lot on my plate at the moment, so I mustn't be tempted to submit even more papers to different conferences or different journals – I'm just concentrating on the ones I'm doing at the moment, so I resist even looking at those – I will look at them – I usually look at them over the weekend, you know, just to sort of keep up-to-date because sometimes they have got really interesting things that would, you know help with teaching – case studies or interesting resources.

Now, then I look at – it's usually in terms of the programme directors. They go down from Head of well – Dean and Head of School, maybe Faculty stuff, Faculty stuff is very important - and then I go down and look at for instance the Programme Directors, because very often they need information – and I see that there is something here from <Name> – right, and this is in regard to the Associate Professor of E-Commerce position that we are advertising at the moment, with regard to that I see that he has just copied me in on the general response, umm, and... and again he has copied me in on information that a student wanted about their Honours Grades, umm.

Now we are about a research project with UTDC. UTDC is a community intervention <indeterminable> that we introduced in INFO102 over the year, particularly now with the 'C Sharp' introduction and they are arranging focus group interviews with students in the first year, second year and third year. So <indeterminable> has been specially employed by UTDC to review this just for a limited period – so I know her time frame is limited – so I need to respond to her – I think she sent me three things, so I'm just going to have a look at those... Okay, she sent me an example of the letter she will be sending to the students, umm, ... **<So are these being deleted, saved, or...?>** I won't delete any of these - things that I will be - so I'll keep all of these...

If they are very important working documents – in other words I need to work off those documents or need to really comment on them or the content, I will print them out **<okay>** so I've got a number that I have printed out and I will show you. Now see here there is something from Ticketek and that I will probably just delete, okay? Because I what I want to – what performances I want to see and take things from very

regularly – so I'll just delete that, but will be in my delete basket. See there's something here from <indeterminable> an Out of Office Reply. Umm, bit of a problem there it seems as though <Name> is a half-day employee, and umm we frequently need to contact <Name> with HEC-type things like date of destruction of data after a certain period and research and study leave and conference leave, and there are always queries about those things – and very often she is not there, you know you get an Out of Office Reply, which is a little bit frustrating. So with Maggie you've always got to get in there and do the job as soon as possible. So I'll just put that on hold because I've sent a response regarding data destruction from a PHD student umm, and got an Out of Office Reply which is a bit frustrating.

Umm, I see there's a call for papers for the INSIGHT conference is going to be in Bulgaria – especially sent to me by this fellow <Name> who organises the conference, and umm <Name> and I have presented a paper this year in June at the conference in Slovenia and was very well received and <Name> came and visited here, so and we hosted him, showed him around and I think he sort of thinks we are now <indeterminable> supporters. Quite frankly I don't know if I have – will have the opportunity to go to this conference because I'll be on research and study leave next year, and umm, I'll be focussing on other things, so I might put that on hold. I'll probably print that out so I know I have got to attend to it, and got to reply to it, so I'll print it out here in my office. My office has got a single-side printer, and because I print off quite a lot of things, umm, sometimes I print out – yes print it double-sided.

Oh, I've written another paper for a journal... <Name> and I wrote this paper and umm, it has been submitted to a journal, well they, they wanted us to have it in a journal – so we said okay, we'll put it in this journal, and umm, there seems to be some sort of umm, I need to print this out as well. I'll need to check up with <Name> on this, there seems to be some sort of communication between <Name> and the editor about the status of the article. Sometimes its difficult to keep track of all the articles and papers you've got – where and at which stage they are, now... this is taking a long time... and then sometimes you realise, my goodness I submitted this so many months ago and I've not heard from them, or umm, you know, you submit the final paper they wanted and okayed and you've not heard when exactly when the thing is going to be published – so you have to follow that up. So there's a whole lot of follow-up stuff.

Now, there's something here, oh, something from <Name> – Mobile Blood Collection down town. Well first of all they won't let me give blood because I'm underweight, and secondly – so they say – and umm, anyway, I'm up here, so that would be impractical. Umm, Something from... Oh, now we have a student who has a bit of a problem – Oh my gracious me! Now the student has a problem with student umm, something to do with agrotats and his request for agrotats was declined. Now this is actually serious, but because it's confidential I won't print it out in the printing room – I'll print it out here... and I really need to go into this in depth, because its very important for this student and I need to ensure that I give the student the best attention I can and help the student because obviously something has gone awry. Umm, he came in yesterday in quite an agitated state – so that's quite urgent.

And now I see here there's a request from a Chinese student. You can see because the font is in Chinese script... wants a credit transfer... wants an appointment this

afternoon at 2 o'clock – now this is not feasible for me so, I'll just have to reply to the student. Another one has got difficulty with credit transfers, but because this student is Chinese, the English is not very good, and most of the communication has been verbal. It's between her and Faculty and me, and then she gets... somewhere in communication the essence of exactly what needs to be communicated gets lost. So Faculty phoned me and said they were having problems with this. So this has been documented so that we have so we have some facts to work off. So I'll just reply to her – is that all right?

I keep a hard copy diary with me because I find it easier to just to see all of my appointments at a glance... you know, appointments for rooms or whatever, and I can take it with me wherever I need to go.

Okay, so now we've got that sorted out [Chinese student reply]. And there's another call for papers... **<Do you keep email up all day?>** No; umm, at specific times of the day. I prefer not to get distracted and can concentrate on work, otherwise it can be just watching this all the time [incoming email]. It can be very distracting so I can switch off and just focus, particularly if you're working some thesis or you know, working on anything, or working on a paper – a concentrated ethic. Umm, another call for papers – oh no, its in October in Taiwan, and so I can forget that. And I tell you they can forget it because I've used up all of my conference leave allowance. Because you get conference leave and then you also get paid conference grants – a certain amount of money that you can spend in three years attending conferences, and I had a huge whack in the middle of the year, so that's out. Any conference I go to now would have to be very, very important.

Okay, another one from <Name> – that will be fine... Something from <Name>; just a thank you. <Name> 's very good, Simon acknowledges whatever I send him, and I do the same with him. But then we know that one, we know there's a [seed?/thread?] **** which is good. So what I'm leaving now... <Name> 's just informing me about the interviews for the people who are applying for the Associate Professor of E-Commerce. So that all indicated – yes that's fine, and further to that, the things I haven't opened are things from ISWorld and Community Updates and European Marketing thing, these are all daily things that I get, so I've got to resist those for the minute. But I don't want to be too blinkered and just not attend to them at all, but those I read over the weekend.

So those have all been done, now I'll give you examples – do you want examples of how else I go about things? Usually I do... If things need my attention, so in other words, it's not the information-type email or keeping me in the loop of something, but something of which I have to respond to, which I first need to read in depth before I respond to it, then I print it out. And so it's a physical reminder that I need to respond to it – a big physical reminder – also I can do it – sometimes that's the stuff I take home and do it at home, not interrupted. For instance, <Name> has asked, he needs to make a few changes to his Masters before it's finally passed off. And usually they will give one or two comments. So I have given him my feedback and Benoit and the date of the feedback, and he has come back to me with quite a deep question, which is not something which can be fobbed off, so I'm sitting reading the relevant part of his thesis before I can reply intelligently – so that's actually an example.

Now these are all the things that I need to attend to urgently. <Name> sent me a questionnaire which I quickly reviewed last night, so I'll send her feedback on that – <Name> from UTDC. In the post this morning I got two applications for exemptions for students applying for transfer credit. So I've got these, and these I can deal with quite quickly, so I can look at that.

This is something from a group who are working on a European Union project, and this is in regard to a system, an inter-country, an international system relating to customs and customs documentation, that type of thing, but particularly the security aspects. And they want me to be involved in this from the New Zealand side. So I've had to talk to various people about the feasibility of us getting involved. But they want me to go there next year when I'm on sabbatical – because I'll be with <Name> in Canada. But they want me to go there and to work with them on this. So they've sent me some stuff, and its things I've now got to follow up on with the various powers that be – various players. And if you deal with governments and government organisations you've got to be careful and you've got to get just the right person – so that's really quite a lot of work.

And this – my folders – I colour-code my folders – and it's usually for external organisations. Yellow is for external to SIM, and SIM use – SIM committees and things like that are usually Blue, except if I have to work on them very specifically, and then I put them in a Green folder – green stands for having to work on them – green stands for having to work! And here's another thing, a questionnaire – that I'm working on with <Name> – so the questionnaire has to be worked on. This is an Academic Statutes Committee, and they have course prescriptions and requests to change course prescriptions. This has to go to this committee. We have meetings once a month, once every two months - as the need arises. But we have quite a – I won't say heated because we weren't arguing, but there was a deep debate over the change of some honours papers in Marketing and International Business. So now these are the revised proposals I have to go through that, you see. And these don't really have folders because they are opportunities for conferences or journals or research funds. So those are not majorly important. Here's two things from <Name>. One is the paper form for Quality Conference that I must just speak slightly. I've also got to lead a workshop on focus groups for the conference. So that's in Green, as it is something I must do. And this – always – stuff for my PHD – there's always stuff ongoing there. So this is now for another article – it's got to be prepared from the PHD thing. So, these are things to do. But also things I need to reply to quickly. So I sort of organise them according to levels of importance – you know, urgency. So these need to be done quickly, so they can go on top.

And here's another system over here. These are different papers – articles – journal articles that I'm working on at the moment. This is a book chapter for E-government, but its local government and it's the socialising aspect of Internet Voting. How to vote – in inverted commas – to the public; and I'm working on that with an ex-student of mine. So, she's got to give some contribution, and I'm just waiting for that – but it mustn't be out of mind. <Name> and I are working on another research project but that's also waiting till he's finished his PHD proposal. So it's not majorly urgent. And this one relates to the project that <Name> is working on online auctions.

And here [basket trays] – what I have here is – these are things that I must do – a pile to do. These are not an urgent to do. So I've got to write off some report at some stage and <Name> and I are working on an article together, but it is only October that I need to get this finished. So, these are not the urgent things. This tray is for awaiting responses from others, and this is to read [another tray] – this is the to read tray. Those over there are documents that are waiting for meetings I am going to have either today or tomorrow, so the meeting documents go there.

These are to file away, and the filing cabinet is quite well organised, but it's running out of space, so I'm running out of those hanging folders. So I need to get those so I can file these away. They are sort of unusual things which don't fit into the normal... okay, so, that's my day! Now, what else do I need to tell you?

Interview

What is your formal training with information/communication technologies (ICTs)?
Now, I've done a few short courses, but those have been sponsored by the organisations for which I've worked, but they have really been short courses. So as far as formal training is concerned, it's really very minimal.

What is your area of expertise?
It's more strategy information systems.

Do you have particular days of the week where you prefer to engage in more information events?
No, I can't say that I do. But what I try to do even though we've got Internet access at home, in the evenings and in the weekends I prefer to work on what I call my 'work things' – you know, writing papers and articles and other things so I'm not distracted. I'm quite disciplined with that – I won't look at the stuff. However there are some weekends for instance when I send out the <indeterminable> letters to all the students, you know we send out hundreds – or that type of thing when I will come in – it has to be done from here because I've got an access <indeterminable>. Or I will do it from home and I will access internet-type stuff, or if I know that a student is sending me drafts – they really do need to get quick feedback – then I will just download that. But I prefer not to – email stuff so that I can focus on work-stuff. I call it work-stuff.

Do you feel that there are days (or periods) of the year where your information use is particularly high?
It would be lower in January in terms of the communicated information, because people go on holiday. The second half of December, January, umm, people in the southern hemisphere, so it's lower then, and a lot of your colleagues are away then. And uni sort of calms down, you know quietens down considerably. But that doesn't mean to say that the information use is low because then you do more of your own research and have a great time. You can go in quietly...

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
Yes – what we – speed of access very often, and access to certain things, although it's getting better and better and you can usually access whatever you want to – and if all

else fails you can write to the author, you know. The library keeps acquiring new contacts and things, new databases. But its usually speed – speed is the main thing.

What are your most used information/communication technologies?
[would it be email, or do you use cell phones with text messaging, or...] – No. I actually don't – Programme Directors are all given an Apache, and that uses a lot when I'm away in some god forsaken place. But it won't be any good when I'm overseas because Telecom – so I'd have to get a Vodafone Roamer – so I had to use my own cell phone. And actually I'm either here or at home and quite a few students all have both my phone numbers. And students can phone me at home – it's okay. So I don't use – I really don't use my own cell phone a lot at all

Are there technologies which you feel could make interaction with information easier and more efficient than what you currently use?
I think – I mean everything's available, and I've never had an urgent need – I mean my web cam I leave at home – I've never had an urgent need to use it here, and Skype [using internet to call phones] and those sorts of things. Sometimes links with certain countries are not so good. But its – you know, very often – not in my - previously in my research, what I would actually like to appreciate is being able to is have virtual conferences with the faculty down town. Now that you mention it, because it's such a pity we're not down there because we need to go down there quite a lot as Programme Directors, or I do because I'm on various committees, and time is really important, and we spend time travelling down there and travelling back. It's not like meeting in the same building; you have to pack up things and remember to take everything, and then you've got to get down there and – it's pretty disruptive – so it would be so nice just to have virtual meetings with them. I mean, we know the people, it's not as though you've got to establish bonds with people. That I would appreciate. And actually I should look into it!

Yes, all those technologies are out there, and it's just a matter of getting your time to actually go forward with the appropriate one. But now that you mention it, yeah.

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be?
One thing I suppose I find I don't use – you know you've got to learn how to use them, but. I think really in this area, I'm pretty adaptable, and you know if you're curious you'll learn fast. If you already have a beat in that direction, you're more likely to embrace the technology and you're keen to use it because it's you're area. You know, that's where your interests lie.

I think where the stuff comes to a fore is using the technology particularly with the undergraduates, and then communicating with the undergraduates. I'm going to have an undergraduate chance in a moment – but that is great – you know, to be able to communicate in all sorts of ways. And we implement – not me directly – but obviously the first year particularly, we implemented all sorts of communication mechanisms with students. So I suppose you could regard that as ICT. Using a whole lot of things in addition with Blackboard, so that has gone very well. Even developed the SQ generated tutorial assignment system by <Name>. That was sponsored by us – so those sorts of things. And you know, using Utube – all sorts of examples in

lectures. Yes, it's more important for the undergraduates than postgraduates because they're aware of all of that stuff and they will or not use the stuff.

Do you ever feel frustrated by technology while interacting with information?
Oh yes I do, yes [laughs]. I want it to work now! Immediately – you know, I want it to work without – I know this sounds quite ridiculous – I want it to be totally intuitive, so I don't have to read in an instruction book. I'm not operator that operates by means of manuals – I operate by being shown how, and that is the way I learn best. Though, sometimes that's not possible and I do get frustrated. And it's usually at times when there's something urgent and I get frustrated. When I've got to produce something urgently and it's just not working [eg.s, when the computer's slow or won't log on].

When I don't get frustrated, and a lot of people do, is we have a – particularly last year we went through some bad patches where the system went down, and I don't get – I'm always prepared – yes I'm always prepared – I've always got a backup plan of things to do. Because there's always an alternative, and I'm sure I have alternative communication means with students, because I do realise that does happen and I don't want them to suffer – so I need to be able to get hold of them easily. So I always have that plan in place.

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
What sources of information do you prefer? ICT/non-ICT
I like face-to-face because it incorporates so many things. You can interact face-to-face electronically. Although I think particularly in this position, particularly when you're dealing with students who are paying money for their studies, and... One must remember you're in a business essentially, so anything that actually comprises part of contractual obligations I will say, they need to be documented so that you have an audit trail. Now I'm not one of these people who likes to cover my back, but very often you do need a trail of the correspondence so you know exactly what information was exchanged when. So that you can understand where people are coming from.

Now, I do it with many students, and you can not remember all their names and all the communication with each of them, and the advice that you give to each of them, so I prefer to document if it's you know, possibly difficult situation that one's dealing with. You know, or complex, so everything has its place – yes. I like electronic communication – email would automatically give you that audit trail. And - but things that I need to have at hand immediately to be able to compare – if I need to compare, I prefer to print. Yes, and email is very efficient, and it allows me to have these specific chunks when I can work on a piece of work, because that's very precious.

And one has always got to consider that at the end of the day you are employed as an academic, and an academic has three main responsibilities, and the main one is research, then comes teaching – which is a very close second, and the third one is Admin. And even now that I'm a Programme Director, and that's a special sort of Admin, I'm still assessed according to the research I produce and according to the way I teach. So that is primary and I've got to make sure that I have good time for that. So I organise my life around that. Even if it means getting in early in the morning – I get in early in the mornings – ¼ to 8 sometimes, and then I hit the emails, so that by nine I can hopefully I can do the work, or some work because some people

only start arriving then and sorting themselves out. I find about tea time you get people coming in with queries – you know physical visits – face-to-face communication. Then I will go and get tea, then quickly look at email to see if anything urgent has come in. And if anything really sort of not majorly important, like ISWorld comes in, and I don't want to keep it to the weekend, then I might look at it while I'm having my lunch. Alternatively I'll read documents while I have my lunch. Sometimes Tony likes to come down and have tea and fruit with me and I'll flirt with him, but then I'll boot him out!

What methods are open to you to confirm the validity of information and/or sources?
It's usually the source. I look at the source and I trust that it comes from that source – yes I just trust that it comes from that source. So if Sid sends me something – it's also the way in which people communicate. I know that people have got sort of communication mannerisms, so if a piece of communication comes from a certain person, I know that so and so has sent me that. Or I'll know it has come from Sid because of the way he writes, or from <Name> because of the way he writes. So people have all got mannerisms in writing. Font and font colours can be copied, but the way they express themselves, and most of the people with which I respond, I know how they express themselves, and it's more that, I know how <Name> expresses himself – it's the mannerisms you can pick up, which are very difficult to copy. And the assumption of things that I know. So for instance if I get a communication from someone, and they'll talk about a certain concept knowing that I know a lot about it – so they know that they don't have to explain the thing to me – that type of thing. So there are all these sorts of almost indirect checks or I mean – yes you could call them checks for validity.

I get a lot of stuff from <Name>, and I would know immediately if – just any sort of language or way of expression that would really sound funny – I would know that's not <Name>! Ways of expression and as I said, assumption of knowledge of a certain thing, that only they would know that I know or have experienced – that I've experienced with them. It might be about an experience we had together that no one else would know about.

Do you feel overall that your information behaviours are productive?
Why?
Yes, very – I love my information.

Do you feel that the information events displayed today reflect an average amount on a typical day?
Yes, so far. Ah, wait a moment, amount yes, urgency no. This is actually quite an unurgent time. Usually I have... Urgent ones are if we have got an event coming up – like we've had Discovery Camp and all those things I had to get through – that was a different sort of urgency. But it's usually conference deadlines. Deadlines for school stuff – but those are pretty predictable, so I can be prepared for that. But deadlines for publications , and particularly if you're working with someone else. And I can't squeeze in as many as possible – so if there's the possibility of squeezing in another – I'll squeeze it in, so I'll work like mad and keep the pressure up and the adrenaline... oh, and its very frustrating because they all have their own formatting that they want you to comply with – and sometimes the formatting doesn't work – and then you get really frustrated!

Another sort of deadline would be when I'm lecturing – it's giving feedback to the students as quickly as possible, so I'm never later than two weeks, you know about a two week gap, and then I push it and I try to get it done within a week.

Do the information events today reflect largely the types of information you deal with on a regular basis?
Yes.

Can you give some examples of the technologies you use fairly often but did not feel the need to use today?
I'm on the phone quite a bit – yes.

Can you give examples of technologies you may have used in the past but prefer not to now?
I suppose FAX. Scanning I use fairly often, not that often. Skype I haven't used today – which I don't use too frequently [Download software to call people free]. Scanning I don't use all that frequently - I need to use it for pictures or diagrams or something like that – if there's not another way of getting it into another document, then I'll scan it

If so, why do you choose not to use them?
How did the technologies make you feel?

Are there any environmental factors influencing your choice of technologies?
[Not asked]

Are there any times of the year that you choose not to interact with ICTs?
No, no, never [laughter] – that's why my laptop goes home with me every evening – Tony says it's like my security blanket

My information uses, I have to be organised, because if I'm not organised it impacts negatively on my efficiency, and ultimately on my effectiveness and productivity. And an important thing to bear in mind is your own resources, so I know when I'm most productive intellectually and work around that. And for instance there are certain times of the day when I prefer to do what I call pen-pushy stuff, which doesn't require all that much creative intellectual work and so I organise those things around that time of the day. And so altogether my day is quite organised, in terms of what I do when.

I luckily don't need much sleep, so I usually go to bed around 12am, and then up at 6am. I think it's very important to be organised so that you don't let anything slip through the cracks, particularly with this job – there's lots and lots of aspects to it, so you can't just rely on memory, you can't just rely on telephone calls – you've got to make notes about things, and I do find that printing out the stuff I've got to attend to and give people feedback on, unless I do it immediately is very important. I've got the diary on here [outlook] and the diary on here - the PDA, but this is still the best [physical diary on desk]

Observation 3

Participant Three – 13th September 2007. 8.45 – 9.45am.
57.21 minutes total recording time – Observation & Interview

[Recorder turned on (0.00)]

And so I umm, just for your record, I normally use a laptop and I carry it backwards and forwards, and it's the same computer at both places, and it avoids all the synchronisation problems that you have with desktops, which is neat, and I have virtual private network connections, so it's just as if I'm here even though I'm at home. So pretty much the first thing I do every morning is check my email, so there's more by the time I get here, but...

Okay, one of my perennial frustrations with this and any other Windows-based machine is just how long it takes to fire up when I actually want to use it. It takes usually anywhere between three and 10 minutes, depending on how recently it's been cleaned up, and I get very ratty when it takes 10 minutes.

Okay, so the first thing I usually check is my email, and I work in Microsoft Outlook, both here and at home, and it's just coming up... Okay, so I have a bunch of emails coming in. The way I work my email is that umm I tend to have rules and alerts, and it does some pre-filtering. Anything that I have a definite knowledge of what I plan to do with, gets put into a filter, so I've got one from family and friends, another one related to my personal hobby. Anything that is from somebody that I'm not expecting or don't know, or isn't a regular correspondent, goes into my deleted items, and the purpose of that is I'll have a quick look, and if it's not from anybody I want I just literally finally delete it. So in this case I've got one in the deleted items folder, one in the special folder called 'despam' – despam is reserved for umm, stuff that the system has already identified as spam and I just have a quick check to make sure that there are no false positives in there. So I'll just check what the deleted items are, and... some sort of spam, so I'll delete that.

The next one down is the Family and Friends folder, from my wife about some matters of personal family health, so I won't bother responding to that at this moment. De-spam folder – there's a whole bunch of stuff in there – just quickly scanning down it, lots on Viagra, Nasty Asian Action Vids – I'm not being racist there, I'm just telling you what the title is. They give you the nastiest action full <Indeterminable> vids – I don't understand why people think nasty as a descriptive is going to attract me to open them? Cheap ripped-off software, lots of things in foreign character sets - that don't translate anyway, some other characters, Russian, Korean, some phishing attempts from people to get me to do something on my [Apal??] account, personal enhancement products – nothing in there that umm, that I want to open, so I'm gonna delete the entire bundle – gone.

Hobby Use – nothing of urgency there – I can just sort of skim over those and – I probably won't ever bother reading them. I've got one email in my Drafts Folder that relates to this year's Honours programme, and I need to find out where we're at from

<Name> [SIM reception]. So I'm gonna have to move that – whoops sorry I think I've inadvertently pushed a button – you'd better check that we're still running.

[Participant picks up phone to call <Name> at the SIM reception office]
"Hello <Name>, <Name> here, just wondered if you had any luck in pursuing the umm, confirming the room booking for October 9 for the PHD – no not the PHD the Honours student presentations, umm, could you give me a call back in my office – thanks". Okay, umm, this is something that does need to go out, so I'll just spend a little time making sure that I've got it right. 'A revival of the practice of past years, this year's Honours Students are required to do a presentation on their INFO408 projects. Students and supervisors are requested to be present. Mini presentations... placed on Monday... Each student has a 15 minute slot with five minutes of questions to report on their progress... da, da, da, da... booking in Murphy 103... and insert signature... okay, so that's going out to all the Academics and the information systems group and all the students currently enrolled in it – send. Okay...

[Phone rings]
Good morning <Name>. Paul Atkinson? Yes he did, I was running late – 20 minutes. Commute became a 50 minute one for reasons I have no idea why. Anyway, yeah, yeah, okay where is it [inaudible] okay, 16. I suspect it's probably the Postgraduate Students Association... Anyhow, the room's big enough and got the... yeah... yeah, no, mmm, yeah well, if we've got it for the time required, that's the main thing... well, umm, well, certainly the students are expected to be there for the whole thing, and as many of their supervisors as possible and maybe one or two other academics. My experience of the academics is that they will be fairly slack – they'll only come if I twist their arm or if they've got direct personal interest... alright, mmm... I'm just gonna put you on speaker here because ah, if it's okay with you, I'm being part of a umm, of Paul's research, so he's only hearing half of the conversation – yes, carry on.
They need a projector and a laptop – so does that mean – it does doesn't it, that it needs a network connection – but do we need network connection and Internet?
I honestly don't know that – it depends what the students choose to present...
Okay...
So I think I probably would need and Internet connection - I'd be surprised if there's no network connection in the room, so we just need to ask umm, Teaching Support to set it up appropriately.
Okay...
Just leave the problem with them.
Okay... alright then...
They may have a wireless connection – who knows.
Oh, who can tell... - oh, I can look somewhere on the [***] tells you where all the wireless connections are...
Yeah, but I would tend to probably approach umm, Teaching Support.
Okay...
Yeah.
Okay, alright, I've should cancel the other – the Hunter Room...
Not until we've got this one, and we're agreed we can get the gear, so I'd get the...
Okay.
Yeah.
So Teaching Services... alrighty then...
Thanks <Name>.

No problem. Okay, bye.
Bye.

Okay, and while that happened, having sent out the earlier message, we got an instant response from somebody... an out of office reply. I have my email set up so that umm, I get the instant previews, so I don't have to decide whether to open them or not, I can already see what they say. There are some dangers to that, but I have a reasonably robust virus protection, and umm and Trojan spyware stuff so... so I'm not too nervous about it.

Okay, and at this stage I need to go into my calendar just to see who else I'm late for today. I have a bunch of Shepherding meetings – I'm not sure if we'd started shepherding with Honours students when you did your's – had we?
I had heard bout it – I think some people were – but I didn't really understand it...
Okay, basically, basically it's just that umm, the principle was that we needed each Honours Student to have somebody who was taking an interest in their progress, and umm, both their academic and personal well-being sort of stuff, so we tried it first with lots of different people doing different shepherding – you know you could be a shepherd for one or two students. That kind of is a mixed bag, so now I've kind of umm, as director have been doing it personally for each of the students – I get to see them each umm, each week they come by – they're not allowed to miss two in a row. Okay, so there's no umm, there's no big deal meetings there – other than lunch (laughs).

Alright, having dealt with outstanding things, I can get on with Academic stuff, although I have to confess at this stage I usually check what's going on in the world, by having a quick look on the web, umm... what I need to do is make sure that my web system is set up to so that the user is vuw case. Things were running slow at home last night so I disconnected the case. I tend to check two things each day just sort of to see what's happening in the world, first as I go to Newsmedia and I look at <Name>'s Aardvark (Aardvark.co.nz), umm, just to see what he's on about. He's an interesting guy – he's got some fascinating insights into what's happening in technology from a social and political point of view, and he has however getting increasingly shrill as he gets older. This morning his two main articles are, relate to the futility of court suppression orders in relation to the murder in Hern Bay, in what kind of guy would stand, and he's ranting on about the judge who has issued, you know suppressed – you mustn't discuss the murder on Internet sites, and umm, ah, he's pointing out how stupid that is and how unenforceable it is from a logical point of view. He says something here like 'the lawyer who claims that Internet users can be traced if they post material on the net, they are clearly a little out of touch with the ability of today's kids – anonymous proxies and a raft of other mechanisms can easily be used by half-savvy teens to anonymously post information on the net and avoid prosecution. And right now I can hear one lawyer saying – anonymous what?' Umm... so they're talking about the Bebo websites and all sorts of stuff, so, and stuff like that.

So, okay having got the notion of what <Name> is on about on that topic, I'll just have a quick look at the other one... it seems to be, oh, he's getting a bit racist here about umm, an item in this morning's newspaper about French fashion designers who are borrowing Maori Moku, and umm, yeah. He's saying it's a bit rich for Maori to

object to the French stealing their Moku, when you've got vast numbers of Maori youth wandering the streets of Otara having stolen the urban cultures of US rap – ah, gangster rap, and so on. So umm, yeah, okay, having seen what he's on about, and realising they're not of special interest today, I'll ignore that.

And the other thing I usually check is Newstalk ZB – it has a summary of what's happening in the news, and umm, and the reason I choose that one is the news sources, and it's cheap and cheerful – it's free actually, but it's the most frequently updated of the news sources as far as I can see, so whenever I do choose to check, I can see that umm – the Reserve Bank has decided to leave the official [????] rate unchanged which is probably a good thing – and there is nothing new, so I'll just have a look at the headlines and see if there's anything catching my eye – Glad to see Australia are beaten by Zimbabwe in the 20/20 cricket.

Okay, now I am going to get on with the business of the day, and looking at my recent documents, and I'm looking on some research related to a diploma programme I'm enrolled in, and so I'll probably spend the next wee while on looking at, or attempting to write what amounts to a substantial essay. I'm not sure how much information seeking will take place.
Okay, that's fine.
What would you like me to do? I'm not sure I've done anything that's useful to you yet this morning...

Interview

Do you keep email up all day while you're working?
Yes – I'm not sure if that's ideal for productivity purposes, but it's just the way I am. Mine's going all the time – yeah.

So you go backwards and forwards to emails that come in?
Yeah – once, if my attention strays, I'll just TAB across to Outlook and see if there's anything there. I usually have anything up to eight windows open at a time, so, and different applications running. ***Right, so you enjoy a multi-tasking environment?*** Yeah.

What is your formal training with information/communication technologies (ICTs)?
Oh, where would you like me to start? 1964... I worked at Ford. I've been in IT practice now since 1964, so you know I kind of spent longer than you've been alive working on IT, so I'm not sure what kind of training you had in mind to discuss this. I came up through the route of umm, of large mainframes and assemble language programming – RPG, umm, ah, PO1, SASS and a whole range of other languages through application systems development, management network management. I've sort of got an entire career behind me of umm deep and ah, intensive involvement with technology. I've been a net user, and I guess that's probably your question is going? I've been a user of personal computers, more or less since they first appeared – now we're going back to the original IBM PC, and even earlier than that – through the XT and umm, ...
[The AT?]
ATs and all the things that sort of went beyond those. So I've come through that whole thing, umm; early user of the net, umm, in fact I would lay claim to being ah

one of the earliest users of the Internet in classroom teaching – not the first. I mean the net was invented in 1993, and in 1995 we were using it in the classroom, umm, here for the MCOMMS programme and COMM502, and we had, ah, functionality that was intended to do the same sort of thing that Blackboard currently does – you know sort of learning resources and so on, on the net. We also we did web searches that were exploring the then, enormous to our minds, 6 ½ million documents that were available on the web [laughter]. Now we are sort of around hundreds of billions of documents – it's just sort of billowing out.

So, formal training was probably the question you asked, I mean I guess most of it's tended to be absorbed through the fingertips by being full-on, hands-on sort of from the earliest times I've had a PC of my own at home and a net connection. Probably the slowest net connection I've had would have been, oh – I can't remember what the original dial-ups were, I think they came in around 16 umm, 16 Kb/second or something like that.

Do you have particular days of the week where you prefer to engage in more information events?
It's basically 24/7 [laughter] – not quite that bad you know, but I always have a computer on at home and... mmm. I tend to have it on by about 6.30 in the morning. 7 o'clock sometimes, maybe if I'm running late. Anything I do after about 8 o'clock [pm] is more recreational than seriously purposeful because my brain sort of getting old and my brain starts to slow down a bit at 8 o'clock, so I go and watch a bit of TV instead – CSI and that sort of stuff in the evening, and ah, ...

Do you feel that there are days (or periods) of the year where your information use is particularly high?
Whenever I'm teaching a course – a class - in preparing for that. If you look up on the board there, they were the – there's a table there of the range of topics for MIMM 542 Sense-making, Structuration Theory, Adaptive Structuration Theory, and so on. And in each of those weeks I spent a lot of time, particularly on Proquest, ABI Proquest and the like, ah, looking for useful readings, yeah, looking for useful readings – now by useful readings, I mean ones that illustrate how those theories were applied in real life, which students can then take and umm, yeah.

So, during course prep, yes – extensively, more so than any other times. And if I'm engaged in research activities, which in theory of course, is supposed to be all the time

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
Not organisational rules per say, but umm technology limitations, low bandwidth, technological glitches that actually prevent searches from working, 'not found', 'this site cannot be displayed', 'are you connected to the internet?' and so on.

What are your most used information/communication technologies?
PC. **Do you have a PDA?** I have a umm, what do they call it? - the Apache, umm, as being part of the, you know, part of being the programme director – the school equips us with a thing which is combination cell phone/PDA. Frankly it does neither! **Oh.** It's a horrible device, umm, it's extremely expensive to use for any serious searching.

Even with you know full screen, it's still very small, it's still a very small amount of real estate – so I've never umm done any serious web searching on the Apache.

Are there technologies which you feel could make interaction with information easier and more efficient than what you currently use?

I think the biggest factor that would make it easier is umm, more wireless access, and high capacity wireless access points around the place. It's kind of frustrating to be somewhere and unable to connect easily. It's quite nice to go out to Wellington Airport for example and to be able to connect for free, umm, you know Auckland Airport you have to pay 10 bucks for a couple of hours worth of use. I was staying at my daughters place in Australia and she lives about a hundred meters down the road from Starbucks, umm, and ah it was neat I could – I was online all the time – it was great, thank you Mr Starbucks!

So this is probably the biggest constraint I have – I don't think it's in the field of appliances at all. You know I guess the quality of laptops and the quality of the operating systems and software – the Windows XP whatever, umm, they're kind of like hygiene factors – as long as they basically do what we expect them to - then they're not a problem. It's only when they're misbehaving that they become problematic, but for the most part they are invisible.

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be?

The Apache – not that it's not used efficiently – not an efficient tool. And I think the other thing I can say about the Apache is that it's a glass screen, and although it has a fold-out keyboard, umm, it's not like an ordinary cell phone where you can do it by touch. You've actually got to be looking at it, so you know you sort of run the risk of walking into lamp posts or driving off the road. So no. I guess the short answer to the question is probably no.

Do you ever feel frustrated by technology while interacting with information? [Internet examples/Apache relevant here]

I think the most frustrating aspect of all that technology is kind of the – the chain of ah technologies on which you depend on for the successful completion of whatever you're trying to do. Like at home, I first need the laptop to come up and behave itself and that's 90%-ish of the time that it does exactly what it is supposed to do. 10% of the time, which is quite a high percentage of failure – it's really frustrating. You know, it doesn't boot properly, or it doesn't do something else properly/doesn't connect properly. It's connected to a docking station – the docking station is connected to a bridge – the bridge id connected to the router – the router's connected to the ISP – and from the ISP we have a link into Victoria's VPN – and the VPN's connected to you know, sort of the various servers here at Vic, and then ah, you do a search and you have the possibility that the ISP's access to the outside world is misbehaving – and suddenly there's a micro-dropout, you know, because we're all dependent on Telecom – and suddenly you have a message that says 'VPN client not responding...' some other such technological babble, and umm, you know this whole chain of events – you have to try to figure out which link broke, and who do you complain to.

And while I was down in Queenstown about two weeks ago, I had great difficulty – my laptop suddenly lost its ability to communicate with the world. I was plugged directly into a broadband connection – AVSL broadband – worked fine for three days and then it just stopped! And it wasn't until I'd been back here for nearly a week that we actually found the solution – and the solution was that the umm, the VPN client software had become corrupted somehow, somewhere – and I just downloaded a new version and reinstalled it. But nobody knew – I'd been on the phone to the ITS help desk, to <Name> and to various other people; and everybody was suggesting 'try this'. When you're contacting ITS help desk 'is your computer plugged in' and you know [laughter] 'CTRL/ALT/Delete'! Yes, I'm trying not to have any expletors on your tape for you [laughter]

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
I think I'm strongly email-oriented, umm, I'm not a particularly social person, so you know, I sort of interact face-to-face with people if I know them or have a strong interest in them and/or their work, umm... The best thing about the net is that it doesn't argue back [laughter]. It's convenient, and most of the time it's faster when it's working, yeah. No really strong preference to be honest, I think I tend to use them all in more or less equal measure – as the situations requires – highly situational.

What methods are open to you to confirm the validity of information and/or sources?
Very early in the umm, use of the net, I came across <Name> – my colleague next door – <Name> works on how to assess and evaluate resources and I umm, took to heart the principles there of umm, there's a number of them sort of, and I recommend his website to anybody who's exploring those kinds of questions about sort of how for example you choose between a Wikipedia article and something somebody has sent you in an email or ABI Proquest and whatever, and the whole issue of umm. Things like what's the credibility of the publishing authority, has it been peer-reviewed, umm, does the thing 'ring true', who authenticates it, what backup can you find that repeats it. You know, you'd be very unwise to depend on a single source of information for anything that was truly crucial. You know you'd always check it from a range of 'what else backs this up', 'who else agrees with this', 'who disagrees with it' – 'Which one am I most likely to believe on balance'? And there's a nice word that's very similar to, you know it really is sort of I guess described as 'resonance' – the thing 'matches' – the answer is the one that matches what all the rest of your experience is telling you - this makes sense in the light of everything else I know.

I don't think I've ever had to depend on anything that has ever turned out to be a crock. The one time I have had cause for anxiety in recent times was umm, using Sense Making Theory, and I depended on a particular author and it was a peer-reviewed article. And then some time later I found another author – I thought 'oh, this all looks remarkably similar'; and I did a Google search on a few of the key phrases and they popped up in the first article I had looked at. The second article actually pre-dated the first, and when I looked at it, it seems to me that the author I found first had plagiarised large chunks directly from the other – it was almost half the article. I have tried to track down the original author to say "hey, are you aware that ..." but unfortunately I can't find him. You really don't expect this sort of thing to occur these days, and particularly from guys from reputable American Universities. I mean if it

was from some Third World University, I'd perhaps be less surprised – but from big-name universities – ooh.

Do you feel overall that your information behaviours are productive?
Why?

I guess I would answer that question cautiously... I am not an efficient worker. I have very low distraction thresholds, as it doesn't take for me to do the TAB/ALT thing or whatever – you know? So, umm, it's in my nature that umm, I really have to drive myself if I want to be truly productive. But yes the skills and techniques are there that empower me to be productive. The question is whether I have the discipline to apply them and in the right way to use them efficiently and productively. I'm not sure if I answered your question?

Do you feel they could be more productive?
Why?

Yes they could, but I think this relates more to content than technology. If you look at Proquest for example, I'm not sure how much you've used Proquest, but there's a huge number of umm, periods that they've gone through where they've used this technique or that technique for creating original copies – you know, PDF versions of their files. And sometimes they take a photocopy of the page – you can't search some, but can others. And you've got different modes of answering the title – whether it's capitalised or not, and so on, so forth.

Do you feel that the information events displayed today reflect an average amount on a typical day?
More so?
Less?

For this time of day – yes. I'm a slow starter. The day doesn't really become productive for me usually until umm, the first cup of coffee.

Do the information events today reflect largely the types of information you deal with on a regular basis?

They're not atypical, but they're not wholly representative either. I mean there are a whole range of other sorts of things. Doing battle with the university's bureaucracy in respect of my research and study leave yesterday. Wednesdays I stay at home and write – but in fact I spent almost half of yesterday engaged in a email battle between various players who are involved in approving research and study leave. And just the sheer aptitude of the technology that supports the university's administrative systems, where you know we can have this wisecrack to the effect that if we teach it well, we certainly can't do it. So if we teach management – yet we're crap at management; teach accounting – we can't do it; and you know, we teach IT – and wouldn't you know it, we have crap IT systems. So, yeah, I spend a hell of a lot of time doing battle with umm what I regard as a proportionate amount of compliance – bureaucratic compliance. There – just getting it off my chest – I'm not sure if it's helpful...

Were there any environmental factors influencing your information events today?

Rules are really a problem. I guess that when it comes to university's rules – I mean frankly the only rules that umm really are umm out there relate to obscene material and stuff like that, well it's not a problem for me because I'm just not interested, so

you know. I'm occasionally perturbed and to some extent that's why I get this SPAM pre-sorted the way I do, umm, I'm a reasonably straight up and down sort of guy, and I really do not like – particularly to do with that preview setting I have on my email – quite a lot of the current generation of SPAM tends to contain umm, images. And suddenly you'll get a photograph of somebody's private parts – woe! And you know it's not so much that I'm shocked and horrified by what I see, it's the fact that umm, my screen faces that way [to the doorway] and the person coming up behind me could form the wrong the wrong impressions [laughter], So, you know, that's an irritant. And so now I, almost all my SPAM goes into that pre-filtering – some of it still gets through, but the pre-filtering just says, 'well here's a list of the subject topics and the authors and the dates, and you know, sort of so I can pretty well guarantee that if I've got email from Brazil or Russia, or Korea – it's from nobody that I ever want to know or talk to – not because they're from Brazilian, Korean or Russian, but because the only people who ever send me stuff from there are either offering to enlarge my personal parts or offering to teach SPAM or drugs. So, you know... now what question am I answering? [***Environmental Factors***]

Yeah, umm, I guess the other thing is the general conservativeness of the IT group. We have a ah, an approximate three to four year turnover cycle for equipment, so by the time you end up ready for a new one, it's pretty well creaking. And also, umm, they're slow to assess whether or not we should be on a new release or something. And sometimes we're two releases behind in things like Endnote, or we're still on XP and I guess that's not unusual as a lot of organisations are still on XP because VISTA hasn't yet... [***proven itself***] yeah. But nevertheless, they do adopt a very conservative stance.

Were the technologies which were utilised by you today typical of the information events you deal with on an average day?
[Not asked] – answer yes – laptop.

Can you give some examples of the technologies you use fairly often but did not feel the need to use today?
[Long pause] ***For instance, do you use your cell phone much or a PDA?***
My cell phone and PDA is the same device. ***Do you use them very often?*** Not often. I kind of regard the cell phone as something that people call me on rather than the other way round. Although occasionally it's been handy – my Mother's been in hospital in Wanganui at the moment so I've occasionally needed to <Indeterminable> into things like that. I don't use SMS very much. A digital camera – I'm an enthusiastic photographer, so I have it with me wherever I go – it's sitting there in the green bag – umm, haven't used that today. No not really apart from that. ***So mostly the PC and laptop?*** Yeah. And point of fact of some research that <Name> and I are currently engaged in, you know, we look at ah, technology-enabled workers, and frankly almost exclusively, the dominant technologies of the day are the cell phone and the laptop. Mobility. There are greater and better and brighter things, umm, devices like the umm, recorder [***pointing to the audio recorder used for the interview***] - I mean a very limited functionality – you can use them for storing MP3s, and the like I suppose, but umm... it's like a storage device – and it's great. My one's got a one gig memory so it's good for a phenomenal of *** storage.

Can you give examples of technologies you may have used in the past but prefer not to now?

If so, why do you choose not to use them?

How did the technologies make you feel?

I've been involved in video conferencing a bit– haven't had occasion to use it much. Also I have Skype on my PC but I don't use it much. For some reason it's just easier to pick up the phone to talk to the kids – you know. Skype hasn't been as clear or as convenient.

Are there any times of the year that you choose not to interact with ICTs?

(Do you have any time off during the year?)

Why is this so?

[***Are there any times you deliberately get away from your PC?***] [laughter] [***Probably the wrong person to ask***] - Absolutely. Only those times where my arm is right up the middle of my back and my wife's pulling it! [Laughter] [***Very seldom?***] Very seldom.

Do you engage in information events often outside of work hours and outside of the workplace?

Yes I do that often. For a start I'm – if you were to Google almost any New Zealand topic, my name pops up. And the reason for that is since 1994 I've been putting out a weekly newsletter which summarises what happens in New Zealand; it's a summary of the news and sort of a bit of creative writing attached to it, and ah, I've been pretty much doing it for 13 years. So you know I've got something like 1800 subscribers, and umm, also I have been involved in setting up websites for my church, for my hobby club and some other little websites.

Are these information events similar to those which took place today?

- **How?**

[Not asked – see question above – some quite different]

What ICTs do you prefer to use outside of the workplace?

[Not asked – see interview questions – PC & laptop]

How much time would you spend on information events on average in an evening?

That's actually quite hard to answer because it's the very basis of the research that David Pauleen and I are working on, that the boundaries between what's work and what's not work are becoming blurred, precisely because of the influence of the adoption of these technologies. I tend to leave here by three o'clock most days, I go home and plug in again, and then I'm working. And I stop for dinner, and I'm still working in the evening until about eight or nine – it depends what time CSI comes on [***8.30 I think...***] yeah – and in the weekends I tend not to separate work and home as much as I should – so coming back to the question, it's a lot.

[Recorder turned off (57.21)]

Observation 4

Participant Four – 13th September 2007. 8.20am – 9.50am
35.01 minutes total recording time

As I said, I have opened up my Mailbox. I got this message from <Name> - I don't know who the hell he is, but it comes from IS World, so I can trust its source, and then it looks at a journal I'm familiar with, so therefore this is a trusted source, it means that ah, umm, it umm <Indeterminable> if you like, so what I usually do is have a quick look – oh yes this could be quite interesting, so I usually put it into my 'to reply' box.

This one – I've got no idea who the hell <Name> is, however it comes from the university (VUW) so it's a trusted source, and it looks at an exhibition in that I'm not really interested, so... Delete.

Ah, this guy <Name> – I know him, and have been communicating with him, and I sent him two of my papers – he's replying now to say thank you very much <Name>, I've registered your interest – that's good. What I then do is store it in the project I'm involved with him – so I'll put that there.

Now I've got no more messages – now I go to reply, to see if there are any I should be responding to – no nothing, so I go to Calendar – I look at the seven-day a week folder, and then look at after your interview **[currently engaged in]** and I've got nothing – Lunchtime – so ah, I go to my browser – I often logon to my bank account just to check, umm, that today's payday – just to check that it's gone in, which I went into earlier, and it has gone in, and so what I can do is I can go through a process of transferring some bits to different accounts I have. And then firstly I go to sports and then to weather. So I look at the weather and find that it's going to be showers tomorrow which I'm happy about – because we haven't had much rain this week – but then again I don't trust it! The forecasts aren't that terribly reliable, still it's good to know that it's at least no going to be that hot.

Move back to the main page, and then found that Australia beaten by Zimbabwe in the 20/20 World Cup. And think, oh, that's an interesting thing, and in this particular sports page at the lower left of the page they have the Rugby World Cup and Cricket and Football – which is my umm... I have been going to TV3, but trouble is TV3 compared to this page is very busy – it's sort of not as easy to peruse – so what I usually do is go straight to sports – it does look very cluttered – however, what TV3 does give is it's very good umm, video of the games, so I'll go umm, I'll just logon to – **[video of football game starts]** it's a game between Fiji against Japan. It gives you a feeling of what's happened – I never watch the games – but just gives a flavour of what happened.

The other thing which I love is a portal which I have been setting up called Pacific Village, and it's a professional network – online network, and it's linking the public servants around the pacific, and what I do is because I've sort of designed this web page, I keep an eye out for how often people are communicating with one another. Like for example I've got a new user, he's from the Solomon Islands – Maxwell Bandal – I don't know him, but obviously is interested in this. And then, this is

another group, umm, and that was a post just been given out – and then I read the message and then this is sent from this person to this person – I say alright, that's an activity.

Umm, what else do I do? Ah, yeah, sometimes I logon to Skype, and I see Jocelyn's on – she's my PHD student, she and I don't talk much at this stage – she's busy. Last night I logged on and talked to my nephew based in Malaysia and a niece based in the States, so we have a chat among the three of us yesterday. So basically more like family – an information event in the sense that we just catching up.

And now I have another two called X1. X1 is basically an Archiver tool. Like this morning I was trying to find a document by an author called <Name> – a lot of my messages they get indexed into my hard drive, and lots of stuff is here – it allows me to search. This is from <Name> – even his Poststamp – 18th May last year is still there. Because I was looking for a message from him, which gives me the new email of a discussion group I belong to, and so I archive it.

So that's really sort of the – oh, of course the other one when I'm teaching is Blackboard, which I don't use now because I'm not teaching. Usually I start with my portal [myVUW portal] ... only just use it quite sparingly – but they are launching this now and hoping that people use it big time for both students and staff, and I've just been in it... what I've done now, this is quite good - it allows me for example, when I'm overseas to then access my staff emails immediately – like what you do and staff, and it gives me immediate access to Blackboard. Which means I don't have to go through the ... so I think I would use this – especially when I'm overseas. With this one you just go in there [VUW website] and type myVUW, and it comes here... like I've got a – use the account which I have logged in as it is umm, because umm, ... username – what it does it gives umm, I just ordered a book from amazon.com, it comes through and then – what I do then is to reconcile this by going to my research account and this will automatically come off my research account. So I got to here quite often. Ah, what else am I going to...

Oh, yeah, I go to my HR Kiosk account – what it does is it gives me access to my leave, my pay, and all those things – so I use this often. So really when I'm overseas, I'll go to my.victoria, because I prefer to use Upload [?] on my mail.

So ah, every week – what I didn't do is I arrange my conform, and delete those which I don't want, so empty my box at the end of each week so I won't get cluttered. I sort them out into files and archive it – and what happens now is I'm able to open my mailbox on the train and respond to email, which when I logon when I get home or when I get here – those which have been deleted will get put in the delete folder, those which I send will be sens***r on, and so on, so the train journey is not a waste of time, it allows me to do that.

Interview

What is your formal training with information/communication technologies (ICTs)?
Well, it started umm, during my Masters in Science, because during that time when I was doing my Masters in Mathematics we have a paper called Computing, and that was the stage when we used those mainframes as well as those punch-cards. So those were the days when I got introduced to computing. It's all very centralised. You punched a card. I wrote most of the programming in FORTRAN IV, and then you had to wait about three or four days before you'd get the outcomes, from which you deduct things, and then you have to punch some of the cards again and send it back, and then it goes into the mainframe, and another four days, before the next set of results come back. So it was quite a tedious exercise. It was a long time ago.

Since then I've used ICTs in different ways. I also had the privilege of spending one year at <Indeterminable> York in England, and did a postgraduate degree in Educational Broadcasting, and I had the chance to play round with some e-learning type tools. And then I came back here. Since then the use of computers has always been a main tool for what I do.

Do you have particular days of the week where you prefer to engage in more information events?
No. I log in every day. Some days like the weekends, I just logon, look at what I've got, and then not look at it again until maybe lunch time, again in the evening before I turn it off in the weekends. But for weekdays, it's on first thing in the morning when I check the mail and I also check some of the news bulletins, and then umm, really have it on when I reach a place where I can have access. I live up the coast, so when I'm travelling I have no access as such. But I have been experimenting using GPRS telephone network – to logon even while I was on the train. So it's continuously used each day. Some of which are in gathering information, but others are just writing up – course work or writing up various papers for journals and so on.

I think I have to be smarter in how I use information. At the moment I have my mailbox – Outlook on all the time – that means when any message comes through, I see it at the bottom left-hand – no right-hand corner – the type of message and who it is from. I need to get in the habit of turning it off and back on at different times of the day so that I have more concentrated periods.

Do you feel that there are days (or periods) of the year where your information use is particularly high?
Well it certainly would be high when I'm teaching, because most of the classes I teach – third levels or Honours or Masters – during the trimester I teach, there are a lot more messages from students, and I also got, ah, various projects. And when those projects are alive, they are also very busy in terms of me responding to requests and so on.

So there's no particular day or periods of the year – it centres around whether I'm teaching or my projects are active.

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
Not really. Ah, you operate at the university and you're in an environment where you have a lot of flexibility. In our business – especially in our school (SIM) we have to 'walk the talk'; no I don't think there are any rules where I feel confined.

What are your most used information/communication technologies?
The most used umm, device is my laptop. I do not use my mobile phone a lot, even though I've got a mobile phone – my mobile phone is also a PDA, so it's sort of umm, I use that once in a while to check my appointments, but otherwise it's all laptop.

Are there technologies which you feel could make interaction with information easier and more efficient than what you currently use?
Well, I can see not too long in the future that I'll be able to have hand-held devices that will enable me to access a lot of information I need. The only two limitations are the size of the screen to read the text and then the size of the keyboard to type in the text - and so limitations of reading and limitations of speed of typing. So when the time comes where those two limitations are becoming less-so, then I can see sort of hand-held devices will replace laptop

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be?
Oh, no – I use all those which I think will do the work for me. Like I just attended a workshop on Video Conferencing the other day, and I have ideas of how they could be used within a research project I am doing. So, it's really looking at the properties of each technology for its purpose – or the way it's designed for. No point using Video Conferencing if it is merely talking heads – you might as well use Audio Conferencing. So I use most of what I need to do; for example I use Chatterbox or Skype when I need to have some conversation with others, otherwise I just use email or foreign [?] tools for Asian *****.

Do you ever feel frustrated by technology while interacting with information?
No, not really. I understand the limitations. You know people have unrealistic expectations of what technology can do, but being a teacher and researcher in this area; you understand the limitations and work with the limitations.

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
What sources of information do you prefer? ICT/non-ICT
As I said before, you have to use different mediums according to the attributes they were designed for. I tend to take what the literature calls the 'Blender Approach' – you use the medium according to its strength. For example, if I wanted to introduce a topic or have a project planning at the very beginning, I usually like to meet face-to-face; and then if I want to have a Brain Storm exercise, I could use email and ask people to do something good – and then we can discuss it by having Skype or Chatterbox. You use the media according to its strength and purpose. So it is called the appropriate use of technology.

What sources of information do you prefer (ICT/non-ICT)?

Well, again the same answer. There's no preference – well it depends... if someone were to send a document – I would prefer they send it to me before they discuss it – because it's more difficult to seek clarification by text, than say by voice. So that'a a whole new theory in this area you might be interested in – it's called the Theory of Media Synchronicity – which looks at the selection of media according to the purpose of the communication. According to this theory, there are two main communication processes purpose. One is to communicate to gather information, is called Conveyancing – the other is to come to some sort of agreement – convergence. So you use different technology for conveyancing and different technology for convergence. So, it's really again the notion of the proper use of technology according to what you want to use it for.

What methods are open to you to confirm the validity of information and/or sources?
Well, if you look at it form the SPAM point of view, there might be a name I don't recognise; and the heading they chose – I don't go through any validation – I just delete the stuff. If I get a message form someone I know, but the topic seems strange; I then open it and just have a look. You know like for example, some of my friends *** stuff that I'm really not interested; then I just delete. But if it's sent by someone I know and the topic is something I'm interested in, then I know it's a message I should pay attention to, and I open it, and any attachments that come with it – I also open it – I then know it's a safe source. You see that's my decision tree.

Do you feel overall that your information behaviours are productive?
Why?
No – I don't think so. I think it's productive – but could be more productive. Like one of the things you tend to hear about is not to open my mailbox all the time – just at different times of the day. So I can concentrate on other things I'm doing...

Do the information events today reflect largely the types of information you deal with on a regular basis?
Yes, yes – everyday.

Can you give examples of technologies you may have used in the past but prefer not to now?
If so, why do you choose not to use them?
How did the technologies make you feel?
Video – I mean I can umm, other digital camera has a sort of a – really it's a sort of a toy, it costs a lot of money to have a toy – and so there's not many occasions where we use video. The one I use quite a bit now is the DVD recorder at home – it is very good because it does some very good recording – and what it does is it allows you to record onto a DVD umm, disk, and which I can then view or store accordingly, but it's for private viewing so, you know, not infringing on copyright. And then I delete it and then record the next one.

Are there any environmental factors influencing your choice of technologies?
[Not asked – see earlier question on environmental factors]

Are there any times of the year that you choose not to interact with ICTs?
(Do you have any time off during the year?)
Why is this so?

No – no, no. Even when I'm on annual leave I check my email everyday. I do send an out of office message so that people won't have the expectation that I will reply – so I choose to reply. Only to those which I think demand my attention.

Do you engage in information events often outside of work hours and outside of the workplace?

Oh yes. I will come home – at least 40% of the time. To me home or office makes no difference, because I've got Virtual Private Network which means what I have here is at home – so location is not an issue. Even when I'm away on trips I can access the VPN – so sort of, location is no longer an issue.

Are these information events similar to those which took place today?

- **How?**

Yes – precisely! It's like my office – like home and office – no difference - or when I'm travelling on conferences - of course you have extra factors to consider – costs. If you go to an Internet Café to open mail – then of course have to be more efficient – be more decisive of whether you want to reply now to some and not to others. Sometimes in a hotel you get wireless broadband – which are available in a lot of hotels now, and then you logon to the VPN – that becomes your office again.

What ICTs do you prefer to use outside of the workplace?

Yes. I mean, yeah – laptop and telephone, and umm, the PDA, the mobile phone. At home it's the same; overseas mainly laptop – don't make many phone calls because of the expense – but these days I use Voice over IP to make phone calls. I also use, for example, first thing I do is login in the morning at my homepage and grab a seat site from Air New Zealand. I usually get up early and you can usually get some pretty good bargains. The next event is to look at TVNZ okay. I repeat similar behaviours no matter where I go. Whereas when I'm overseas, I obviously don't want to grab a seat. I also go to TVNZ site because I don't get the news on television – only get local news. I can discover an event is Slovenia, in Vienna, umm, and the hotel I was staying in – for some reason the television network was down, whereas the wireless broadband was on; so I logon into the Breeze **[Wellington radio station]** to listen to all of the local news. Nowadays the Dominion Post is available online making it much easier for us to catch up with the news

Observation 5

Participant Five – 19th September 2007. 3.30pm – 5.20pm
84 minutes total recording time – Observation & Interview

Okay, so it's about 3.40 – so this is the time of day that I normally do work through my email, so I'll open up my email. By and large I will usually have my email programme open, and occasionally monitor it – but I won't – I try to avoid looking at email unless the subject line clearly indicates that it is something that has to be dealt with right away and can't wait until the time I usually do my emails, which generally is late afternoon. If I'm trying to do something and concentrate on something I will close down the email programme and not have it open so if I'm working on preparing a lesson or writing a paper or something, it's quite likely that I will get distracted with my email programme being open.

And so, generally when I look at my email, I do a quick scan for SPAM which slipped past the SPAM filter, and I'll know – I can't actually see any here at the moment, but when there is, I'll put that straight into the 'missed SPAM' folder. But otherwise what I will be doing is sorting by Subject Order. There are a couple of messages here that have been opened, ah, I tend to resist this – I feel that – I'm going to open a message I feel I should deal with it, umm, not have it sitting in the inbox partly opened. In this particular case, one's a message from my son about getting his flight from Vancouver on the way home and I sort of left that sitting there. I probably will forward it to his sister. And another one is a message from a US university about an Exchange Student, which I opened and realised I knew little about, so I just left it there for a bit.

Okay, so what I'm going to do now is - normally when I look at email it's in date order, but I'm looking at my bulk email, I order it into Subject order; the idea being then that messages that are connected will be grouped together, and with a bit of luck if there's a number of message on the same topic, I'll end up reading the most recent message, so that with a bit of luck I'll only need to read the most recent message of the group, and not read all of them. In fact with the bulk of the messages there are email discussion group messages. I do actually do try to put discussion group messages into a separate folder – I do a FORTRAN system for that, but in this particular case, the email discussion groups are ones that I'm a list-owner for, so I feel they should come through to me. So that's the reason they're turning up there rather than in the folder. In fact quite a portion of the bulk of my emails actually are messages on the NZLIB's group; which I'm list-owner for and which I delete fairly quickly. But I do feel obliged to keep an eye on them.

The other application that I have open on the desktop which I use is the palm, desktop palm PDA. So that has my, my to-do list for the day. So by and large everything I'm working on is a task in the to-do list. And, ah, I'll copy stuff from my email messages into the appropriate task – I tend to use that as my day-to-day filing system. I also copy into the calendar stuff like information about meetings and so forth. I don't use Outlook for things like tasks and calendar, primarily because I have had problems, I use a palm PDA and my two or three attempts to make Outlook synchronise properly with my palm have failed – in theory it's supposed to work, but every time I try you get it trashes some data so I decided to keep them as separate applications.

So, I've got them in Subject order, so basically what I do is open up the message and quickly scan and delete. In fact probably quite a lot of them will be deleted. The first two messages are notices of meeting seminars in the faculty that I really don't have an interest in economics, umm, the second one was vaguely of interest – it was a conference in an area that I am interested in Mexico, but, yeah, I'm not going to get a chance to go there so, ah, I've deleted it pretty quickly because I'm not going to be able to go there. Should I need to retrieve it, I probably could do it.

This one again is an offer, a new email discussion group about virtual <Indeterminable> about using a new face book ah, chemical information, which is – if I had more time I might well spend some time following this up and reading it, but at the moment I've got enough on my plate without reading that extra stuff, so... This is an email from an email discussion board – a project people are working on – it's a trendy topic but I'm not going to read anymore about that.

Now I'm working my way through the NZ Library's list. Now quite a bit of this is – I've just deleted a vacancy message which I like to see – I like to know what jobs are coming up in the area, but ah, I don't spend a lot of time dwelling on them. This is what's called a disposal list – it's where the library has got spare old publications that they want to get rid of, and offer them to other libraries, and I delete those pretty quickly. This is another NZLIB message which is part of an ongoing discussion about umm, pay and gender in libraries which is a female driven kind of occupation – so that's a notice of a meeting of that. This is how I find out about meetings that are going on in the library year-out. Probably won't bother following this one up – it was something I was going to go to – I'll probably copy and paste the details into my palm calendar so I can have it there – in this case I don't think that I will, I'll delete it.

I'm being quite ready to delete messages from NZLIB, because the messages are archived, and should I want to get the messages back again for any reason, I can go into the archive and so I don't bother to keep discussion board messages. And this is one about Blogging in Libraries, and is giving notice of page which has been set up. This is something I'm interested in, so I'll follow the link and have a look – a quick look at the Wiki page. This has been set up for logging and libraries. There's not a lot of stuff at that page yet – it's just good to know that that's there. And here's another NZLIB's message, which is just a notice about the Archives New Zealand office, and information about the, about subject indexing, National Library which is something I need to be aware of but I probably won't do anything with at this stage – it's just more current awareness.

This is about libraries using podcasts – yeah, interesting but I'm not gonna follow it up. Another vacancy message, and another vacancy message... yes now actually I'm getting, yeah no, I'm getting some repeat, I'm now in another discussion group, actually because I've sorted them by subject... I'm getting the messages coming through again in the sequence for the different discussion group... Yes, a conference notification, which I'm not particularly interested in, so I'll delete that; ah, notification of an extension course based in the United States – I'd better have a look at that, and ah, yeah, this message from my son to say that he's arriving – so I might just pop that – when I do file messages, most messages I will file in a folder called 'Save short term' – I work on the basis that if I think I might need to look at it some time in the next two – three months, it goes into 'save short term'. If I think it's possible I will

need to refer to it after that period, then I'll put it into a subject-specific folder. So basically it's only, the only things that I put into – I do have subject-specific folders, for example, one for each course, one for demonstration, one for research; but generally speaking I'll only put messages into those if it is something that I'm not needed to be looking at just up to a year's time. In most cases – my main way of saving messages is actually to reply to them, and ah, just keep sent messages so that if I'm looking for information about that interaction I go to the ... especially the one looking for sent messages and with a bit of luck will have the last reply I did and a copy of the correspondence message. If it's something that I'm not replying to for various reasons I put it into the save 'short-term folder'. I used to put stuff into various subject folders, but now most messages go into the bulk folder and I rely on Outlook's ability to search text to define messages if I need them.

Do you want to ask questions? Or are you just happy for me to just ramble on? **[Sure, you can just carry on]**

Yes, the next message is actually advertising ah, Northland Kayak shop – it's interesting but, I can't afford to buy any kayak toys at the moment. Ah, and what's this? It's from <Name>, it's about ah, Canadian Post-Doctorate Scholarships. So since I'm not applying for supervising I'm not going to go for a Canadian Post-Doctorate so I'll just get rid of that. This is a reminder that I'm registered for a seminar on Friday. So that's good – I've got that information tucked away in my pile – so there's no point in keeping that.

Now that's an email from one of my students - they are working on a group project, and they're actually giving me some information about what they are actually going to be – yeah what the subject is. So this is something I should probably take some action on – what I'm going to do is add to the information about this particular group in Blackboard, the information of what they are actually doing. So I'm going into Blackboard now... and going into Manage Groups... I'm modifying the name of the group to reflect the topic that they've decided to work on. So they say they are going to do New Migrant Information. So I'm copying that text on New Migrant Information and I'm putting that into the name of the group, which will help to remind me what it is they are working on... and as well as changing the name of the group, of course I'll be going into the area where the group project is in fact working on a Wiki. So I'm going to be going into the area where their Wiki is and adding that information as well. So I'm just going into the Wiki area on Blackboard for them and adding that – the extra little bit of information... and I'll file that – messages saved short-term as the project will be due in about a month – I won't need to refer to that message again. Actually I should have replied to that message – in fact I might do that – I've been thinking too much about my filing... I'm just replying to the student... so in fact I'll actually delete that message now because there'll be a copy of it in the Sent Messages folder.

This is, yeah, advertising, as opposed to SPAM, it relates to one of the programmes that I looked at at some stage for my Palm (PDA), so I guess I can't really call it SPAM. But I can't afford to buy upgrades of the software anyway.
Umm, now this is a slightly tricky one... this is from yeah, in our Distance Teaching, we've got some students who are studying from the United States under a consortium arrangement, where they're enrolled at their home university in this case Syracuse

University, but doing our courses, and this is an email from the Syracuse University Administration which has the rather bizarre subject line – incomplete letter to instructor. Umm, I'll just go back because normally if I send a letter to someone, I'll complete the letter – I don't send incomplete letters. But it turns out that because our teaching terms are different from North American ones, they have to make special arrangements to the fact that these American students are doing in effect their course is going on longer than the corresponding course they would do at Syracuse. So they reach a point in the term where they are supposed to be entering grades, and of course they don't get grades from us. So they have to have an extension, which they refer to as an incomplete. So this is a note – I think all it actually says is that I have to give them a grade by the 15th of October, and I will be able to do that. I think I'm just going to file this – but because of the administration issues involved in this, I think I will file it in the folder for that course, just in case in six months or a year there is an issue about this, so that's where it will go. Okay.

This is a message from the administration about an Inaugural lecture from Mana <Indeterminable> research, I think I'll give that a pass… This is an email discussion group list about open access publishing, <Indeterminable> deleted. Ah, now this is interesting, this is actually… this is in fact a message requiring approval of a list that I'm a co-manager of – in fact the message is SPAM, so I'm going to delete that.

Umm… now this is interesting… ah, now this is interesting, yeah, this is IT, yeah, I had run it a little bit. I have some messages here – yeah administrative messages related to the lists that I manage normally go into a folder, and interestingly, there seems to have been a change in the way the <Indeterminable> software is managed at Victoria, so that the email address has changed, and consequently the filter isn't picking them up. And in fact this is an email from someone who err, is wondering whether this is a permanent change or not. And to be quite frank I've only just noticed it – so I'm a bit mystified. So I'll just have a look to see – yeah, now I'm looking at the deleted messages where I had put the messages from this list. Now I'll just have a look to see what the – yeah, they're quite right, they used to be from nzlib-libs@lists.vuw.ac.nz, and it's now become vuwunicosntp004, which is interesting. I might see if there is anyone at ITS helpdesk that knows about that… I'm dialling 5050… *"Hi it's* <Name> *from School of Information Management. I manage a couple of the umm, mailing lists, and I've just noticed that the address that messages come from has changed – and now of course that's got implications for people who are filtering messages from the list. So I'm trying to find out if that's a permanent change or a temporary glitch… Usually they come from nz-lib is the main one so they are addressed to nzlib-libs@lists.vuw.ac.nz, and they appear to come from nz-libs-bouncers@list.vuw.ac.nz. And what seems to have happened is that the lists element of the name has been replaced by vuwunicosntp004 – it's a bit of a mouthful… mmm… yeah, sure, so better to you than – I can never remember whether it's ITS help or ITS service…* <Name> – <Name spelled out>.<Name>*, okay, well I'll send you an email, yeah great, bye.* As you probably picked up from the recording there, I phoned ITS – they're not sure and have asked me to send an email – it's probably a sensible thing to do. But I thought it was worth phoning them just in case I pick up someone who can give me a quick response. So what I might actually do is… I might forward to them the message that originally brought it up. I'm just sending <Name> at the helpdesk just a summary of what I talked to him about on the phone… Okay, so I'll send that off, and I'll send a reply to <Name> who originally sent the message raising

the issue, so I'll send a reply to her, and say I'm following it up... I'm sending a message saying I've only just noticed it myself, I've asked some support people about it, and ah, again because I've replied to that message I'll just delete it.

The next one is in fact a newsletter the ELCOM club – which I'll have a quick look at – I mix ah, I only have one email message I've really only attended to that, the reason my university email for personal use, so ah, I do get personal messages in my email, and it's just as convenient to all of them now. I'm just doing a quick scan through the Alpine club newsletters to see if there's anything that I really want to look at. I'm very much an armchair climber now, so reading it doesn't take very long. Because it is usually available on the Alpine club website, I usually don't bother to keep the newsletter.

And this is a message about training in web-based design from the States, which as much as I would like to do, I don't have time to do this, so I'm going to delete that.

Now, this is... this is very intriguing... ... I'm trying to figure out whether this is... I think this is SPAM... 'Cause it's ah, this is very clever SPAM... it is actually using the name of someone that I know... umm, ... very clever, it's a message from... supposedly from a librarian at a Thai Library Lecturer, the name of the Thai Library Lecturer claims to be stranded in Nigeria, and having to pay a hotel bill of $1500, and wanting money transferred to them through Underground Western Union. Now, ah, [voice louder with disbelief] on the face of it, I'd be absolutely inclined to panic, in fact that's her up there [points to a large photo on the wall showing the participant shaking an Asian woman's hand – with laughter and disbelief]... umm, the thing that makes me suspicious is obviously the Nigerian connection, and also the language doesn't sound right for her – it sounds like what a Nigerian would sound like.. umm, it's also the email address that's given - I just went into my Palm and checked it – it's not the last email address that I had from her... umm, which makes me a little suspicious. I know there has been a library conference in South Africa, and I'm wondering whether someone has been picking up the names of addresses, ah names at the conference and sending out messages, but I... it's really quite intriguing. This is extremely clever... ... ... I'm actually going to forward it to <Name>, and just sort of see... ... ... I doubt... I think there would be ah, an agency she could go to rather than me if she was stuck and didn't money... ... ... I'm just sending it to Gary in case he knows anything about it... the one thing I'm not doing is replying to the message... so I've put this into the 'Save Short-Term'. <Name>'s came back to me and said oh she was heading off to Nigeria, ah... actually the other thing I tend to use for verification – that's one thing I had thought of – the message actually talks about going to there for a programme... quite frankly, yes, you see it starts by saying "*I'm sorry I didn't inform you about my travelling to a programme called Empowering Youth to Fight Racism*". Now that doesn't quite ring true; a, because although I know her, she's not necessarily going to tell me about her travel plans – it's unlikely she would tell me. The other thing is that I do if she went to Africa, at the moment the main thing would be for the <Indeterminable> conference, and she would be more likely to mention that, rather than the other programme. But one thing I did think would be worth doing actually just doing a Google search on the name of the programme that she mentions to see if there actually is such a programme... ... ... [Laughter] Now, this is interesting, yeah, yeah, this is actually good! That was worth doing, because in fact what it has pulled up is the exact text of the email, so I presume

it is a standard SPAM email from African Women Blogs – so yeah, the exact same email, except for in this case it's from a woman called <Name>. I'm just trying to... unfortunate, yeah... this is actually a SPAM, yeah. I think this is a case where SPAM – another version of the SPAM message has been posted to the Blog... which is slightly bizarre – at least that reassures me that it is definitely a SPAM message... hmm, very interesting. I should actually tell <Name> that in case he's worried. [Types <Name> a second message to confirm non-validity of email] They would have had to have got both her name and someone else figured out that I was likely to have got email from her, which given that I wasn't at the African conference... was actually quite clever... so that was interesting as a little diversion.

Umm, yeah, and this is umm... offering to off-set my carbon emissions. Oh well, I'll have a think about that next time I fly on Qantas. Actually I am deleting that. Because of this change in the email list address, I'm actually starting – it was puzzling me – I'm getting a number of administrative messages; that would normally have gone into my Administration folder. So that's ah... I'm deleting those at the moment.

And now this is a message from someone who's trying to subscribe to the list, and they reckon they're not getting a confirmation email [nzlib]. Yeah, so, normally there's a list they go to and they reckon they're not getting a confirmation message... I suspect there are... I might have to manually subscribe that... so I'm going into the web-based administrative interface email list... I'm just checking to see if she's already subscribed, it doesn't seem to be... so I'll, yeah I'll put that in and check that... ... yep, it seems to have subscribed her okay, so I'll tell her that. [long break – typing message] I've sent her a message there.

A message from Database Supplier, only about legal databases – I'll delete that. Oh, here's umm, a confirmation from the helpdesk; that ah, yeah about the issue relating to the email list address, so... in fact they've got this new system where I can have a look at the ITS portal to see progress – maybe I should try that out – I haven't actually looked at this before, but in theory I'm supposed to be able to go into the customer portal... Oh, this is nice, yes, so this actually gives me a record of – it seems to pick up who I am and it gives me a record of my calls. That's quite handy to know about. So, I'll file – again I'm not probably going to be interested in this in more than a couple of months, so I'll just put that in save short term. And that seems to have actually – yeah now – that's got to the end of my subject, ah, my inbox, though of course there's been a whole bunch of other messages coming while we were working through that, including a response from Amanda, whose thanking me.

There's sort of a dilemma as to whether you do another iteration through again, or whether you ignore them and wait till tomorrow... I might just leave it, but there's one message there – in fact there's two messages that were late - to a seminar that I'm going to on Friday, so I will have a quick look at those in case they've got applications... they've sent me the programme for the seminar... they send you the hardcopy through the internal mail, so I might just wipe that out... so I'll put that in the short-term folder, and I'll return my inbox to being in date-order.
Now, normally I have a number of folders for things to get automatically filtered into. There isn't a lot there at the moment – partly because of this little hiccup over mail address lists. Lets see, I do have a folder of broadcast messages that have messages

from organisations that I belong to, which has one from Forest and Greed on a nursery working bee, which I'm not going to go into, so I'll delete that without looking at it.

The other little job that I will do – when I'm checking email from home and I find SPAM messages, I don't have access to the missed SPAM folder, so I have a sort of SPAM folder that I put things into, and then when I'm at work I'll put them into ITS' missed SPAM folder, so that hopefully those messages will get fed into the algorithms that will detect future SPAM messages.

So, that's it with my email, which was done quickly, which is quite nice. The other thing that I do at this time of the day is that the Blackboard course that I'm teaching has got a discussion board, and usually as well as doing the email – I usually check the discussion board as well as the email to see if there are any postings to reply to... and in this particular case, it looks like students have been too busy to post anything, so there's nothing to look at... so that's dealt with email...

And that's actually probably, as the other thing that I do at this time of the day is just have a quick check through the 'half-see' if there's anything else that I should have done today that is going to create a problem if I don't get round to doing – this is the desk-top programme for the Palm – some people have their tasks and calendar and everything in Outlook, now that is a very good idea, except that I've run into problems when I've tried – in theory you can synchronise Outlook with the Palm, in practise I always seem to have problems. I think it's partly because I synchronise my Palm both on my home PC and on this PC ***[oh, so you don't take that PC (laptop) home with you?]*** I don't take that I have another at home, no, no. So it seems to create issues if I try and synchronise in both places. Since my calendar is not in Outlook, people don't know when I'm available for meetings.

So I've probably gotten through this faster than I otherwise would, it's probably about time to go home...

Interview

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
The university supports Microsoft software, so we use what the university supplies, not that I'd prefer the alternative.

What are your most used information/communication technologies?
PC, Palm/cell, cell for taking where Palm might get damaged – kayaking.

Do you ever feel frustrated by technology while interacting with information?
Lap-top/palm synchronisation

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
Being a librarian, I like to read books – not that I prefer to read it, it's just that if you're going to read a lot of text, I'm one of those... I try to avoid too much printing out, for example I now mark assignments – read them on screen and comment on them on screen. There are traps to that because I suspect that if I printed them out I

might possibly get a better appreciation – I might get a slightly better appreciation if you like of the overall assignment rather than focussing on particular aspects. On the other hand, it's much more efficient not to have to print it out. If a student is – in fact I – this afternoon I had a student who came and wanted to discuss an assignment – marked – which he failed. So I in fact printed that out so we'd have something to come to this – while we discussed the topic. So generally speaking if I'm going to be talking about it, I'll probably print it out. And if it's a substantial document probably two or three pages, I'll print it out – I get a sense of the overall thing.

What sources of information do you prefer? ICT/non-ICT

Ah, now being a Librarian of course I'm a cleptic. I enjoy all sources of information. Obviously if I'm looking for information, I prefer information I can find on the Web. I'm finding the Wikipedia – the last few assignments I'm finding Wikipedia useful. There are of course a lot of <Indeterminable> about, who object and all that kind of stuff. Where I think Wikipedia is very valuable is that it has links – it really is a source of links to other sites – so even if you don't particularly – I certainly wouldn't rely on statements made in Wikipedia. It gives you an overview, and in particular where it is very valuable, it will usually have a few links to other key sites. So if you want information about a computer programme for instance, it will tell you a bit about the background of the computer programme, and then have links to the vendor's site and the practical use site; and so is an easy way to find those things.

I'm in a very fortunate position because I study, if you like, information organisation and use; I can justify hunting for information; even if I'm not finding stuff particularly efficiently – I'm learning about how information is managed and used – so I can justify all the mucking around.

Do you feel overall that your information behaviours are productive? Why?

Well obviously I could if Tim Berners-Lee ever gets the Semantic Web off the ground; that will make me a lot more productive - I'm sceptical about that. I – yeah I think obviously there have been a lot of improvements in access to information online over the last 10-15 years, and will probably continue to do. Now in terms of specifics – I think it's quite possible the increased use of metadata – either produced by people or automatically generated would improve access to information. The research engines are going to get better. I have seen reference to search engines that are starting to look at analysing language – current search engines simply index key words, and the 'holy grail' that people are searching for and not just indexing the key words, but indexing the context – so that a reference to a mouse, when looking at context it will be clear whether you're talking about a computer device or a rodent. I think really when that nut's cracked; search engines will become a lot more useful. Yeah, I think finding information will always require an element of skill on the part of people who are looking for it.

Except that I hope – because one of the things I teach is finding information.

Do you feel that the information events displayed today reflect an average amount on a typical day?

Ah, probably fairly light today. Yeah, there wasn't sort of any particular thing generating a lot of email. Like, sometimes, perhaps if there's an assignment due, there

would be quite a few emails from students requesting clarification, and that kind of thing. Or if there's some administrative thing, for example revising the curriculum or something, would generate a lot of emails about that. So yeah, it was relatively quiet.

Do the information events today reflect largely the types of information you deal with on a regular basis?
Yeah, there's probably a reasonable range of stuff, yeah. A few from students, a few connected to the email list management, and a couple of administrative things.

What types of information events would you consider to be out of the ordinary – if any encountered today?
Well, yeah I think the SPAM was out of the ordinary! [laughter]

Were the technologies which were utilised by you today typical of the information events you deal with on an average day?
Yes – pretty much - PDA, phone and PC. I do have a mobile phone – but it's just for personal stuff – I don't ever work with my mobile phone. I had of course the option when I bought that PDA was whether I should be going for a high-end mobile phone or just a PDA, and I decided not to relative to two reasons, one of them – the main reason I use my mobile phone for is when I go kayaking and biking – I don't particularly want to risk dropping $1000 worth of high-end mobile phone! [laughter] Like my current phone has got a SIM card, and I've been through about four different phones that dropped round on kayaking trips! The other thing too perhaps, if you want to look something on your PDA while on the phone - it's very awkward if it's one device!

Can you give some examples of the technologies you use fairly often but did not feel the need to use today?
In terms of software – I don't really think we did login to the Student Management System. Although earlier in the day, I had looked up at least one student because there was an issue about an assignment – so I guess I could mention Student management in terms of the information systems at the university, and of course umm, trying to get research funds for going to conferences in the Grants Management System – there are applications.

In terms of the hardware stuff, no, basically it's the PDA, computer... I have installed Wi-Fi at home – partly because my daughter has a laptop and it's the simplest way for her to get connected up – although having set up Wi-Fi, we discovered that the only room in the house that Wi-Fi doesn't extend to is her room! [laughter]

I have got keen on podcasts – something that is personal rather than professional, but I have started – I mean there's no reason – I do listen to radio programmes, or something like Digital Planet which has quite good updates on technology – I download that as a podcast, put it on the PDA, and listen to it either – two times when it is particularly useful is when I'm walking home, and also if I'm having trouble falling asleep – it's very easy to plug it in and listen to it – that or wake your partner up by turning on the light to read a book!

Can you give examples of technologies you may have used in the past but prefer not to now?

I can actually show you – I keep this at for students, but yeah, that's actually an information retrieval system that I used at the Building Research Association back in the 80s. I was quite pleased to leave that behind – this is what's called a 'Peek-a-boo' retrieval system. Basically each of the squares on that grid represents a document. You have a card for each subject, and if a particular document relates to a subject, you drill a hole... so that's bibliographies, and that's earthquakes; so if you want a nice bibliography on earthquakes, you put it up and somewhere there if I align them correctly... yeah, I think there's a hole down there and they match up.

I don't think there's a technology I've given up on, I mean, I've been pleased as they've progressed – yeah. Of course the other application I do use – more if I'm doing research and writing is of course Endnote – most articles that I, or applications that I use for referring to are put into an Endnote database, and I put a photocopy in this filing cabinet, filed under author name; so that I can find them using Endnote. I still tend to printout articles and put them in there.

Are there any environmental factors influencing your choice of technologies?
Well I guess I tend to go with the organisational rules. I guess if I was acting myself I might be more inclined to use say Open-Source software and that kind of thing – but given that the organisation supports Microsoft – I take the path of least resistance and use that. So yeah, I tend to just use in terms of the teaching and learning platform – Blackboard and Web CT – Web CT in my mind is a better programme, but they decided on Blackboard, and you know, you go with that. It's better to go with what the organisation supports.

Are there any times of the year that you choose not to interact with ICTs?
(Do you have any time off during the year?)
Why is this so?
Yeah – sometimes when I'm at the beach. I have to say that I do – don't have very long periods of not being in email contact. So even if I'm travelling, I would be checking my email every couple of days.

Do you engage in information events often outside of work hours and outside of the workplace?
Yeah, I guess I do. I have a number of things that are personal activities like umm, that I'm involved with like Cycle Aware – which is a cycle advocacy programme, and so I deal with the email connected with that... also I've got personal emails and stuff, I put my photos on Flickr, and all those kinds of things. To some extent I guess I don't make a rigid distinction between my home – my personal ICT and work ICT – it's like I just have one and they are very similar – personal email comes to my university email. This is partly historic – when email first started coming in, the only feasible way to get an email address was my university address – so I never bothered to separate them. In some ways it's simpler just to have one address, and not worry about checking other addresses. I know some people prefer to have a separate address for personal things. Also Hotmail doesn't have a mechanism to forward to another address does it? *<No I don't think so – I've never looked for one...>*

Are these information events similar to those which took place today?
I deal with non-work CT differently from work – I guess I tend to deal with them at different times like I've tried by and large – although I've been dealing with some

personal email you know while I'm at work, just because it's convenient while I'm working through – I probably tend to leave it till the evening – or possibly the morning. For example I get these runs on what to do list, which I have to get organised to go to a cycling conference, so I didn't bother, and to be able to do that I'll need to send emails connected with that so I'm – I'll probably leave that until I get home, so there is some demarcation between work and home. There are obviously some different types of information that I look at – I tend to monitor weather forecasts to see whether I should be kayaking or cycling. So the first thing I did this morning was really look at the forecasts and decided this was a good morning for biking – for paddling round the south coasts – so that's where I was this morning.

So there are things like weather forecasts which I use for personal use, and I do things like reading some newspapers, like the Guardian, and yeah, downloading podcasts for personal use, and things like that. And, so that's quite different from work ICT use.

What ICTs do you prefer to use outside of the workplace?
Well, obviously the Web for sort of general information gathering and things like that – the weather forecasts, the news, interest reading. Because I use computers so much in work, I'm not in a hurry to use them more than is necessary in my recreation. I guess I sometimes use the computer in the evening, but by and large I'll probably tend to read a book or a magazine, or watch TV in the evening rather than use a computer.

How much time would you spend on information events on average in an evening?
Maybe half an hour – it depends on what you call information. Listening to the radio or TV is in a sense an information event – it's just different technologies

Observation 6

Participant Six – 21st September 2007. 8.20am – 9am.
43.50 minutes total recording time – Observation & Interview

[Recorder turned on (0.00)]

Do you want like Faculty, Board minutes and… <***any information events at all that come in would be great***> right…

Umm, okay, I guess what I would do when I open my email is quickly scan down and see who they are from – so there might be ones that are more urgent than other ones, or ones that I've been waiting for, or as well. I subscribe to some; umm discussion group lists – so a lot of them are just – often I don't open them – depending on how busy I am. So I guess probably what I do with these is almost instantly delete quite a lot of them because I feel quite busy… So this one – this guy <Name> runs this discussion list – The Community Informatics Researchers – so, and I can see he's just forwarding something about a meeting I wouldn't be interested in, I just delete that.

There's another one about a conference – ICIS Secretaria – but I will probably instantly delete that – it's caught my eye but it's in Barcelona <laughs>, so I think I might just look at that because that would be a really cool place to go <laughs>, so I'll look at that, even though it's probably – yeah International Conference on Enterprise Information Systems – I couldn't really do anything there, so I probably will delete that. Then there's one from the New Zealand Computing Society… which annoyingly – I ought to get this sorted out – I always have to right click to download pictures – so that's something that, so I normally would – this would be one that I would normally printout – so it's like a lunchtime meeting or something like that – but in this case it's specifically for people who are interested in IGL [??] methods – so I'm not one of those people.

<Name> - that's again a sort of discussion group that I'm subscribed to – that's just about call-centres and things like that – I'll just delete that straight away because it's just the last chance to register it, so that's something that – so a lot of these… World Universities Forum – again that's one I just delete straight away. Now then, there's one from <Name> about the Rugby World Cup, which I'm not a rugby fan <laughter>.

Now this is kind of personal, but for some reason - my Husband's a teacher and for some reason he gets these – it's sort of a newsletter that comes out that identifies any teaching vacancies that he might be interested in – which should be going to his email but it doesn't. So if I think he might be interested I will forward that to him, but I don't, he's not interested.

Right, and then there's one from a student – well, two students you probably know, <Name> and <Name> – two students who are actually doing Honours and we've got this sort of project going where we're trying to actually conduct some focus groups and write a paper. So I can see one of them has sent a message, and then another one, so I'll just have a look at the latest message, and it's just to say we've got a meeting Monday at one o'clock, and what I'll do with that one is actually <Name> is involved

in that project as well, so I'll probably just, and I did mention that to her verbally that we'd be having a meeting on Monday at one o'clock, but just to remind her I probably then I will forward that to her... so I'll just do that now okay, so umm... forward that to <Name> ... and just say something like "Hi <Name> ... at 1pm on Monday" okay... and right...

And then I can see there is one from <Name> and <Name>, and that's another meeting, and what happens is that umm, there's eight us doing PHDs, and supervised by <Name>, and we're in this learning group, but every time we set up a meeting there's always a flurry of emails because trying to get eight people to meet at a certain time – actually it's a very inefficient way of doing it because you end up with – you know, sort of 40 emails just to arrange a one hour meeting. Anyone I can see one's from <Name> who's in that group and one's from <Name>, so I'll open the latest one, because then that will have <Name>, and all she's saying is yeah, she can make it to this meeting we're having on Monday, and <Name>'s just got something he wants to discuss at the meeting. So I don't need to do anything about that.

I do put things into different files, see I've got a lot of files here – that one I wouldn't because it's not telling me – it's just saying – telling me that <Name> will be at the meeting and <Name>'s got an item he wants to discuss – I know I'm going to that meeting anyway, and it's in my diary, so I'll just delete that because it's umm, pointless.

And then yeah, I've got one from home which is from... I don't know, this is... kind of semi-personal. Because, like my husband's on study leave and he's working on a Masters at home, he's asking me to print off some power-points that he's got for a presentation, and also umm, he's reminding me to get a copy of Endnote, because there's a problem with our home computer went AWOL – it doesn't work. So there's I guess – I do like check my email a lot at home, and now it's down well what he's done is – which is probably something he's done actually I suspect – is that he's broken the link between Word and Endnote. So that's a reminder, so because he's working at home at the moment it's quite annoying to get quite a few messages from him <laughter> To do this – well, I just like well I think he's a student, he should go out and do these things himself – but I get these things to do for him. So this one I would print out his presentation – I will do that straight away now. Oh, that's right I have to save it because I have to print it without the references. So okay, I'll save it because it's 13 slides, but he just wants me to print... umm, anyway that's sort of a personal thing in a way, sort of, so I'll save that. So probably if he'd asked me to do something like that, I would do it pretty much straight away, otherwise I might be likely to forget it.

And then I've got umm, you know the AIS discussion list forums that come around? I get them in the form of a digest and I get them to go straight into a folder – IS World. And then I might not check that straight away. If I do open it, what I tend to do is... you know, they just have kind of a title saying of what's inside, so I quickly scan through the title – and most of the time I just delete it straight away – it's just if something catches my eye – you know conferences – but that one – no, so I'll just delete it straight away. It might be about a conference, or a journal – the table of contents of the journal – if it's a journal you're interested in you, you can scan through the table of contents and see if there's an article you're interested in.

Sometimes – it doesn't happen as much as it used to – but sometimes people ask quite a few… or sometimes it might be a student like you, someone says will you complete my survey, and things like that, so… you can sign up for the discussion list and they send you these emails that might be of interest, and you can either get them coming in individually or in the form of a digest – so I get them in the form of a daily digest and just scan through – and I don't know, 80-90% of the time you wouldn't be interested – 10% of the time there might be something of interest.

I do – I didn't today – but often I – well it's a bit hit and miss, I try to move things into folders if I want to keep them. Like I've got a folder for Courses – the courses that I teach; and I've got a folder for Research Papers; a folder for my Research Students – like the ones who are doing Masters or Honours or something like that; and then some folders for other projects. So that's another – I probably wouldn't even spot that – that's another discussion list I'm on. I tried to get things to go directly into that folder, but somehow it's not working that well now and a lot of them are coming into my main list [inbox] so that again would be like the IS World one which I put the more general things in a folder that you hope one day you will have the time get around to having a look at <laughter> so maybe sort of Friday afternoon if you're not so busy.

In previous years sometimes I might check the discussion lists on Blackboard, but the way it's working out this year, I've put up some discussion lists on my two courses, but no ones really used them. I don't check them now. Sometimes say I was teaching a course I'd like to check Blackboard.

Interview

What is your formal training with information/communication technologies (ICTs)?
I suppose I've had quite a lot of formal training in information systems, in that when I started work I did like a part time course in British Computer Science Part One – so that would be to say second year degree level. And then I got a Masters in Systems Analysis and Systems Design. But they're more general courses that I've done specifically on ICT. But then I have attended some of the courses at the university since I've come here which are more specifically about training ICT. So I've attended one on Word long documents, and one on advanced Power Point skills. So I've been to a few things like that.

What is your area of expertise?
I guess Information Systems and Management. It used to be Systems Design, but now I'm teaching more Information Systems Management.

Do you have particular days of the week where you prefer to engage in more information events?
There would be some days when I would be so busy with teaching; I would have to leave those things aside. But in general no, I think I deal with it as it comes.

Do you keep email up continuously throughout the day?

you didn't see it – switch it off. Recently I went to a presentation by the University Teaching Development Centre, that recommends that you – you know have one set time when you do your email. I think it's quite important just to check it quite early in the day just in case somebody's cancelled a meeting or something's come up – something like that that's going to change the day.

Do you particular times of the day that you're more likely to engage in information use?
Yeah – first thing in the morning – normally I would because I work best in the mornings – so normally I would try and do some work in the morning and then I might say after lunch – another time I might fluff around with email.

Do you feel that there are days (or periods) of the year where your information use is particularly high?
I think Mondays there might be a few more – but generally I do check things at home as well at the weekend. There are periods of the year when things go very quiet you tend to get a lot less email than other times when the second semester finishes.

Do you feel you are influenced by any anything external, such as organisational rules that affect the success or non-success of your information events?
Well yes – obviously I'm affected by the changes to the email structure that ICT put through, and they've just put out a new web page, and that's a bit annoying because I can't sort of get to my email or Blackboard in the same way as I did before. I guess they have had <Indeterminable> problems; but because I was too busy to go strangle them… <laughter> - it probably is making things better but at the moment it is making my life a bit more difficult in that I can't do things in the way I used to. So I have to find ways to get around that. And again, yeah – so people changing the software definitely affects us.

And I guess, you know, organisationally there's things that you have to do – like there's the question of faculty, information about courses and things like that. Like at the moment they've already put out a request for information on all the courses you might be teaching next year, and you have to say what your text book is going to be, and what assessments you're going to have. So that's quite frustrating to a lot of people because it's not really fixed who's teaching what courses, and of course people haven't made decisions about the text books and assignments. Yeah, so those kinds of requests – and also requesting what tutorials you might want for your courses next year, so it's difficult to be organised that much in advance.

How do you feel about these influences?
Well – yeah, I can understand from the university's point of view that it takes some time to produce these nice booklets to give out to students, and then want them to be ready – but sometimes it's just very difficult to work that far in advance. And sometimes if you work too far in advance, you find things change – it can work against you.

What are your most used information/communication technologies?
I just use my PC – I've got this laptop, it's one I can take home, yes so, that part's pretty good. I can just take it home and use it at home. There I've got a wireless network – so it's quite good, and I've got a PC at home as well that's connected up so I use that to check email as well. I do use the telephone, and what's quite good as well

is if I'm not home I can check my voice mail as well. So when I do work at home I probably do that once a day as well, in case there's a message. **[*Do you use your Cell Phone much?*]** I have a cell phone, but I hardly ever use it. I don't use it at all from work – it's for personal communication. [***Do you have a PDA – or anything like that?***] No I don't.

Are there technologies which you feel could make interaction with information easier and more efficient than what you currently use?

Well my major frustration at home is I've got this <laughter> wireless network which keeps going down all the time, and half the time it isn't working – so if that could work better… apart from that – I guess an easy way to filter your email would help, so that – like at the moment you know that you can do with email is if it's from a certain person it will automatically go to a certain file – I've done that with the IS World ones – but I'm trying to do that with some other ones, but sometimes it sort of switches itself off – so you set it certain [***parameters***], and then they don't work – so if there's kind of an easier way to do that, it would be better.

And one thing that is kind of weird about the archiving is when you set a folder – like if I set a folder here – they are there forever – so that even if I go back to my archive for umm, like these archives there. Say if I open a folder now like for like you know, Interview with Paul Atkinson – that folder would also appear in my 2001 archive, even though I do it now [2007] – so it will automatically have all your folders, for all the years, even though obviously some didn't start until 2007. And then, they've also lost my 2005 archive when they switched over to the new system – it would be quite useful to know it's there. I do use it quite a lot [archives] searching back through old emails, because maybe you – I don't know what – a paper with somebody a year ago – and then you need to go find out about it – or maybe you taught a course a year ago and you remember you had a guest speaker and you want to get in touch with them. And what I find annoying about that is even though I've got these folders set up, I often haven't put things into the folder – I forget to do that, I just have it in the general email, and then I spend a lot of time searching for the information.

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be?

Well, I've never used a PDA – I don't see how they will give me a benefit – well no; I suppose a good example is myvictoria portal. I think it's really embarrassing because in my MIM class I've actually got one of the students who's responsible for running the portal. So she's told me one of the things it can do – oh look this is the new website – yeah so if you go into the myvictoria portal, there's supposed to like all these channels and things you can set up – you can get umm, things like combine your course and personal calendar – so I think probably if I had time to play around with that, it would improve things [***I just use it for getting my emails***] yeah, well I've used it for that but there are apparently lots of other things you can do with it – to get information feeding into it from like teaching channels, but some of it's only available to staff apparently, not to students. Or it's available to students, but they have to pay. That's something that - it's useful to know it's there, and you think – oh yes, some day if I'm free I'll play around with it. It does take time – or you just stick to the tried and trusted…

Do you ever feel frustrated by technology while interacting with information?
Yes – especially at home. Because often the broadband connection isn't working, or it's just very slow. It's with Saturn Broadband, and I don't think it's that good – well certainly not as good – the connection I have at home – as the connection here [at work]. So that can be a frustrating factor sometimes, waiting ages for an email – and I mean there have been problems here as well with email

What mediums of information do you prefer? That is, from both ICT/non-ICT mediums such as for example; written, face-to-face, telephone, text, internet.
I guess I use email quite a lot actually. It depends on what I'm doing – I mean there are some things I would do only face-to-face because I wouldn't want any written record. Like for example if I want to go into negotiations with the head of school about something, I'd much rather do that face-to-face, because sometimes there's something you want to say – and I'm very conscious that email leaves a record. And even with certain people, like for example, I might be having a conversation with another lecturer about a student, and then they forward it to the student, but they've kind of left that original conversation on the email that you didn't want passed on – that you didn't want the student to see. And I'm kind of conscious of things like that can happen – I would be very wary of putting something in an email that might get sent to somebody that I didn't want to see it. Cause even though I might send it to I don't know, maybe <Name>, he could then potentially send it onto 'whoever' – so I tend to use emails for kind of arranging things – but some things I would definitely just do [face-to-face/personal contact], like for example when we have guest speakers, we always send them back a letter, not just an email letter – an actual – because it's nice to have a physical letter in your hand saying thank you, you know, really enjoyed the guest lecture and giving up your time. So something like that where you want to acknowledge the help somebody's given you. Or if it is just <Name>, I'd probably just send her an email – if it's from <Name>; but if it's from somebody outside...

I use the telephone because sometimes email just gets really stupid when you're sort of emailing somebody back and forth. It's just easier to pick up the telephone – often especially I do that when I'm talking to people in the faculty, when I'm trying to arrange – like when we've go conferences and things you have to go through quite a complicated process to get funding, and because we can't pay for it ourselves, we have to get the faculty to pay for it – so often I use the telephone for things like that.

What sources of information do you prefer? ICT/non-ICT
One advantage [of ICT] is if you travel you can get your email anywhere. I do prefer for example, the Vic Newsletter – well they've recently put that in electronic form, and I guess I read it more when it was in hardcopy form. Because then you could just go and get as cup of tea or something, and could pick up a hardcopy which would be there and you'd just kind of flick through it. I actually prefer to browse...

Another example is – yeah things like this – Telecommunication Users New Zealand – they used to put out this monthly magazine which they used to send to me – and now they've stopped doing that and they just have bloggs around those topics. I've almost, well hardly ever looked at the bloggs, but because they sent me these monthly magazines – what I would do then is if say I went to have lunch or something or cup of tea, I just take it with me and just flick through it, and maybe read it, so I guess I do

prefer hardcopies, especially the more general information. But for just arranging a meeting or just quick information things, then email is great.

What methods are open to you to confirm the validity of information and/or sources?

Well I find the university systems are quite good at filtering out SPAM – some of it gets through but not all. But generally obviously I would know a certain name. There was an issue on some of the discussion lists you have to be a bit careful because there was an issue where they were trying to get people to send out for this social networking website <Indeterminable>. And if an email came through from this guy <Name> who put a lot of emails on the website so everybody would know his name, and said oh, I want you to sign up to <Indeterminable> [quick chat??] but then it turned out it was a fake email, because he sent out an email a day later saying 'don't sign up because that email actually wasn't from me!' So yes, you have to be a bit wary about things.

I think if I got an email from a colleague here and it was a bit odd, I'd just ring them up and ask them. Especially at home if I get an email from someone I don't know I won't open it – I'll just instantly delete it.

Do you feel overall that your information behaviours are productive? Why?

It could be a lot more productive… I think one of the problems is that I just find it irresistible not to constantly check emails – I think that if I could be disciplined enough to say alright I'll just look at it in the morning, and then not look at it again you know, until four o'clock – that would probably be a lot more productive – just having a block of time. Because sometimes you're trying to write a paper or something like that and you really need to concentrate on it, and then you have a little break by checking [inbox].

Do you feel that the information events displayed today reflect an average amount on a typical day?

Yes – that would be pretty much what I got when I came in – in the morning, a few emails. It depends what you're doing – my emails quiet at the moment, I'm teaching two courses, but they're quite small courses, and the students in the courses haven't really been sending me any emails. If I'm teaching like a bigger course, you would get more emails around that.

Do the information events today reflect largely the types of information you deal with on a regular basis?

I guess… I mean I because, you can't really judge it because some things are kind of intermittent, like if you're submitting a conference paper, you'd be getting quite a lot of emails about that to revise it, but that's – at the moment I'm not in the process of submitting conference papers. If you're working on an article with somebody, generally there will be emails going back and forth. And you might be waiting for that other person to finish their bit before you can then get up and write. And another thing is obviously what students do is send copies of assignments – that is a problem because then it clogs up your email because my email box is too full. I do find it a useful way to keep a record of student's assignments – I know that they're in there.

Were there any environmental factors influencing your information events today? Were the technologies which were utilised by you today typical of the information events you deal with on an average day?

Not today. But sometimes there are things where I think yeah, I should keep a record of that so…

Can you give some examples of the technologies you use fairly often but did not feel the need to use today?

Yes – very much.

Can you give some examples of the technologies you use fairly often but did not feel the need to use today?

Well I guess the telephone, so you would look to see if there are any voice messages there – if voice mail is on you check it. But I don't get a lot of voice mail.

Can you give examples of technologies you may have used in the past but prefer not to now?

Blackboard. Well, the Blackboard discussion list – when that first came out we did use them quite a lot, but as time's gone on, I've really moved away from using them. We just seem to have moved away from it, and whether it's just because the courses I've been teaching have been really small courses… I don't know, when it first came out I was quite enthusiastic about what you could do with the discussion list – but somehow that's died away for me.

Are there any times of the year that you choose not to interact with ICTs?

Yes, sometimes I like to go to a few places that are just out of the reach of ICT, like my birthday, around April this year, so the family went away and we went to the Wairarapa, and we were just totally out of cell phone contact. And once we went canoeing – and that was good, we were just totally out of contact. So yeah, it's really good to get away from everything.

Do you engage in information events often outside of work hours and outside of the workplace?

Yeah. [***Comparable to the amount today?***] Well, it depends. Like sometimes you might be waiting for a certain email – so then you would be checking it more often. Usually I would check it at least once in the evening. Then, if I'm coming into work late, I would check it at home before I leave. And at the weekend I check it as well.

What ICTs do you prefer to use outside of the workplace?

[***The laptop which you take home with you?***] Well, I have a PC at home – because there's five of us at home, it depends how heavily other people are using the one at home, whether I need to take mine home as well.

How much time would you spend on information events on average in an evening?

It would be like 10 minutes, just checking some things.

I didn't realise how inefficient my practices are… <laughter>

Appendix G: NVIVO Coding Summary Report

The general idea of NVIVO is to enable researchers to 'pick apart' interviews and other text documents and file these pieces of information in such a way that 'like' pieces of information are stored together under specific subject headings or **Parent Nodes**. Below these are second-level and third-level nodes, creating a very specific hierarchical structure.

Before beginning the NVIVO analysis stage, however, it was necessary to have an idea of the coding which would be used prior to starting. This was indicated very early on in the research while investigating areas of interest and while forming the research question. These areas chiefly included Human Information Behaviours (HIBs); but also included the various Information Communication Technologies (ICTs) at an Academic's disposal, their Information Events (source, medium, use and outcome), any Environmental Influences, evidence of Activities to support the chosen theory, and evidence of Productive and Non-Productive HIBs exhibited by the Academic.

These areas of interest were converted to NVIVO coding, and became the **Top-Level Nodes**, from which lower level - more specific areas of interest - could be ascertained (see figure 17 which follows on page 195). These top-level areas of interest were ascertained at the beginning of the study and remained constant throughout the entire project. The second-level nodes for the HIBs were at first ascertained from the literature review. The literature review produced 13 of these HIBs, which enabled the researcher to be 'on the lookout' for a multitude of this phenomena, and also to keep an open mind for any additional behaviours which might arise during the course of interviews and observations (see figure 16 on the following page).

NVIVO is a reasonably flexible analysis tool, and allows for nodes to be added or deleted at any stage during the analysis period. During the analysis period, two HIBs were discarded with as they were not observed with any of the participants, and an additional seven HIBs were added. Other top level nodes did not need to be as established prior to the study as these were more exploratory in nature, and depended on each of the individual participant's situations.

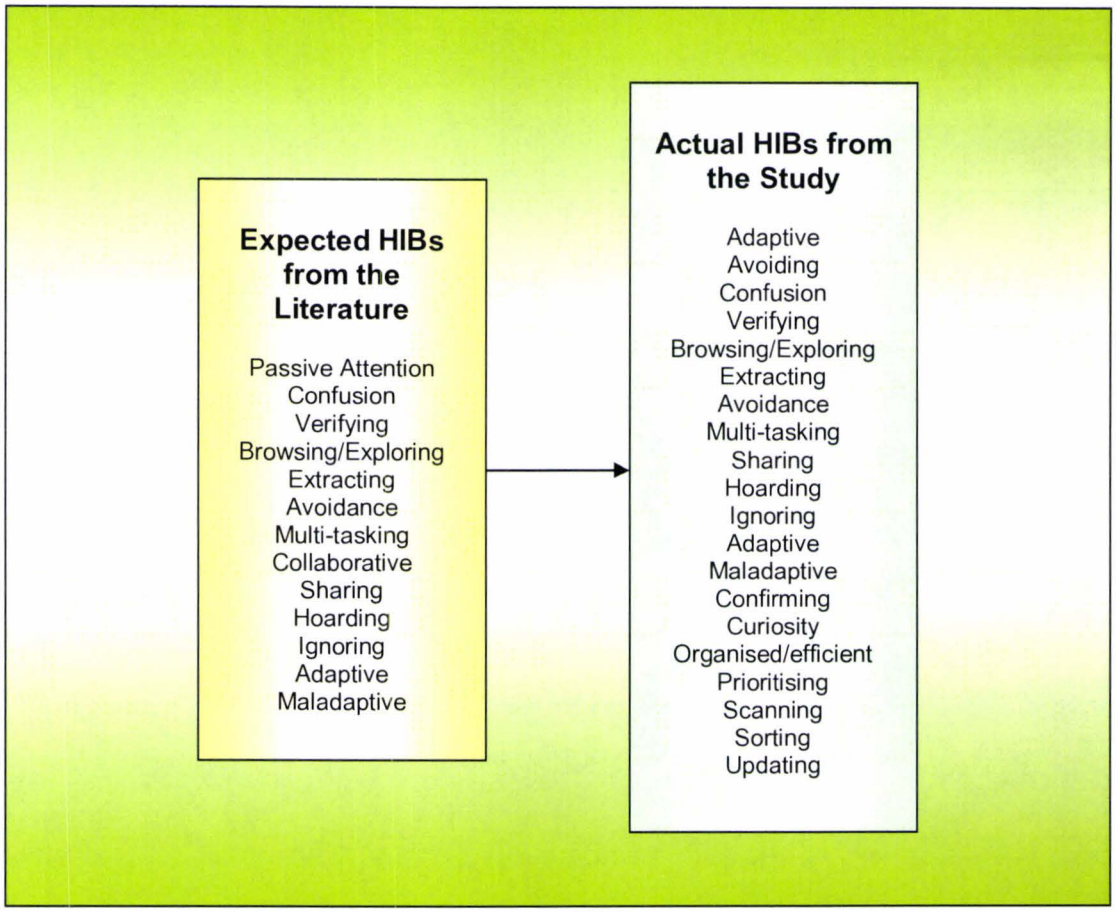

Figure 16: NVIVO Coding for Human Information Behaviours

The actual **Coding Handbook** created from the Literature Review and used early in the interview/observation and analysis stages of the research can be found in Appendix A. This handbook was used to define the HIB terms and to keep them consistent throughout the analysis. It consists only of the 13 original behaviours as seen above in the left box of figure 16.

Figure 17 on the following page has been presented with a view to providing a pictorial on the hierarchical structure of NVIVO by following the Human Information Behaviours part of the study. This is depicted in all three levels of the diagram, focussing only on Frustration as an example.

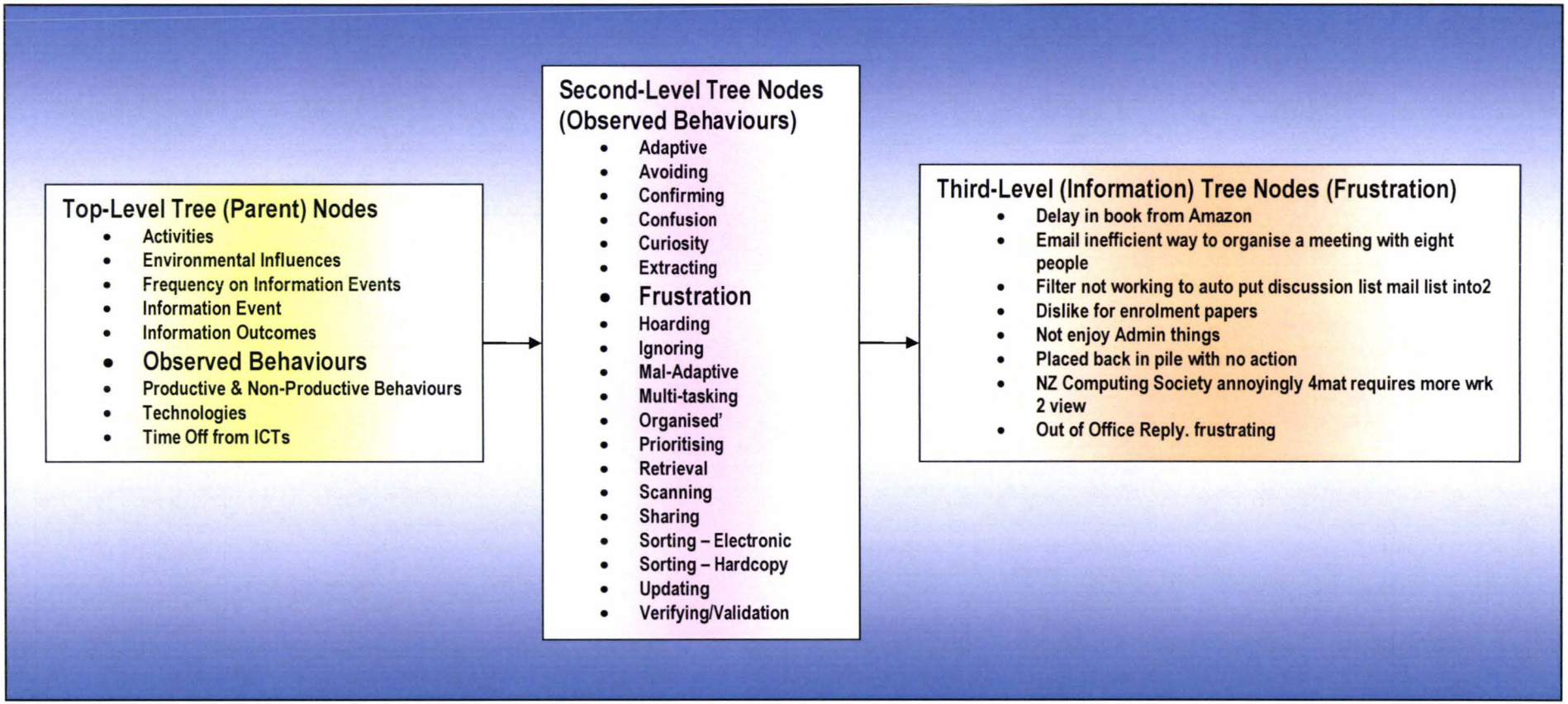

Figure 17: An example of the Hierarchical Structure of NVIVO analysis

The following 25 pages of Appendix F contain 99 pages of NVIVO coding used in the study for analysis of the participant transcriptions. The following two figures represent a couple of screen shots of the actual NVIVO nodes as they appear on the screen.

Tree Nodes

Name	Sources	References	Created	Modified
Activities	0	0	31/10/2007 6:24 p.m.	31/10/2007 6:24 p.m.
Environmental Influences	0	0	23/10/2007 7:11 p.m.	23/10/2007 7:11 p.m.
Frequency of information events	0	0	6/11/2007 5:21 p.m.	6/11/2007 5:21 p.m.
Information Event	0	0	23/10/2007 7:59 p.m.	23/10/2007 7:59 p.m.
Information Outcomes	0	0	23/10/2007 6:28 p.m.	23/10/2007 6:28 p.m.
Observed Behaviours	0	0	23/10/2007 6:22 p.m.	23/10/2007 6:22 p.m.
Productive & non Productive Behaviours	0	0	23/10/2007 6:29 p.m.	28/04/2008 2:01 a.m.
Technologies	0	0	23/10/2007 6:49 p.m.	23/10/2007 6:49 p.m.
Time off from ICTs	0	0	31/10/2007 10:23 p.m.	13/11/2007 1:40 p.m.

Figure 18: Top-Level Parent Nodes

Figure 18 shows the parent nodes – or highest level nodes, while figure 17 below shows the parent node 'Observed Behaviours' having been opened. The categories that this node was divided up into for analysis can thus be observed.

Observed Behaviours	0	0	23/10/2007 6:22 p.m.	23/10/2007 6:22 p.m.
Adaptive	0	0	23/10/2007 6:18 p.m.	23/10/2007 6:18 p.m.
Avoiding	0	0	23/10/2007 6:17 p.m.	23/10/2007 6:17 p.m.
Confirming	0	0	23/10/2007 6:18 p.m.	23/10/2007 6:18 p.m.
Confusion	0	0	31/10/2007 7:52 p.m.	31/10/2007 7:52 p.m.
Curiosity	0	0	24/10/2007 1:57 p.m.	24/10/2007 1:57 p.m.
Extracting	0	0	23/10/2007 6:16 p.m.	23/10/2007 6:16 p.m.
Frustration with Information Event	0	0	2/11/2007 5:03 p.m.	2/11/2007 5:03 p.m.
Hoarding	0	0	23/10/2007 6:17 p.m.	23/10/2007 6:17 p.m.
Ignoring	0	0	23/10/2007 6:17 p.m.	23/10/2007 6:17 p.m.
Mal-adaptive	0	0	23/10/2007 6:18 p.m.	23/10/2007 6:18 p.m.
Multi-tasking	0	0	23/10/2007 6:17 p.m.	23/10/2007 6:17 p.m.
Organised	0	0	23/10/2007 5:51 p.m.	23/10/2007 5:54 p.m.
Prioritising	0	0	23/10/2007 6:17 p.m.	23/10/2007 6:17 p.m.
Retrieval	0	0	23/10/2007 8:04 p.m.	23/10/2007 8:04 p.m.
Scanning	0	0	23/10/2007 6:04 p.m.	23/10/2007 6:04 p.m.
Sharing	0	0	23/10/2007 6:18 p.m.	23/10/2007 6:18 p.m.
Sorting - Electronic	0	0	23/10/2007 6:15 p.m.	30/01/2008 12:47 p.m.
Sorting - Hardcopy	0	0	23/10/2007 6:16 p.m.	30/01/2008 12:47 p.m.
Updating	0	0	31/10/2007 5:45 p.m.	31/10/2007 5:45 p.m.
Verifying_Validation	0	0	31/10/2007 9:05 p.m.	9/11/2007 3:13 p.m.

Figure 19: Second-Level Observed Behaviours Nodes

Coding Summary Report

Project: HIB Analysis
Generated: 10/11/2008 7:33 p.m.

Participant Six **Document**

Total References **82**

Node Coding **Cases\Participant Six** **References** **1** **Coverage** **100.00 %**

Reference 1 *Character Range* *0 - 26,993*

Participant Six - 21st September 2007. 8.20am - 8.55am.
43.50mins total recording time - Observation & Interview

[Recorder turned on (0.00)]

Observation 6

Do you want like Faculty, Board minutes and... <any information events at all that come in would be great> right...

Umm, okay, I guess what I would do when I open my email is quickly scan down and see who they are from - so there might be ones that are more urgent than other ones, or ones that I've been waiting for, or as well. I subscribe to some; umm discussion group lists - so a lot of them are just - often I don't open them - depending on how busy I am. So I guess probably what I do with these is almost instantly delete quite a lot of them because I feel quite busy... So this one - this guy Mike Gurstein runs this discussion list - The Community Informatics Researchers - so, and I can see he's just forwarding something about a meeting I wouldn't be interested in, I just delete that.

There's another one about a conference - ICIS Secretaria - but I will probably instantly delete that - it's caught my eye but it's in Barcelona <laughs>, so I think I might just look at that because that would be a really cool place to go <laughs>, so I'll look at that, even though it's probably - yeah International Conference on Enterprise Information Systems - I couldn't really do anything there, so I probably will delete that. Then there's one from the New Zealand Computing Society... which annoyingly - I ought to get this sorted out - I always have to right click to download pictures - so that's something that, so I normally would - this would be one that I would normally printout - so it's like a lunchtime meeting or something like that - but in this case it' s specifically for people who are interested in IGL [??] methods - so I'm not one of those people.

[Klorgi Hathaway???] *** - that's again a sort of discussion group that I'm subscribed to - that's just about call-centres and things like that - I'll just delete that straight away because it's just the last chance to register it, so that's something that - so a lot of these... World Universities Forum - again that's one I just delete straight away. Now then, there's one from Jean Grant about the Rugby World Cup, which I'm not a rugby fan <laughter>.

Now this is kind of personal, but for some reason - my Husband's a teacher and for some reason he gets these - it's sort of a newsletter that comes out that identifies any teaching vacancies that he might be interested in - which should be going to his email but it doesn't. So if I think he might be interested I will forward that to *him, but I don't, he's not interested.*

Right, and then there's one from a student - well, two students you probably know, Hartmit and Tony - two students who are actually doing Honours and we've got this sort of project going where we're trying to actually conduct some focus groups and write a paper. So I can see one of them has sent a message, and then another one, so I'll just have a look at the latest message, and it's just to say we've got a meeting Monday at one o' *clock, and what I'll do with that one is actually Mary Tate is involved in that project as well, so I'll probably* just, and I did mention that to her verbally that we'd be having a meeting on Monday at one o'clock, but just to remind her I probably then I will forward that to her... so I'll just do that now okay, so umm... forward that to Mary... and just say something like "Hi Mary... at 1pm on Monday" okay... and right...

And then I can see there is one from Maria and Pak, and that's another meeting, and what happens is that *umm, there's eight us doing PHDs, and supervised by Pak, and we're in this learning group, but every time we* set up a meeting there's always a flurry of emails because trying to get eight people to meet at a certain time - actually it's a very inefficient way of doing it because you end up with - you know, sort of 40 emails just to arrange a one hour meeting. Any

Node Coding **Tree Nodes\Environmental Influences\Informational\Difficult 2 wrk far in advance** **References** **1** **Coverage** **1.42 %**

Reference 1 *Character Range* *12,621 - 13,004*

How do you feel about these influences?
Well - yeah, I can understand from the university's point of view that it takes some time to produce these nice booklets to give out to students, and then want them to be ready - but sometimes it's just very difficult to work that far in advance. And sometimes if you work too far in advance, you find things change - it can work against you.

Node Coding **Tree Nodes\Environmental Influences\Informational\Frustrating organisational deadlines 4following year** **References** **1** **Coverage** **2.75 %**

Reference 1 *Character Range* *11,878 - 12,619*

And I guess, you know, organisationally there's things that you have to do - like there's the question of faculty, information about courses and things like that. Like at the moment they've already put out a request for information on all the courses you might be teaching next year, and you have to say what your text book is *going to be, and what assessments you're going to have. So that's quite frustrating to a lot of people because* it's not really fixed who's teaching what courses, and of course people haven't made decisions about the text books and assignments. Yeah, so those kinds of requests - and also requesting what tutorials you might want for your courses next year, so it's difficult to be organised that much in advance.

Node Coding **Tree Nodes\Environmental Influences\Technological\Software & tech_ITS** **References** **1** **Coverage** **2.24 %**

Reference 1 *Character Range* *11,270 - 11,874*

Well yes - obviously I'm affected by the changes to the email structure that ICT put through, and they've just put out a new web page, and that's a bit annoying because I can't sort of get to my email or Blackboard in the *same way as I did before. I guess they have had *** problems; but because I was too busy to go strangle* them... <laughter> - it probably is making things better but at the moment it is making my life a bit more difficult in that I can't do things in the way I used to. So I have to find ways to get around that. And again, yeah - so people changing the software definitely affects us.

Node Coding **Tree Nodes\Frequency of information *events\Days of the Week\No_Deal with it* as it comes** **References** **1** **Coverage** **0.60 %**

Reference 1 *Character Range* *9,572 - 9,734*

There would be some days when I would be so busy with teaching; I would have to leave those things aside. But in general no, I think I deal with it as it comes.

Node Coding **Tree Nodes\Frequency of information events\Days or periods of the Year\Mondays are higher_2wrds semester end** **References** **1** **Coverage** **0.93 %**

Reference 1 *Character Range* *10,867 - 11,118*

I think Mondays there might be a few more - but generally I do check things at home as well at the weekend. There are periods of the year when things go very quiet you tend to get a lot less email than other times when the second semester finishes.

Node Coding **Tree Nodes\Frequency of information events\Particular Times of Day\Early morning_after lunch** **References** **1** **Coverage** **0.85 %**

Reference 1 *Character Range* *10,529 - 10,758*

Yeah - first thing in the morning - normally I would because I work best in the mornings - so normally I would try and do some work in the morning and then I might say after lunch - another time I might fluff around with email.

Node Coding **Tree Nodes\Information Event\Administration\Jean Scott about Rugby WC. No interest** **References** **1** **Coverage** **0.38 %**

Reference 1 *Character Range 2,692 - 3,526*

there's one from a student - well, two students you probably know, Hartmit and Tony - two students who are actually doing Honours and we've got this sort of project going where we're trying to actually conduct some focus groups and write a paper. So I can see one of them has sent a message, and then another one, so I'll just have a look at the latest message, and it's just to say we've got a meeting Monday at one o'clock, and what I'll do with that one is actually Mary Tate is involved in that project as well, so I'll probably just, and I did mention that to her verbally that we'd be having a meeting on Monday at one o'clock, but just to remind her I probably then I will forward that to her... so I'll just do that now okay, so umm... forward that to Mary... and just say something like "Hi Mary... at 1pm on Monday" okay... and right...

Node Coding **Tree Nodes\Information Outcomes\Deleted\AIS Discussion forum_Digest_Scan title** **References** 1 **Coverage** 1.90 %

Reference 1 *Character Range 6,071 - 6,583*

you know the AIS discussion list forums that come around? I get them in the form of a digest and I get them to go straight into a folder - IS World. And then I might not check that straight away. If I do open it, what I tend to do is... you know, they just have kind of a title saying of what's inside, so I quickly scan through the *title - and most of the time I just delete it straight away - it's just if* something catches my eye - you know conferences - but that one - no, so I'll just delete it straight away.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Discussion List owner fwrded info about meeting** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 759 - 963*

this guy Mike Gurstein runs this discussion list - The Community Informatics Researchers - so, and I can see he's just forwarding something about a meeting I wouldn't be interested in, I just delete that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Do put things in2 files.This 1 delete** **References** 1 **Coverage** 1.29 %

Reference 1 *Character Range 4,332 - 4,679*

I do put things into different files, see I've got a lot of files here - that one I wouldn't because it's not telling me - it's just saying - telling me that Maria will be at the meeting and Pak's got an item he wants to discuss - *I know I'm going to that meeting anyway, and it's in my diary, so I'll just delete that because it's* umm, pointless.

Node Coding **Tree Nodes\Information Outcomes\Deleted\International conference in Barcelona_delete** **References** 1 **Coverage** 1.61 %

Reference 1 *Character Range 967 - 1,401*

There's another one about a conference - ICIS Secretaria - but I will probably instantly delete that - it's caught my eye but it's in Barcelona <laughs>, so I think I might just look at that because that would be a really cool place to go <laughs>, so I'll look at that, even though it's probably - yeah International Conference on Enterprise Information Systems - I couldn't really do anything there, so I probably will delete that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Jean Scott about Rugby WC. No interest** **References** 1 **Coverage** 0.38 %

Reference 1 *Character Range 2,192 - 2,294*

Now then, there's one from Jean Grant about the Rugby World Cup, which I'm not a rugby fan <laughter>.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Newsletter about job vacancies 4 husband** **References** 1 **Coverage** 1.39 %

Reference 1 *Character Range 2,298 - 2,672*

Now this is kind of personal, but for some reason - my Husband's a teacher and for some reason he gets these - it's sort of a newsletter that comes out that identifies any teaching vacancies that he might be interested in - which should be going to his email but it doesn't. So if I think he might be interested I will forward that to him, but I don't, he's not interested.

Node Coding **Tree Nodes\Information Outcomes\Deleted\NZ Computing Society meeting on IGL_no interest** **References** 1 **Coverage** 1.57 %

Reference 1 *Character Range 1,414 - 1,837*

one from the New Zealand Computing Society... which annoyingly - I ought to get this sorted out - I always have to right click to download pictures - so that's something that, so I normally would - this would be one that I would normally printout - so it's like a lunchtime meeting or something like that - but in this case it's specifically for people who are interested in IGL [??] methods - so I'm not one of those people.

Node Coding **Tree Nodes\Information Outcomes\Deleted\World Universities Forum_delete straight away** **References** 1 **Coverage** 0.27 %

Reference 1 *Character Range 2,119 - 2,191*

World Universities Forum - again that's one I just delete straight away.

Node Coding **Tree Nodes\Information Outcomes\Forwarded\2 emails from 2 students_chkd latest_4rwd 2Mary** **References** 1 **Coverage** 3.09 %

Reference 1 *Character Range 2,692 - 3,526*

there's one from a student - well, two students you probably know, Hartmit and Tony - two students who are actually doing Honours and we've got this sort of project going where we're trying to actually conduct some focus groups and write a paper. So I can see one of them has sent a message, and then another one, so I'll just have a look at the latest message, and it's just to say we've got a meeting Monday at one o'clock, and what I'll do with that one is actually Mary Tate is involved in that project as well, so I'll probably just, and I did mention that to her verbally that we'd be having a meeting on Monday at one o'clock, but just to remind her I probably then I will forward that to her... so I'll just do that now okay, so umm... forward that to Mary... and just say something like "Hi Mary... at 1pm on Monday" okay... and right...

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Notice of meeting by PHD supervisor** **References** 1 **Coverage** 2.96 %

Reference 1 *Character Range 3,530 - 4,328*

And then I can see there is one from Maria and Pak, and that's another meeting, and what happens is that umm, there's eight us doing PHDs, and supervised by Pak, and we're in this learning group, but every time we set up a meeting there's always a flurry of emails because trying to get eight people to meet at a certain time - actually it's a very inefficient way of doing it because you end up with - you know, sort of 40 emails just to arrange a one hour meeting. Anyway I can see one's from Maria who's in that group and one's from Pak, so I'll open the latest one, because then that will have Maria, and all she's saying is yeah, she can make it to this meeting we're having on Monday, and Pak's just got something he wants to discuss at the meeting. So I don't *need to do anything about that.*

Node Coding **Tree Nodes\Information Outcomes\Printed\Husband_print slides_copy of Endnote** **References** 1 **Coverage** 4.79 %

Reference 1 *Character Range 4,750 - 6,044*

this is... kind of semi-personal. Because, like my husband's on study leave and he's working on a Masters at home, he's asking me to print off some power-points that he's got for a presentation, and also umm, he's reminding me to get a copy of Endnote, because there's a problem with our home computer went AWOL - it doesn't work. So there's I guess - I do like check my email a lot at home, and now it's down well what he's done is - which is probably something he's done actually I suspect - is that he's broken the link between Word *and Endnote. So that's a reminder, so because he's working at home at the moment it's quite annoying to get* quite a few messages from him <laughter> To do this - well, I just like well I think he's a student, he should go out and do these things himself - but I get these things to do for him. So this one I would print out his presentation - I will do that straight away now. Oh, that's right I have to save it because I have to print it without the references. So okay, I'll save it because it's 13 slides, but he just wants me to print... umm, anyway that's sort of a personal thing in a way, sort of, so I'll save that. So probably if he'd asked me to do something like that, I would do it pretty much straight away, otherwise I might be likely to forget it.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Husband_print slides_copy of Endnote (2)** **References** 1 **Coverage** 4.79 %

Node Coding **Tree Nodes\Observed Behaviours\Frustration with Information Event\Filter not working to auto put discussion list mail in2** **References** 1 **Coverage** 1.59 %

Reference 1 *Character Range 7,821 - 8,251*

that's another discussion list I'm on. I tried to get things to go directly into that folder, but somehow it's not working that well now and a lot of them are coming into my main list [inbox] so that again would be like the IS World one which I put the more general things in a folder that you hope one day you will have the time get around to having a look at <laughter> so maybe sort of Friday afternoon if you're not so busy.

Node Coding **Tree Nodes\Observed Behaviours\Frustration with Information Event\NZ Computing Society_annoyingly 4mat requires more wrk to view** **References** 1 **Coverage** 1.57 %

Reference 1 *Character Range 1,414 - 1,837*

one from the New Zealand Computing Society... which annoyingly - I ought to get this sorted out - I always have to right click to download pictures - so that's something that, so I normally would - this would be one that I would normally printout - so it's like a lunchtime meeting or something like that - but in this case it's specifically for people who are interested in IGL [??] methods - so I'm not one of those people.

Node Coding **Tree Nodes\Observed Behaviours\Hoarding\use old emails** **References** 1 **Coverage** 1.14 %

Reference 1 *Character Range 15,210 - 15,519*

I do use it quite a lot [archives] searching back through old emails, because maybe you - I don't know what - a paper with somebody a year ago - and then you need to go find out about it - or maybe you taught a course a year ago and you remember you had a guest speaker and you want to get in touch with them.

Node Coding **Tree Nodes\Observed Behaviours\Multi-tasking\Email up all the time_better if didnt see it** **References** 1 **Coverage** 2.60 %

Reference 1 *Character Range 9,734 - 10,435*

Do you keep email up continuously throughout the day?
I try to discipline myself not to look at it - I'm afraid that I do all the time <laughter> - if you're typing up in Word you can see a new email comes up in the bottom of the screen [Do you find that a good thing or distracting?] It would probably be better if you didn't see it - switch it off. Recently I went to a presentation by the University Teaching Development Centre, that recommends that you - you know have one set time when you do your email. I think it's quite important just to check it quite early in the day just in case somebody's cancelled a meeting or something's come up - something like that that's going to change the day.

Node Coding **Tree Nodes\Observed Behaviours\Organised\Delete a lot from discussion groups when busy** **References** 1 **Coverage** 0.91 %

Reference 1 *Character Range 498 - 744*

I subscribe to some; umm discussion group lists - so a lot of them are just - often I don't open them - depending on how busy I am. So I guess probably what I do with these is almost instantly delete quite a lot of them because I feel quite busy...

Node Coding **Tree Nodes\Observed Behaviours\Organised\Do put things in2 files.This 1 delete** **References** 1 **Coverage** 1.29 %

Reference 1 *Character Range 4,332 - 4,679*

I do put things into different files, see I've got a lot of files here - that one I wouldn't because it's not telling me - it's just saying - telling me that Maria will be at the meeting and Pak's got an item he wants to discuss - I know I'm going to that meeting anyway, and it's in my diary, so I'll just delete that because it's umm, *pointless.*

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Delete a lot from discussion groups when busy** **References** 1 **Coverage** 0.91 %

Reference 1 *Character Range 498 - 744*

I subscribe to some; umm discussion group lists - so a lot of them are just - often I don't open them - depending on how busy I am. So I guess probably what I do with these is almost instantly delete quite a lot of them because I feel quite busy...

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Scan mail to see who they are from** **References** 1 **Coverage** 0.67 %

Reference 1 *Character Range 303 - 484*

what I would do when I open my email is quickly scan down and see who they are from - so there might be ones that are more urgent than other ones, or ones that I've been waiting for

Node Coding **Tree Nodes\Observed Behaviours\Scanning\AIS Discussion forum_Digest_Scan title** **References** 1 **Coverage** 1.90 %

Reference 1 *Character Range 6,071 - 6,583*

you know the AIS discussion list forums that come around? I get them in the form of a digest and I get them to go straight into a folder - IS World. And then I might not check that straight away. If I do open it, what I tend to do is... you know, they just have kind of a title saying of what's inside, so I quickly scan through the title - and most of the time I just delete it straight away - it's just if something catches my eye - you know conferences - but that one - no, so I'll just delete it straight away.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Discussion grp about call centers** **References** 1 **Coverage** 0.67 %

Reference 1 *Character Range 1,891 - 2,071*

discussion group that I'm subscribed to - that's just about call-centres and things like that - I'll just delete that straight away because it's just the last chance to register it

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Jean Scott about Rugby WC. No interest** **References** 1 **Coverage** 0.38 %

Reference 1 *Character Range 2,192 - 2,294*

Now then, there's one from Jean Grant about the Rugby World Cup, which I'm not a rugby fan <laughter>.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Scan mail to see who they are from** **References** 1 **Coverage** 0.67 %

Reference 1 *Character Range 303 - 484*

what I would do when I open my email is quickly scan down and see who they are from - so there might be ones that are more urgent than other ones, or ones that I've been waiting for

Node Coding **Tree Nodes\Observed Behaviours\Scanning\World Universities Forum_delete straight away** **References** 1 **Coverage** 0.27 %

Reference 1 *Character Range 2,119 - 2,191*

World Universities Forum - again that's one I just delete straight away.

Node Coding **Tree Nodes\Observed Behaviours\Sharing\2 emails from 2 students_chkd latest_4rwd 2Mary** **References** 1 **Coverage** 3.09 %

Reference 1 *Character Range 2,692 - 3,526*

there's one from a student - well, two students you probably know, Hartmit and Tony - two students who are actually doing Honours and we've got this sort of project going where we're trying to actually conduct some focus groups and write a paper. So I can see one of them has sent a message, and then another one, so I'll just have a look at the latest message, and it's just to say we've got a meeting Monday at one o'clock, and what I'll do with that one is actually Mary Tate is involved in that project as well, so I'll probably just, and I did mention that to her verbally that we'd be having a meeting on Monday at one o'clock, but just to remind her I probably then I will forward that to her... so I'll just do that now okay, so umm... forward that to Mary... and just say something like "Hi Mary... at 1pm on Monday" okay... and right...

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Yes_esp at home_broadband probs** **References** 1 **Coverage** 1.76 %

Reference 1 *Character Range 17,131 - 17,606*

Do you ever feel frustrated by technology while interacting with information?
Yes – especially at home. Because often the broadband connection isn't working, or it's just very slow. It's with Saturn Broadband, and I don't think it's that good – well certainly not as good – the connection I have at home – as the connection here [at work]. So that can be a frustrating factor sometimes, waiting ages for an email – and I mean there have been problems here as well with email

Node Coding **Tree Nodes\Technologies\Land Line\Do use Landline phone** **References** 1 **Coverage** 0.74 %

Reference 1 *Character Range 13,369 - 13,568*

I do use the telephone, and what's quite good as well is if I'm not home I can check my voice mail as well. So when I do work at home I probably do that once a day as well, in case there's a message.

Node Coding **Tree Nodes\Technologies\Most used technologies\Do use Landline phone** **References** 1 **Coverage** 0.74 %

Reference 1 *Character Range 13,369 - 13,568*

I do use the telephone, and what's quite good as well is if I'm not home I can check my voice mail as well. So when I do work at home I probably do that once a day as well, in case there's a message.

Node Coding **Tree Nodes\Technologies\Most used technologies\Laptop most used ICT** **References** 1 **Coverage** 1.32 %

Reference 1 *Character Range 13,012 - 13,368*

What are your most used information/communication technologies?
I just use my PC – I've got this laptop, it's one I can take home, yes so, that part's pretty good. I can just take it home and use it at home. There I've got a wireless network – so it's quite good, and I've got a PC at home as well that's connected up so I use that to check email as well.

Node Coding **Tree Nodes\Technologies\PDA\Hardly use Cell_no PDA** **References** 1 **Coverage** 0.77 %

Reference 1 *Character Range 13,569 - 13,777*

Do you use your Cell Phone much?] I have a cell phone, but I hardly ever use it. I don't use it at all from work – it's for personal communication. *[Do you have a PDA – or anything like that?] No I don't.*

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\email 4 arranging things_paper trail wary of** **References** 1 **Coverage** 2.55 %

Reference 1 *Character Range 18,127 - 18,815*

I'm very conscious that email leaves a record. And even with certain people, like for example, I might be having a conversation with another lecturer about a student, and then they forward it to the student, but they' ve kind of left that original conversation on the email that you didn't want passed on – that you didn't want the student to see. And I'm kind of conscious of things like that can happen – I would be very wary of putting *something in an email that might get sent to somebody that I didn't want to see it. Cause even though I might* send it to I don't know, maybe Ted, he could then potentially send it onto 'whoever' – so I tend to use emails for kind of arranging things

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Face to face when not want record of events** **References** 1 **Coverage** 1.22 %

Reference 1 *Character Range 17,844 - 18,173*

there are some things I would do only face-to-face because I wouldn't want any written record. Like for example if I want to go into negotiations with the head of school about something, I'd much rather do that *face-to-face, because sometimes there's something you want to say – and I'm very conscious* that email leaves a record.

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Landline to prevent back&forth emailing** **References** 1 **Coverage** 1.90 %

Reference 1 *Character Range 19,360 - 19,872*

I use the telephone because sometimes email just gets really stupid when you're sort of emailing somebody back and forth. It's just easier to pick up the telephone – often especially I do that when I'm talking to people in the faculty, when I'm trying to arrange – like when we've go conferences and things you have to go through quite a complicated process to get funding, and because we can't pay for it ourselves, we have to get the faculty to pay for it – so often I use the telephone for things like that.

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Laptop most used ICT** **References** 1 **Coverage** 1.32 %

Reference 1 *Character Range 13,012 - 13,368*

What are your most used information/communication technologies?
I just use my PC – I've got this laptop, it's one I can take home, yes so, that part's pretty good. I can just take it home and use it at home. There I've got a wireless network – so it's quite good, and I've got a PC at home as well that's connected up so I use that to check email as well.

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Prefer hardcopies of newsletters_pick up & read with coffee_not with electronic** **References** 1 **Coverage** 1.53 %

Reference 1 *Character Range 19,930 - 20,343*

One advantage [of ICT] is if you travel you can get your email anywhere. I do prefer for example, the Vic Newsletter – well they've recently put that in electronic form, and I guess I read it more when it was in hardcopy form. Because then you could just go and get as cup of tea or something, and could pick up a hardcopy which would be there and you'd just kind of flick through it. I actually prefer to browse...

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Telecommunication Users mag_now a Blog_neva go there** **References** 1 **Coverage** 2.43 %

Reference 1 *Character Range 20,347 - 21,002*

Another example is – yeah things like this – Telecommunication Users New Zealand – they used to put out this monthly magazine which they used to send to me – and now they've stopped doing that and they just have bloggs around those topics. I've almost, well hardly ever looked at the bloggs, but because they sent me these monthly magazines – what I would do then is if say I went to have lunch or something or cup of tea, I just take it with me and just flick through it, and maybe read it, so I guess I do prefer hardcopies, especially the more general information. But for just arranging a meeting or just quick information things, then email is great.

Node Coding **Tree Nodes\Time off from ICTs\Yes_holidays away from it all** **References** 1 **Coverage** 1.37 %

Reference 1 *Character Range 25,642 - 26,011*

Yes, sometimes I like to go to a few places that are just out of the reach of ICT, like my birthday, around April this year, so the family went away and we went to the Wairarapa, and we were just totally out of cell phone contact. And once we went canoeing – and that was good, we were just totally out of contact. So yeah, it's really good to get away from everything.

Participant Five — Document

Total References 174

Node Coding **Cases\Participant Five** **References** 1 **Coverage** 100.00 %

Reference 1 *Character Range 0 - 40,319*

Participant Five – 19th September 2007. 3.30pm – 5.20pm.
84mins total recording time – Observation & Interview

Observation 5

[Recorder turned on (0.00)]

Okay, so it's about 3.40 – so this is the time of day that I normally do work through my email, so I'll open up my email. By and large I will usually have my email programme open, and occasionally monitor it – but I won't – I try to avoid looking at email unless the subject line clearly indicates that it is something that has to be

address, so... in fact they've got this new system where I can have a look at the ITS portal to see progress

Node Coding **Tree Nodes\Activities\Activity 3 - P5. ITS Update\Action 2 - Goes into ITS portal** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 21,084 - 21,389*

maybe I should try that out - I haven't actually looked at this before, but in theory I'm supposed to be able to go into the customer portal... Oh, this is nice, yes, so this actually gives me a record of - it seems to pick up who I am and it gives me a record of my calls. That's quite handy to know about.

Node Coding **Tree Nodes\Activities\Activity 3 - P5. ITS Update*Activity 3 - File away short-term*** **References** 1 **Coverage** 0.35 %

Reference 1 *Character Range 21,394 - 21,534*

I'll file - again I'm not probably going to be interested in this in more than a couple of months, so I'll just put that in save short term.

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 1 - Info event - *Query of address change*** **References** 1 **Coverage** 1.16 %

Reference 1 *Character Range 12,815 - 13,284*

administrative messages related to the lists that I manage normally go into a folder, and interestingly, there seems to have been a change in the way the *** [lead?] software is managed at Victoria, so that the email address has changed, and consequently the filter isn't picking them up. And in fact this is an email from someone who err, is wondering whether this is a permanent change or not. And to be quite frank I've only just noticed it - so I'm a bit mystified.

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 2 - Compare address with previous emails** **References** 1 **Coverage** 0.75 %

Reference 1 *Character Range 13,285 - 13,588*

So I'll just have a look to see - yeah, now I'm looking at the deleted messages where I had put the messages from this list. Now I'll just have a look to see what the - yeah, they're quite right, they used to be from nzlib-libs@lists.vuw.ac.nz, and it's now become vuwunicosntp004, which is interesting.

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 3 - Phone ITS - Confirm** **References** 1 **Coverage** 2.29 %

Reference 1 *Character Range 13,589 - 14,514*

I might see if there is anyone at ITS helpdesk that knows about that... I'm dialling 5050... "Hi it's Alistair Smith from School of Information Management. I manage a couple of the umm, mailing lists, and I've just noticed that the address that messages come from has changed - and now of course that's got implications for people who are filtering messages from the list. So I'm trying to find out if that's a permanent change or a temporary glitch... Usually they come from nz-lib is the main one so they are addressed to nzlib-libs@lists.vuw.ac.nz, and they appear to come from nz-libs-bouncers@list.vuw.ac.nz. And what seems to have happened is that the lists element of the name has been replaced by vuwunicosntp004 - it's a bit of a mouthful... mmm... yeah, sure, so better to you than - I can never remember whether it's ITS help or ITS service... Binay Patel - B-I-N-A-Y.patel, okay, well I'll send you an email, yeah great, bye.

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 4 - email summary of phone conversation** **References** 1 **Coverage** 0.48 %

Reference 1 *Character Range 14,811 - 15,003*

I might forward to them the message that originally brought it up. I'm just sending Binay at the helpdesk just a summary of what I talked to him about on the phone... Okay, so I'll send that off

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 5 - Reply to original query** **References** 1 **Coverage** 0.58 %

Reference 1 *Character Range 15,014 - 15,249*

send a reply to Amanda who originally sent the message raising the issue, so I'll send a reply to her, and say I' m following it up... I'm sending a message saying I've only just noticed it myself, I've asked some support people about it,

Node Coding **Tree Nodes\Activities\Activity 4 - P5. Problem with ITS - email addresses for discussion group\Action 6 - Delete original Query** **References** 1 **Coverage** 0.14 %

Reference 1 *Character Range 15,264 - 15,321*

because I've replied to that message I'll just delete it.

Node Coding **Tree Nodes\Environmental Influences\Technological\Go with ITS SW & HW** **References** 1 **Coverage** 1.31 %

Reference 1 *Character Range 35,742 - 36,271*

I guess I tend to go with the organisational rules. I guess if I was acting myself I might be more inclined to use say Open-Source software and that kind of thing - but given that the organisation supports Microsoft - I take the path of least resistance and use that. So yeah, I tend to just use in terms of the teaching and learning platform - Blackboard and Web CT - Web CT in my mind is a better programme, but they decided on Blackboard, and you know, you go with that. It's better to go with what the organisation supports.

Node Coding **Tree Nodes\Frequency of information events\Particular Times of Day\3.40 logon to email** **References** 1 **Coverage** 0.51 %

Reference 1 *Character Range 167 - 374*

Okay, so it's about 3.40 - so this is the time of day that I normally do work through my email, so I'll open up my email. By and large I will usually have my email programme open, and occasionally monitor it

Node Coding **Tree Nodes\Information Event\Administration\Administration messages - didn't go into folder** **References** 1 **Coverage** 0.39 %

Reference 1 *Character Range 19,988 - 20,147*

I'm getting a number of administrative messages; that would normally have gone into my Administration folder. So that's ah... I'm deleting those at the moment.

Node Coding **Tree Nodes\Information Event\Administration\Canadian Post-Doctorate Scholarship** **References** 1 **Coverage** 0.50 %

Reference 1 *Character Range 8,686 - 8,889*

what's this? It's from Jean, it's about ah, Canadian Post-Doctorate Scholarships. So since I'm not applying for supervising I'm not going to go for a Canadian Post-Doctorate so I'll just get rid of that.

Node Coding **Tree Nodes\Information Event\Check Calendar\Check calendar on PDA** **References** 1 **Coverage** 1.49 %

Reference 1 *Character Range 23,708 - 24,307*

the other thing that I do at this time of the day is just have a quick check through the 'half-see' if there's anything else that I should have done today that is going to create a problem if I don't get round to doing - this is the desk-top programme for the Palm - some people have their tasks and calendar and everything in Outlook, now that is a very good idea, except that I've run into problems when I've tried - in theory you can synchronise Outlook with the Palm, in practise I always seem to have problems. I think it's partly because I synchronise my Palm both on my home PC and on this PC

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Conference notif'n - delete** **References** 1 **Coverage** 0.24 %

Reference 1 *Character Range 6,861 - 6,956*

Yes, a conference notification, which I'm not particularly interested in, so I'll delete that;

Reference 1 *Character Range 20,419 - 20,584*

I might have to manually subscribe that... so I'm going into the web-based administrative interface email list... I'm just checking to see if she's already subscribed,

Node Coding **Tree Nodes\Information Event\Investigative\Confirm conference with Google Search** **References** 1 **Coverage** 0.43 %

Reference 1 *Character Range 18,573 - 18,747*

But one thing I did think would be worth doing actually just doing a Google search on the name of the programme that she mentions to see if there actually is such a programme

Node Coding **Tree Nodes\Information Event\Investigative\Confirmation from Google search - SPAM** **References** 1 **Coverage** 1.27 %

Reference 1 *Character Range 18,825 - 19,336*

That was worth doing, because in fact what it has pulled up is the exact text of the email, so I presume it is a standard SPAM email from African Women Blogs - so yeah, the exact same email, except for in this case it's from a woman called *** ***. I'm just trying to... unfortunate, yeah... this is actually a SPAM, yeah. I think this is a case where SPAM - another version of the SPAM message has been posted to the Blog... which is slightly bizarre - at least that reassures me that it is definitely a SPAM message

Node Coding **Tree Nodes\Information Event\Investigative\Confirmation of ITS interaction** **References** 1 **Coverage** 0.28 %

Reference 1 *Character Range 20,868 - 20,982*

Oh, here's umm, a confirmation from the helpdesk; that ah, yeah about the issue relating to the email list address

Node Coding **Tree Nodes\Information Event\Investigative\Email summary of phone conversation to ITS** **References** 1 **Coverage** 0.48 %

Reference 1 *Character Range 14,811 - 15,003*

I might forward to them the message that originally brought it up. I'm just sending Binay at the helpdesk just a summary of what I talked to him about on the phone... Okay, so I'll send that off

Node Coding ***Tree Nodes\Information Event\Investigative\Phone ITS - Confirm to confirm new email address*** **References** 1 **Coverage** 2.29 %

Reference 1 *Character Range 13,589 - 14,514*

I might see if there is anyone at ITS helpdesk that knows about that... I'm dialling 5050... "Hi it's Alistair Smith from School of Information Management. I manage a couple of the umm, mailing lists, and I've just noticed that the address that messages come from has changed - and now of course that's got implications for people who are filtering messages from the list. So I'm trying to find out if that's a permanent change or a temporary glitch... Usually they come from nz-lib is the main one so they are addressed to nzlib-libs@lists.vuw.ac.nz, and they appear to come from nz-libs-bouncers@list.vuw.ac.nz. And what seems to have happened is that the lists element of the name has been replaced by vuwunicosntp004 - it's a bit of a mouthful... mmm... yeah, sure, so better to you than - I can never remember whether it's ITS help or ITS service... Binay Patel - B-I-N-A-Y.patel, okay, well I'll send you an email, yeah great, bye.

Node Coding **Tree Nodes\Information Event\IT-based\Confirmation of ITS interaction** **References** 1 **Coverage** 0.28 %

Reference 1 *Character Range 20,868 - 20,982*

Oh, here's umm, a confirmation from the helpdesk; that ah, yeah about the issue relating to the email list address

Node Coding **Tree Nodes\Information Event\IT-based\Goes into ITS portal** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 21,084 - 21,389*

maybe I should try that out - I haven't actually looked at this before, but in theory I'm supposed to be able to go into the customer portal... Oh, this is nice, yes, so this actually gives me a record of - it seems to pick up who I am and it gives me a record of my calls. That's quite handy to know about.

Node Coding **Tree Nodes\Information Event\Notification OR Reminder of Meeting\LZLIB msg of meeting** **References** 1 **Coverage** 1.25 %

Reference 1 *Character Range 5,081 - 5,587*

This is another NZLIB message which is part of an ongoing discussion about umm, pay and gender in libraries which is a female driven kind of occupation - so that's a notice of a meeting of that. This is how I find out about meetings that are going on in the library year-out. Probably won't bother following this one up - it was something I was going to go to - I'll probably copy and paste the details into my palm calendar so I can have it there - in this case I don't think that I will, I'll delete it.

Node Coding **Tree Nodes\Information Event\Outside work hours\Cycle Aware** **References** 1 **Coverage** 0.48 %

Reference 1 *Character Range 36,790 - 36,982*

I have a number of things that are personal activities like umm, that I'm involved with like Cycle Aware - which is a cycle advocacy programme, and so I deal with the email connected with that

Node Coding **Tree Nodes\Information Event\Outside work hours\Deal with home events differently** **References** 1 **Coverage** 0.84 %

Reference 1 *Character Range 37,841 - 38,181*

I deal with non-work ICT differently from work - I guess I tend to deal with them at different times like I've tried by and large - although I've been dealing with some personal email you know while I'm at work, just because it's convenient while I'm working through - I probably tend to leave it till the evening - or possibly the morning.

Node Coding ***Tree Nodes\Information Event\Outside work hours\Emails and flickr*** **References** 1 **Coverage** 1.05 %

Reference 1 *Character Range 36,998 - 37,420*

personal emails and stuff, I put my photos on Flickr, and all those kinds of things. To some extent I guess I don't make a rigid distinction between my home - my personal ICT and work ICT - it's like I just have one and they are very similar - personal email comes to my university email. This is partly historic - when email first started coming in, the only feasible way to get an email address was my university address

Node Coding **Tree Nodes\Information Event\Outside work hours\Personal ICT use newspapers, podcasts** **References** 1 **Coverage** 0.64 %

Reference 1 *Character Range 38,842 - 39,102*

So there are things like weather forecasts which I use for personal use, and I do things like reading some newspapers, like the Guardian, and yeah, downloading podcasts for personal use, and things like that. And, so that's quite different from work ICT use.

Node Coding **Tree Nodes\Information Event\Outside work hours\Time spent on info events afterhours** **References** 1 **Coverage** 0.59 %

Reference 1 *Character Range 39,592 - 39,831*

How much time would you spend on information events on average in an evening?
Maybe half an hour - it depends on what you call information. Listening to the radio or TV is in a sense an information event - it's just different technologies

Node Coding **Tree Nodes\Information Event\Query\IT related - not notified of address change** **References** 1 **Coverage** 1.17 %

Reference 1 *Character Range 12,737 - 13,210*

this is IT, yeah, I had run it a little bit. I have some messages here - yeah administrative messages related to the lists that I manage normally go into a folder, and interestingly, there seems to have been a change in the way the *** [lead?] software is managed at Victoria, so that the email address has changed, and consequently the filter isn't picking them up. And in fact this is an email from someone who err, is wondering whether this is

Reference 1 *Character Range 15,633 - 15,940*

I'm just doing a quick scan through the Alpine club newsletters to see if there's anything that I really want to look at. I'm very much an armchair climber now, so reading it doesn't take very long. Because it is usually available on the Alpine club website, I usually don't bother to keep the newsletter.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Canadian Post-Doctorate Scholarship** **References 1** **Coverage 0.50 %**

Reference 1 *Character Range 8,686 - 8,889*

what's this? It's from Jean, it's about ah, Canadian Post-Doctorate Scholarships. So since I'm not applying for supervising I'm not going to go for a Canadian Post-Doctorate so I'll just get rid of that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Conference notif'n - delete** **References 1** **Coverage 0.24 %**

Reference 1 *Character Range 6,861 - 6,956*

Yes, a conference notification, which I'm not particularly interested in, so I'll delete that;

Node Coding **Tree Nodes\Information Outcomes\Deleted\Discussion group - bout technology** **References 1** **Coverage 0.22 %**

Reference 1 *Character Range 12,390 - 12,480*

This is an email discussion group list about open access publishing, **** ** **** deleted.

Node Coding **Tree Nodes\Information Outcomes\Deleted\email bout carbon emissions** **References 1** **Coverage 0.37 %**

Reference 1 *Character Range 19,741 - 19,892*

and this is umm... offering to off-set my carbon emissions. Oh well, I'll have a think about that next time I fly on Qantas. Actually I am deleting that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Frwd msg to ITS - then delete** **References 1** **Coverage 1.35 %**

Reference 1 *Character Range 14,779 - 15,323*

So what I might actually do is... I might forward to them the message that originally brought it up. I'm just sending Binay at the helpdesk just a summary of what I talked to him about on the phone... Okay, so I'll send that off, and I'll send a reply to Amanda who originally sent the message raising the issue, so I'll send a reply to her, and say I'm following it up... I'm sending a message saying I've only just noticed it myself, I've asked some support people about it, and ah, again because I've replied to that message I'll just delete it.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Generally detete NZLIB msgs** **References 1** **Coverage 0.58 %**

Reference 1 *Character Range 5,591 - 5,826*

I'm being quite ready to delete messages from NZLIB, because the messages are archived, and should I want to get the messages back again for any reason, I can go into the archive and so I don't bother to keep discussion board messages.

Node Coding **Tree Nodes\Information Outcomes\Deleted\info on seminar - no interest** **References 1** **Coverage 0.32 %**

Reference 1 *Character Range 12,261 - 12,389*

This is a message from the administration about an Inaugural lecture from Mana Mya... *** research, I think I' ll give that a pass...

Node Coding **Tree Nodes\Information Outcomes\Deleted\Libraries using Podcasts** **References 1** **Coverage 0.22 %**

Reference 1 *Character Range 6,471 - 6,561*

This is about libraries using podcasts – yeah, interesting but I'm not gonna follow it up.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Library disposal list** **References 1** **Coverage 0.48 %**

Reference 1 *Character Range 4,887 - 5,080*

This is what's called a disposal list – it's where the library has got spare old publications that they want to get rid of, and offer them to other libraries, and I delete those pretty quickly.

Node Coding **Tree Nodes\Information Outcomes\Deleted\List_owner delete quickly** **References 1** **Coverage 0.38 %**

Reference 1 *Character Range 2,623 - 2,775*

In fact quite a portion of the bulk of my emails actually are messages on the NZLIB's group; which I'm list-owner for and which I delete fairly quickly.

Node Coding **Tree Nodes\Information Outcomes\Deleted\LZLIB msg of meeting** **References 1** **Coverage 1.25 %**

Reference 1 *Character Range 5,081 - 5,587*

This is another NZLIB message which is part of an ongoing discussion about umm, pay and gender in libraries which is a female driven kind of occupation – so that's a notice of a meeting of that. This is how I find out about meetings that are going on in the library year-out. Probably won't bother following this one up – it was something I was going to go to – I'll probably copy and paste the details into my palm calendar so I can have it there – in this case I don't think that I will, I'll delete it.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Message from Database Supplier** **References 1** **Coverage 0.20 %**

Reference 1 *Character Range 20,787 - 20,868*

A message from Database Supplier, only about legal databases – I'll delete that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Msg about web-based design training in USA** **References 1** **Coverage 0.42 %**

Reference 1 *Character Range 15,942 - 16,113*

And this is a message about training in web-based design from the States, which as much as I would like to do, I don't have time to do this, so I'm going to delete that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\NZ Library List_job vacancy** **References 1** **Coverage 0.26 %**

Reference 1 *Character Range 4,675 - 4,778*

NZ Library's list. Now quite a bit of this is – I've just deleted a vacancy message which I like to see

Node Coding **Tree Nodes\Information Outcomes\Deleted\Reminder for seminar** **References 1** **Coverage 0.42 %**

Reference 1 *Character Range 8,890 - 9,060*

This is a reminder that I'm registered for a seminar on Friday. So that's good – I've got that information tucked away in my pile – so there's no point in keeping that.

Node Coding **Tree Nodes\Information Outcomes\Deleted\Scan and delete** **References 1** **Coverage 0.40 %**

Reference 1 *Character Range 3,591 - 3,753*

I've got them in Subject order, so basically what I do is open up the message and quickly scan and delete. In fact probably quite a lot of them will be deleted.

Reference 1 *Character Range 20,622 - 20,786*

I'll put that in and check that..... yep, it seems to have subscribed her okay, so I'll tell her that. [long break - typing message] I've sent her a message there.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Msg about Blogging in Libraries** **References** 1 **Coverage** 0.84 %

Reference 1 *Character Range 5,831 - 6,171*

this is one about Blogging in Libraries, and is giving notice of a page which has been set up. This is something I'm interested in, so I'll follow the link and have a look - a quick look at the Wiki page. This has been set up for logging and libraries. There's not a lot of stuff at that page yet - it's just good to know that that's there.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Updating info supplied by students** **References** 1 **Coverage** 3.79 %

Reference 1 *Character Range 9,062 - 10,591*

Now that's an email from one of my students - they are working on a group project, and they're actually giving me some information about what they are actually going to be - yeah what the subject is. So this is something I should probably take some action on - what I'm going to do is add to the information about this particular group in Blackboard, the information of what they are actually doing. So I'm going into Blackboard now... and going into Manage Groups... I'm modifying the name of the group to reflect the topic that they've decided to work on. So they say they are going to do New Migrant Information. So I'm copying that text on New Migrant Information and I'm putting that into the name of the group, which will help to remind me what it is they are working on... and as well as changing the name of the group, of course I'll be going into the area where the group project is in fact working on a Wiki. So I'm going to be going into the area where their Wiki is and adding that information as well. So I'm just going into the Wiki area on Blackboard for them and adding that - the extra little bit of information... and I'll file that - messages saved short-term as the project will be due in about a month - I won't need to refer to that message again. Actually I should have replied to that message - in fact I might do that - I've been thinking too much about my filing... I'm just replying to the student... so in fact I'll actually delete that message now because there'll be a copy of it in the Sent Messages folder.

Node Coding **Tree Nodes\Observed Behaviours\Adaptive\Adaptive behaviour 1 (Activity 1) - Problem with ITS - email addresses for discussion group\Compare address with previous emails** **References** 1 **Coverage** 0.75 %

Reference 1 *Character Range 13,285 - 13,588*

So I'll just have a look to see - yeah, now I'm looking at the deleted messages where I had put the messages from this list. Now I'll just have a look to see what the - yeah, they're quite right, they used to be from nzlib-libs@lists.vuw.ac.nz, and it's now become vuwunicosntp004, which is interesting.

Node Coding **Tree Nodes\Observed Behaviours\Adaptive\Adaptive behaviour 1 (Activity 1) - Problem with ITS - email addresses for discussion group\Phone ITS - Confirm** **References** 1 **Coverage** 2.29 %

Reference 1 *Character Range 13,589 - 14,514*

I might see if there is anyone at ITS helpdesk that knows about that... I'm dialling 5050... "Hi it's Alistair Smith from School of Information Management. I manage a couple of the umm, mailing lists, and I've just noticed that the address that messages come from has changed - and now of course that's got implications for people who are filtering messages from the list. So I'm trying to find out if that's a permanent change or a temporary glitch... Usually they come from nz-lib is the main one so they are addressed to nzlib-libs@lists.vuw.ac.nz, and they appear to come from nz-libs-bouncers@list.vuw.ac.nz. And what seems to have happened is that the lists element of the name has been replaced by vuwunicosntp004 - it's a bit of a mouthful... mmm... yeah, sure, so better to you than - I can never remember whether it's ITS help or ITS service... Binay Patel - B-I-N-A-Y.patel, okay, well I'll send you an email, yeah great, bye.

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\No time to spend on bothering to read** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 4,321 - 4,482*

if I had more time I might well spend some time following this up and reading it, but at the moment I've got enough on my plate without reading that extra stuff,

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Reason for Subject Order** **References** 1 **Coverage** 0.81 %

Reference 1 *Character Range 1,869 - 2,195*

bulk email, I order it into Subject order; the idea being then that messages that are connected will be grouped together, and with a bit of luck if there's a number of message on the same topic, I'll end up reading the most recent message, so that with a bit of luck I'll only need to read the most recent message of the group

Node Coding **Tree Nodes\Observed Behaviours\Confirming\Updating info supplied by students** **References** 1 **Coverage** 3.79 %

Reference 1 *Character Range 9,062 - 10,591*

Now that's an email from one of my students - they are working on a group project, and they're actually giving me some information about what they are actually going to be - yeah what the subject is. So this is something I should probably take some action on - what I'm going to do is add to the information about this particular group in Blackboard, the information of what they are actually doing. So I'm going into Blackboard now... and going into Manage Groups... I'm modifying the name of the group to reflect the topic that they've decided to work on. So they say they are going to do New Migrant Information. So I'm copying that text on New Migrant Information and I'm putting that into the name of the group, which will help to remind me what it is they are working on... and as well as changing the name of the group, of course I'll be going into the area where the group project is in fact working on a Wiki. So I'm going to be going into the area where their Wiki is and adding that information as well. So I'm just going into the Wiki area on Blackboard for them and adding that - the extra little bit of information... and I'll file that - messages saved short-term as the project will be due in about a month - I won't need to refer to that message again. Actually I should have replied to that message - in fact I might do that - I've been thinking too much about my filing... I'm just replying to the student... so in fact I'll actually delete that message now because there'll be a copy of it in the Sent Messages folder.

Node Coding **Tree Nodes\Observed Behaviours\Confusion\Confused by query on address change** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 13,104 - 13,409*

And in fact this is an email from someone who err, is wondering whether this is a permanent change or not. And to be quite frank I've only just noticed it - so I'm a bit mystified. So I'll just have a look to see - yeah, now I'm looking at the deleted messages where I had put the messages from this list.

Node Coding **Tree Nodes\Observed Behaviours\Confusion\Received suspicious email** **References** 1 **Coverage** 1.79 %

Reference 1 *Character Range 16,138 - 16,858*

this is very intriguing... ... I'm trying to figure out whether this is... I think this is SPAM... 'Cause it's ah, this is very clever SPAM... it is actually using the name of someone that I know... umm, ... very clever, it's a message from... supposedly from a librarian at a Thai Library Lecturer, the name of the Thai Library Lecturer claims to be stranded in Nigeria, and having to pay a hotel bill of $1500, and wanting money transferred to them through Underground Western Union. Now, ah, [voice louder with disbelief] on the face of it, I'd be absolutely inclined to panic, in fact that's her up there [points to a large photo on the wall showing the participant shaking an Asian woman's hand - with laughter and disbelief]

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Curious bout vacancies_not dwell** **References** 1 **Coverage** 0.26 %

Reference 1 *Character Range 4,781 - 4,887*

I like to know what jobs are coming up in the area, but ah, I don't spend a lot of time dwelling on them.

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Goes into ITS portal** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 21,084 - 21,389*

maybe I should try that out - I haven't actually looked at this before, but in theory I'm supposed to be able to go into the customer portal... Oh, this is nice, yes, so this actually gives me a record of - it seems to pick up

Node Coding **Tree Nodes\Observed Behaviours\Organised\Importance over-rides freedom from email** **References** 1 **Coverage** 0.46 %

Reference 1 *Character Range 391 - 575*

I try to avoid looking at email unless the subject line clearly indicates that it is something that has to be dealt with right away and can't wait until the time I usually do my emails

Node Coding **Tree Nodes\Observed Behaviours\Organised\List_owner emails to him, not folder** **References** 1 **Coverage** 0.50 %

Reference 1 *Character Range 2,419 - 2,621*

in this particular case, the email discussion groups are ones that I'm a list-owner for, so I feel they should come through to me. So that's the reason they're turning up there rather than in the folder

Node Coding **Tree Nodes\Observed Behaviours\Organised\Reason for Subject Order** **References** 1 **Coverage** 0.81 %

Reference 1 *Character Range 1,869 - 2,195*

bulk email, I order it into Subject order; the idea being then that messages that are connected will be grouped together, and with a bit of luck if there's a number of message on the same topic, I'll end up reading the most recent message, so that with a bit of luck I'll only need to read the most recent message of the group

Node Coding **Tree Nodes\Observed Behaviours\Organised\Time of day** **References** 1 **Coverage** 0.20 %

Reference 1 *Character Range 181 - 261*

about 3.40 - so this is the time of day that I normally do work through my email

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Reason for Subject Order** **References** 1 **Coverage** 0.81 %

Reference 1 *Character Range 1,869 - 2,195*

bulk email, I order it into Subject order; the idea being then that messages that are connected will be grouped together, and with a bit of luck if there's a number of message on the same topic, I'll end up reading the most recent message, so that with a bit of luck I'll only need to read the most recent message of the group

Node Coding **Tree Nodes\Observed Behaviours\Retrieval\Retrieve deletion** **References** 1 **Coverage** 0.13 %

Reference 1 *Character Range 4,121 - 4,173*

Should I need to retrieve it, I probably could do it

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Administration messages - didn't go into folder** **References** 1 **Coverage** 0.39 %

Reference 1 *Character Range 19,988 - 20,147*

I'm getting a number of administrative messages; that would normally have gone into my Administration folder. So that's ah... I'm deleting those at the moment.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Advertising for PDA** **References** 1 **Coverage** 0.58 %

Reference 1 *Character Range 10,593 - 10,826*

This is, yeah, advertising, as opposed to SPAM, it relates to one of the programmes that I looked at at some stage for my Palm (PDA), so I guess I can't really call it SPAM. But I can't afford to buy upgrades of the software anyway.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Alpine club newsletter** **References** 1 **Coverage** 0.76 %

Reference 1 *Character Range 15,633 - 15,940*

I'm just doing a quick scan through the Alpine club newsletters to see if there's anything that I really want to look at. I'm very much an armchair climber now, so reading it doesn't take very long. Because it is usually available on the Alpine club website, I usually don't bother to keep the newsletter.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Check postings from students on BB** **References** 1 **Coverage** 0.89 %

Reference 1 *Character Range 23,253 - 23,611*

The other thing that I do at this time of the day is that the Blackboard course that I'm teaching has got a discussion board, and usually as well as doing the email - I usually check the discussion board as well as the email to see if there are any postings to reply to... and in this particular case, it looks like students have been too busy to post anything

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Discussion group - bout technology** **References** 1 **Coverage** 0.22 %

Reference 1 *Character Range 12,390 - 12,480*

This is an email discussion group list about open access publishing, **** ** **** deleted.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\For SPAM** **References** 1 **Coverage** 0.15 %

Reference 1 *Character Range 930 - 991*

I do a quick scan for SPAM which slipped past the SPAM filter

Node Coding **Tree Nodes\Observed Behaviours\Scanning\info on seminar - no interest** **References** 1 **Coverage** 0.32 %

Reference 1 *Character Range 12,261 - 12,389*

This is a message from the administration about an Inaugural lecture from Mana Mya... *** research, I think I'll give that a pass...

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Libraries using Podcasts** **References** 1 **Coverage** 0.22 %

Reference 1 *Character Range 6,471 - 6,561*

This is about libraries using podcasts - yeah, interesting but I'm not gonna follow it up.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\NZLIB Archives - subject indexing** **References** 1 **Coverage** 0.73 %

Reference 1 *Character Range 6,172 - 6,467*

And here's another NZLIB's message, which is just a notice about the Archives New Zealand office, and information about the, about subject indexing, National Library which is something I need to be aware of but I probably won't do anything with at this stage - it's just more current awareness.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Reminder for seminar** **References** 1 **Coverage** 0.42 %

Reference 1 *Character Range 8,890 - 9,060*

This is a reminder that I'm registered for a seminar on Friday. So that's good - I've got that information tucked away in my pile - so there's no point in keeping that.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Scan and delete** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 3,591 - 3,753*

I've got them in Subject order, so basically what I do is open up the message and quickly scan and delete. In

Node Coding **Tree Nodes\Observed Behaviours\Verifying_Validation\More verification of behaviour - suspicious email** **References** 1 **Coverage** 1.66 %

Reference 1 *Character Range 17,902 - 18,572*

actually the other thing I tend to use for verification - that's one thing I had thought of - the message actually talks about going to there for a programme... quite frankly, yes, you see it starts by saying "I'm sorry I didn't inform you about my travelling to a programme called Empowering Youth to Fight Racism". Now that doesn't quite ring true; a, because although I know her, she's not necessarily going to tell me about her travel plans - it's unlikely she would tell me. The other thing is that I do if she went to Africa, at the moment the main thing would be for the *** conference, and she would be more likely to mention that, rather than the other programme.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Non_Productive\Would be more so if Semantic web** **References** 1 **Coverage** 1.32 %

Reference 1 *Character Range 29,638 - 30,172*

Well obviously I could if Tim Berners-Lee ever gets the Semantic Web off the ground; that will make me a lot more productive - I'm sceptical about that. I - yeah I think obviously there have been a lot of improvements in access to information online over the last 10-15 years, and will probably continue to do. Now in terms of specifics - I think it's quite possible the increased use of metadata - either produced by people or automatically generated would improve access to information. The research engines are going to get better.

Node Coding **Tree Nodes\Technologies\Cell Phone\Preferred ICTs P5** **References** 1 **Coverage** 1.48 %

Reference 1 *Character Range 32,022 - 32,617*

technologies which were utilised by you today typical of the information events you deal with on an average day?
Yes - pretty much - PDA, phone and PC. I do have a mobile phone - but it's just for personal stuff - I don't ever work with my mobile phone. I had of course the option when I bought that PDA was whether I should be going for a high-end mobile phone or just a PDA, and I decided not to relative to two reasons, one of them - the main reason I use my mobile phone for is when I go kayaking and biking - I don't particularly want to risk dropping $1000 worth of high-end mobile phone!

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Problems synchronising PDA** **References** 1 **Coverage** 0.61 %

Reference 1 *Character Range 3,340 - 3,584*

I use a palm PDA and my two or three attempts to make Outlook synchronise properly with my palm have failed - in theory it's supposed to work, but every time I try you get it trashes some data so I decided to keep them as separate applications.

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Separate PDA and Cell** **References** 1 **Coverage** 0.25 %

Reference 1 *Character Range 32,788 - 32,890*

if you want to look something on your PDA while on the phone - it's very awkward if it's one device!

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Synchronisation problems with PDA and 2 laptops** **References** 1 **Coverage** 1.01 %

Reference 1 *Character Range 24,074 - 24,483*

except that I've run into problems when I've tried - in theory you can synchronise Outlook with the Palm, in practise I always seem to have problems. I think it's partly because I synchronise my Palm both on my home PC and on this PC [oh, so you don't take that PC (laptop) home with you?] I don't take that I have another at home, no, no. So it seems to create issues if I try and synchronise in both places.

Node Coding **Tree Nodes\Technologies\Land Line\Telephone in hope of quick response** **References** 1 **Coverage** 0.65 %

Reference 1 *Character Range 14,515 - 14,778*

As you probably picked up from the recording there, I phoned ITS - they're not sure and have asked me to send an email - it's probably a sensible thing to do. But I thought it was worth phoning them just in case I pick

up someone who can give me a quick response.

Node Coding **Tree Nodes\Technologies\Laptop\Preferred ICTs P5** **References** 1 **Coverage** 1.48 %

Reference 1 *Character Range 32,022 - 32,617*

technologies which were utilised by you today typical of the information events you deal with on an average day?
Yes - pretty much - PDA, phone and PC. I do have a mobile phone - but it's just for personal stuff - I don't ever work with my mobile phone. I had of course the option when I bought that PDA was whether I should be going for a high-end mobile phone or just a PDA, and I decided not to relative to two reasons, one of them - the main reason I use my mobile phone for is when I go kayaking and biking - I don't particularly want to risk dropping $1000 worth of high-end mobile phone!

Node Coding **Tree Nodes\Technologies\Most used technologies\P5. PDA, phone & PC** **References** 1 **Coverage** 1.48 %

Reference 1 *Character Range 32,022 - 32,617*

technologies which were utilised by you today typical of the information events you deal with on an average day?
Yes - pretty much - PDA, phone and PC. I do have a mobile phone - but it's just for personal stuff - I don't ever work with my mobile phone. I had of course the option when I bought that PDA was whether I should be going for a high-end mobile phone or just a PDA, and I decided not to relative to two reasons, one of them - the main reason I use my mobile phone for is when I go kayaking and biking - I don't particularly want to risk dropping $1000 worth of high-end mobile phone!

Node Coding **Tree Nodes\Technologies\PDA\PDA for calendar** **References** 1 **Coverage** 0.43 %

Reference 1 *Character Range 3,163 - 3,338*

I also copy into the calendar stuff like information about meetings and so forth. I don't use Outlook for things like tasks and calendar, primarily because I have had problems

Node Coding **Tree Nodes\Technologies\PDA\PDA to put email messages in** **References** 1 **Coverage** 0.31 %

Reference 1 *Character Range 3,036 - 3,161*

And, ah, I'll copy stuff from my email messages into the appropriate task - I tend to use that as my day-to-day filing system

Node Coding **Tree Nodes\Technologies\PDA\PDA use at work** **References** 1 **Coverage** 0.52 %

Reference 1 *Character Range 2,825 - 3,034*

The other application that I have open on the desktop which I use is the palm, desktop palm PDA. So that has my, my to-do list for the day. So by and large everything I'm working on is a task in the to-do list

Node Coding **Tree Nodes\Technologies\PDA\Preferred ICTs P5** **References** 1 **Coverage** 1.48 %

Reference 1 *Character Range 32,022 - 32,617*

technologies which were utilised by you today typical of the information events you deal with on an average day?
Yes - pretty much - PDA, phone and PC. I do have a mobile phone - but it's just for personal stuff - I don't ever work with my mobile phone. I had of course the option when I bought that PDA was whether I should be going for a high-end mobile phone or just a PDA, and I decided not to relative to two reasons, one of them - the main reason I use my mobile phone for is when I go kayaking and biking - I don't particularly want to risk dropping $1000 worth of high-end mobile phone!

Node Coding **Tree Nodes\Technologies\PDA\Separate PDA and Cell** **References** 1 **Coverage** 0.25 %

Reference 1 *Character Range 32,788 - 32,890*

if you want to look something on your PDA while on the phone - it's very awkward if it's one device!

Thanks Kim.
No problem. Okay, bye.
Bye.

Node Coding **Tree Nodes\Activities\Activity 2 - P3. Administration\Action 6. Received reply from email in action 4.** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 6,168 - 6,301*

Okay, and while that happened, having sent out the earlier message, we got an instant response from somebody... an out of office reply.

Node Coding **Tree Nodes\Environmental Influences\Informational\Rules are rarely a problem** **References** 1 **Coverage** 1.10 %

Reference 1 *Character Range 26,326 - 26,690*

Rules are rarely a problem. I guess that when it comes to university's rules - I mean frankly the only rules that umm really are umm out there relate to obscene material and stuff like that, well it's not a problem for me because I'm just not interested, so you know. I'm occasionally perturbed and to some extent that's why I get this SPAM pre-sorted the way I do

Node Coding **Tree Nodes\Environmental Influences\Technological\Conservativenes s of the IT dept** **References** 1 **Coverage** 1.81 %

Reference 1 *Character Range 27,894 - 28,494*

Yeah, umm, I guess the other thing is the general conservativeness of the IT group. We have a ah, an *approximate three to four year turnover cycle for equipment, so by the time you end up ready for a new one,* it's pretty well creaking. And also, umm, they're slow to assess whether or not we should be on a new release or something. And sometimes we're two releases behind in things like Endnote, or we're still on XP and I guess that's not unusual as a lot of organisations are still on XP because VISTA hasn't yet... [proven itself] yeah. But nevertheless, they do adopt a very conservative stance.

Node Coding **Tree Nodes\Environmental Influences\Technological\Not org rules_influenced by tech glitches mostly** **References** 1 **Coverage** 0.73 %

Reference 1 *Character Range 15,369 - 15,611*

Not organisational rules per say, but umm technology limitations, low bandwidth, technological glitches that actually prevent searches from working, 'not found', 'this site cannot be displayed', 'are you connected to the internet?' and so on.

Node Coding **Tree Nodes\Frequency of information events\Days of the Week\24_7 each week** **References** 1 **Coverage** 1.46 %

Reference 1 *Character Range 13,879 - 14,362*

It's basically 24/7 [laughter] - not quite that bad you know, but I always have a computer on at home and... mmm. I tend to have it on by about 6.30 in the morning. 7 o'clock sometimes, maybe if I'm running late. Anything I do after about 8 o'clock [pm] is more recreational than seriously purposeful because my brain sort of getting old and my brain starts to slow down a bit at 8 o'clock, so I go and watch a bit of TV instead - CSI and that sort of stuff in the evening, and ah, ...

Node Coding **Tree Nodes\Frequency of information events\Days or periods of the Year\Extensive during course teaching** **References** 1 **Coverage** 2.24 %

Reference 1 *Character Range 14,471 - 15,215*

Whenever I'm teaching a course - a class - in preparing for that. If you look up on the board there, they were the - there's a table there of the range of topics for MIMM 542 Sense-making, Structuration Theory, Adaptive Structuration Theory, and so on. And in each of those weeks I spent a lot of time, particularly on Proquest, ABI Proquest and the like, ah, looking for useful readings, yeah, looking for useful readings - now by useful *readings, I mean ones that illustrate how those theories were applied in real life, which students can then take* and umm, yeah.

So, during course prep, yes - extensively, more so than any other times. And if I'm engaged in research activities, which in theory of course, is supposed to be all the time

Node Coding **Tree Nodes\Frequency of information events\Particular Times of Day\First thing** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 929 - 1,062*

Okay, so the first thing I usually check is my email, and I work in Microsoft Outlook, both here and at home, and it's just coming up

Node Coding **Tree Nodes\Information Event\Administration\Mail related to Honours programme_Admin** **References** 1 **Coverage** 0.55 %

Reference 1 *Character Range 2,993 - 3,174*

I've got one email in my Drafts Folder that relates to this year's Honours programme, and I need to find out where we're at from Kim [SIM reception]. So I'm gonna have to move that

Node Coding **Tree Nodes\Information Event\Administration\Participant answers phone & confirms booking with Kim** **References** 1 **Coverage** 5.14 %

Reference 1 *Character Range 4,459 - 6,166*

I suspect it's probably the Postgraduate Students Association... Anyhow, the room's big enough and got the... yeah... yeah, no, mmm, yeah well, if we've got it for the time required, that's the main thing... well, umm, well, certainly the students are expected to be there for the whole thing, and as many of their supervisors as *possible and maybe one or two other academics. My experience of the academics is that they will be fairly* slack - they'll only come if I twist their arm or if they've got direct personal interest... alright, mmm... I'm just gonna put you on speaker here because ah, if it's okay with you, I'm being part of a umm, of Paul's research, so he's only hearing half of the conversation - yes, carry on. They need a projector and a laptop - so does that mean - it does doesn't it, that it needs a network connection - but do we need network connection and *Internet?*
I honestly don't know that - it depends what the students choose to present...
Okay...
So I think I probably would need and Internet connection - I'd be surprised if there's no network connection in the room, so we just need to ask umm, Teaching Support to set it up appropriately.
Okay...
Just leave the problem with them.
Okay... alright then...
They may have a wireless connection - who knows.
Oh, who can tell... - oh, I can look somewhere on the [***] tells you where all the wireless connections are...
Yeah, but I would tend to probably approach umm, Teaching Support.
Okay...
Yeah.
Okay, alright, I've should cancel the other - the Hunter Room...
Not until we've got this one, and we're agreed we can get the gear, so I'd get the...
Okay.
Yeah.
So Teaching Services... alrighty then...
Thanks Kim.
No problem. Okay, bye.
Bye.

Node Coding **Tree Nodes\Information Event\Administration\Received reply from email to previous email** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 6,168 - 6,301*

Okay, and while that happened, having sent out the earlier message, we got an instant response from somebody... an out of office reply.

Node Coding **Tree Nodes\Information Event\Administration\Use phone to call *Kim at reception about room booking 4* Honours students_left msg** **References** 1 **Coverage** 0.94 %

Reference 1 *Character Range 3,283 - 3,595*

[Participant picks up phone to call Kim at the SIM reception office]
"Hello Kim, Brian here, just wondered if you had any luck in pursuing the umm, confirming the room booking for October 9 for the PHD - no not the PHD the Honours student presentations, umm, could you give me a call back in my office - thanks"

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Check 2_NewstalkZB currrent affairs** **References** 1 **Coverage** 1.92 %

Reference 1 *Character Range 9,946 - 10,583*

And the other thing I usually check is Newstalk ZB - it has a summary of what's happening in the news, and umm, and the reason I choose that one is the news sources, and it's cheap and cheerful - it's free actually, but *it's the most frequently updated of the news sources as far as I can see, so whenever I do choose to check, I* can see that umm - the Reserve Bank has decided to leave the official [????] rate unchanged which is probably a good thing - and there is nothing new, so I'll just have a look at the headlines and see if there's anything catching my eye - Glad to see Australia are beaten by Zimbabwe in the 20/20 cricket.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Checks 2 things_1 Bruce Simpsons Aardvark** **References** 1 **Coverage** 3.96 %

Reference 1 *Character Range 7,979 - 9,292*

I tend to check two things each day just sort of to see what's happening in the world, first as I go to Newsmedia and I look at Bruce Simpson's Aardvark (Aardvark.co.nz), umm, just to see what he's on about. *He's an interesting guy - he's got some fascinating insights into what's happening in technology from a social* and political point of view, and he has however getting increasingly shrill as he gets older. This morning his two main articles are, relate to the futility of court suppression orders in relation to the murder in Hern Bay, in what kind of guy would stand, and he's ranting on about the judge who has issued, you know suppressed - you mustn't discuss the murder on Internet sites, and umm, ah, he's pointing out how stupid that is and how unenforceable it is from a logical point of view. He says something here like 'the lawyer who claims that Internet users can be traced if they post material on the net, they are clearly a little out of touch with the ability of today's kids - anonymous proxies and a raft of other mechanisms can easily be used by half-savvy teens to anonymously post information on the net and avoid prosecution. And right now I can hear one lawyer saying - anonymous what?' Umm... so they're talking about the Bebo websites and all sorts of stuff, so, and stuff like that.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Checks whats going on in world_connection was running slow l_nite** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 7,696 - 7,979*

I have to confess at this stage I usually check what's going on in the world, by having a quick look on the web, umm... what I need to do is make sure that my web system is set up to so that the user is vuw case. Things were running slow at home last night so I disconnected the case.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Participant answers phone & confirms booking with Kim** **References** 1 **Coverage** 5.14 %

Reference 1 *Character Range 4,459 - 6,166*

I suspect it's probably the Postgraduate Students Association... Anyhow, the room's big enough and got the... yeah... yeah, no, mmm, yeah well, if we've got it for the time required, that's the main thing... well, umm, well, certainly the students are expected to be there for the whole thing, and as many of their supervisors as possible and maybe one or two other academics. My experience of the academics is that they will be fairly slack - they'll only come if I twist their arm or if they've got direct personal interest... alright, mmm... I'm just gonna put you on speaker here because ah, if it's okay with you, I'm being part of a umm, of Paul's research, so he's only hearing half of the conversation - yes, carry on. They need a projector and a laptop - so does that mean - it does doesn't it, that it needs a network connection - but do we need network connection and Internet?
I honestly don't know that - it depends what the students choose to present...
Okay...
So I think I probably would need and Internet connection - I'd be surprised if there's no network connection in the room, so we just need to ask umm, Teaching Support to set it up appropriately.
Okay...
Just leave the problem with them.
Okay... alright then...
They may have a wireless connection - who knows.
Oh, who can tell... - oh, I can look somewhere on the [***] tells you where all the wireless connections are...
Yeah, but I would tend to probably approach umm, Teaching Support.
Okay...
Yeah.

Okay, alright, I've should cancel the other - the Hunter Room...
Not until we've got this one, and we're agreed we can get the gear, so I'd get the...
Okay.
Yeah.
So Teaching Services... alrighty then...
Thanks Kim.
No problem. Okay, bye.
Bye.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Participant checks calendar** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 6,609 - 6,742*

Okay, and at this stage I need to go into my calendar just to see who else I'm late for today. I have a bunch of Shepherding meetings

Node Coding **Tree Nodes\Information Outcomes\Placed For Further Action\Hobby_won't read** **References** 1 **Coverage** 0.37 %

Reference 1 *Character Range 2,870 - 2,992*

Hobby Use - nothing of urgency there - I can just sort of skim over those and - I probably won't ever bother reading them.

Node Coding **Tree Nodes\Information Outcomes\Reply to Sender\Use phone to call Kim at reception about room booking 4 Honours students_left msg** **References** 1 **Coverage** 0.94 %

Reference 1 *Character Range 3,283 - 3,595*

[Participant picks up phone to call Kim at the SIM reception office]
"*Hello Kim, Brian here, just wondered if you had any luck in pursuing the umm, confirming the room booking* for October 9 for the PHD - no not the PHD the Honours student presentations, umm, could you give me a call back in my office - thanks"

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Mail related to Honours programme_Admin** **References** 1 **Coverage** 0.55 %

Reference 1 *Character Range 2,993 - 3,174*

I've got one email in my Drafts Folder that relates to this year's Honours programme, and I need to find out where we're at from Kim [SIM reception]. So I'm gonna have to move that

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Types & sends email to Honours students & Supervisors** **References** 1 **Coverage** 1.94 %

Reference 1 *Character Range 3,597 - 4,240*

Okay, umm, this is something that does need to go out, so I'll just spend a little time making sure that I've got it right. 'A revival of the practice of past years, this year's Honours Students are required to do a presentation on their INFO408 projects. Students and supervisors are requested to be present. Mini presentations... placed on Monday... Each student has a 15 minute slot with five minutes of questions to report on their progress... da, da, da, da... booking in Murphy 103... and insert signature... okay, so that's going out to all the Academics and the information systems group and all the students currently enrolled in it - send. Okay...

Node Coding **Tree Nodes\Observed Behaviours\Confirming\Participant answers phone & confirms booking with Kim** **References** 1 **Coverage** 5.14 %

Reference 1 *Character Range 4,459 - 6,166*

I suspect it's probably the Postgraduate Students Association... Anyhow, the room's big enough and got the... yeah... yeah, no, mmm, yeah well, if we've got it for the time required, that's the main thing... well, umm, well, certainly the students are expected to be there for the whole thing, and as many of their supervisors as possible and maybe one or two other academics. My experience of the academics is that they will be fairly slack - they'll only come if I twist their arm or if they've got direct personal interest... alright, mmm... I'm just

Node Coding **Tree Nodes\Observed Behaviours\Extracting\Checks whats going on in world_connection was running slow i_nite** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 7,696 - 7,979*

I have to confess at this stage I usually check what's going on in the world, by having a quick look on the web, umm... what I need to do is make sure that my web system is set up to so that the user is vuw case. Things were running slow at home last night so I disconnected the case.

Node Coding **Tree Nodes\Observed Behaviours\Extracting\Participant answers phone & confirms booking with Kim** **References** 1 **Coverage** 5.14 %

Reference 1 *Character Range 4,459 - 6,166*

I suspect it's probably the Postgraduate Students Association... Anyhow, the room's big enough and got the... yeah... yeah, no, mmm, yeah well, if we've got it for the time required, that's the main thing... well, umm, well, certainly the students are expected to be there for the whole thing, and as many of their supervisors as possible and maybe one or two other academics. My experience of the academics is that they will be fairly slack – they'll only come if I twist their arm or if they've got direct personal interest... alright, mmm... I'm just gonna put you on speaker here because ah, if it's okay with you, I'm being part of a umm, of Paul's research, so he's only hearing half of the conversation – yes, carry on. They need a projector and a laptop – so does that mean – it does doesn't it, that it needs a network connection – but do we need network connection and Internet?
I honestly don't know that – it depends what the students choose to present...
Okay...
So I think I probably would need and Internet connection - I'd be surprised if there's no network connection in the room, so we just need to ask umm, Teaching Support to set it up appropriately.
Okay...
Just leave the problem with them.
Okay... alright then...
They may have a wireless connection – who knows.
Oh, who can tell... - oh, I can look somewhere on the [***] tells you where all the wireless connections are...
Yeah, but I would tend to probably approach umm, Teaching Support.
Okay...
Yeah.
Okay, alright, I've should cancel the other – the Hunter Room...
Not until we've got this one, and we're agreed we can get the gear, so I'd get the...
Okay.
Yeah.
So Teaching Services... alrighty then...
Thanks Kim.
No problem. Okay, bye.
Bye.

Node Coding **Tree Nodes\Observed Behaviours\Extracting\Participant checks calendar** **References** 1 **Coverage** 0.40 %

Reference 1 *Character Range 6,609 - 6,742*

Okay, and at this stage I need to go into my calendar just to see who else I'm late for today. I have a bunch of Shepherding meetings

Node Coding **Tree Nodes\Observed Behaviours\Multi-tasking\Have up to 8 windows open at a time & email** **References** 1 **Coverage** 0.95 %

Reference 1 *Character Range 11,264 - 11,580*

So you go backwards and forwards to emails that come in?
Yeah – once, if my attention strays, I'll just TAB across to Outlook and see if there's anything there. I usually have anything up to eight windows open at a time, so, and different applications running. Right, so you enjoy a multi-tasking environment? Yeah.

Node Coding **Tree Nodes\Observed Behaviours\Multi-tasking\Keep email up all the time** **References** 1 **Coverage** 0.53 %

Reference 1 *Character Range 11,085 - 11,260*

Do you keep email up all day while you're working?
Yes – I'm not sure if that's ideal for productivity purposes, but it's just the way I am. Mine's going all the time – yeah.

Node Coding **Tree Nodes\Observed Behaviours\Organised\Email set up to give instant preview_no decision on whether to open them** **References** 1 **Coverage** 0.91 %

Reference 1 *Character Range 6,302 - 6,604*

I have my email set up so that umm, I get the instant previews, so I don't have to decide whether to open them or not, I can already see what they say. There are some dangers to that, but I have a reasonably robust virus protection, and umm and Trojan spyware stuff so... so I'm not too nervous about it.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Types & sends email to Honours students & Supervisors_important to send now** **References** 1 **Coverage** 1.94 %

Reference 1 *Character Range 3,597 - 4,240*

Okay, umm, this is something that does need to go out, so I'll just spend a little time making sure that I've got it right. 'A revival of the practice of past years, this year's Honours Students are required to do a presentation on their INFO408 projects. Students and supervisors are requested to be present. Mini presentations... placed on Monday... Each student has a 15 minute slot with five minutes of questions to report on their progress... da, da, da, da... booking in Murphy 103... and insert signature... okay, so that's going out to all the Academics and the information systems group and all the students currently enrolled in it – send. Okay...

Node Coding **Tree Nodes\Observed Behaviours\Sharing\send email 2 academics, students, supervisors** **References** 1 **Coverage** 0.39 %

Reference 1 *Character Range 4,109 - 4,240*

that's going out to all the Academics and the information systems group and all the students currently enrolled in it – send. Okay...

Node Coding **Tree Nodes\Observed Behaviours\Sharing\Types & sends email to Honours students & Supervisors to inform of presentations & venue** **References** 1 **Coverage** 1.94 %

Reference 1 *Character Range 3,597 - 4,240*

Okay, umm, this is something that does need to go out, so I'll just spend a little time making sure that I've got it right. 'A revival of the practice of past years, this year's Honours Students are required to do a presentation on their INFO408 projects. Students and supervisors are requested to be present. Mini presentations... placed on Monday... Each student has a 15 minute slot with five minutes of questions to report on their progress... da, da, da, da... booking in Murphy 103... and insert signature... okay, so that's going out to all the Academics and the information systems group and all the students currently enrolled in it – send. Okay...

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Electronic\Preorganised into folders b4 seeing them** **References** 1 **Coverage** 1.49 %

Reference 1 *Character Range 1,145 - 1,640*

I tend to have rules and alerts, and it does some pre-filtering. Anything that I have a definite knowledge of what I plan to do with, gets put into a filter, so I've got one from family and friends, another one related to my personal hobby. Anything that is from somebody that I'm not expecting or don't know, or isn't a regular correspondent, goes into my deleted items, and the purpose of that is I'll have a quick look, and if it's not from anybody I want I just literally finally delete it.

Node Coding **Tree Nodes\Observed Behaviours\Updating\Types & sends email to Honours students & Supervisors** **References** 1 **Coverage** 1.94 %

Reference 1 *Character Range 3,597 - 4,240*

Okay, umm, this is something that does need to go out, so I'll just spend a little time making sure that I've got

Node Coding **Tree Nodes\Technologies\Laptop\Same Laptop home & work & VP network** **References** 1 **Coverage** 0.90 %

Reference 1 *Character Range 205 - 503*

I normally use a laptop and I carry it backwards and forwards, and it's the same computer at both places, and it avoids all the synchronisation problems that you have with desktops, which is neat, and I have virtual private network connections, so it's just as if I'm here even though I'm at home.

Node Coding **Tree Nodes\Technologies\Most used technologies\PC is most used** **References** 1 **Coverage** 1.52 %

Reference 1 *Character Range 15,736 - 16,241*

PC. Do you have a PDA? I have a umm, what do they call it? - the Apache, umm, as being part of the, you know, part of being the programme director - the school equips us with a thing which is combination cell phone/PDA. Frankly it does neither! Oh. It's a horrible device, umm, it's extremely expensive to use for any serious searching. Even with you know full screen, it's still very small, it's still a very small amount of real estate - so I've never umm done any serious web searching on the Apache.

Node Coding **Tree Nodes\Technologies\Most used technologies\Same Laptop home & work & VP network** **References** 1 **Coverage** 0.90 %

Reference 1 *Character Range 205 - 503*

I normally use a laptop and I carry it backwards and forwards, and it's the same computer at both places, and it avoids all the synchronisation problems that you have with desktops, which is neat, and I have virtual private network connections, so it's just as if I'm here even though I'm at home.

Node Coding **Tree Nodes\Technologies\PDA\Apache inefficient tool** **References** 1 **Coverage** 2.05 %

Reference 1 *Character Range 17,458 - 18,138*

Are there technologies which you could use (that are available to you) but you do not feel confident enough to use efficiently to make your interactions with information more successful than they otherwise could be? The Apache - not that it's not used efficiently - not an efficient tool. And I think the other thing I can say about the Apache is that it's a glass screen, and although it has a fold-out keyboard, umm, it's not like an ordinary cell phone where you can do it by touch. You've actually got to be looking at it, so you know you sort of run the risk of walking into lamp posts or driving off the road. So no. I guess the short answer to the question is probably no.

Node Coding **Tree Nodes\Technologies\PDA\Dislike PDA** **References** 1 **Coverage** 1.52 %

Reference 1 *Character Range 15,736 - 16,241*

PC. Do you have a PDA? I have a umm, what do they call it? - the Apache, umm, as being part of the, you know, part of b .ing the programme director - the school equips us with a thing which is combination cell phone/PDA. Frankly it does neither! Oh. It's a horrible device, umm, it's extremely expensive to use for any serious searching. Even with you know full screen, it's still very small, it's still a very small amount of real estate - so I've never umm done any serious web searching on the Apache.

Node Coding **Tree Nodes\Technologies\PDA\PDA is horrible device** **References** 1 **Coverage** 1.52 %

Reference 1 *Character Range 15,736 - 16,241*

PC. Do you have a PDA? I have a umm, what do they call it? - the Apache, umm, as being part of the, you know, part of being the programme director - the school equips us with a thing which is combination cell phone/PDA. Frankly it does neither! Oh. It's a horrible device, umm, it's extremely expensive to use for any serious searching. Even with you know full screen, it's still very small, it's still a very small amount of real estate - so I've never umm done any serious web searching on the Apache.

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Email preferred medium** **References** 1 **Coverage** 1.53 %

Reference 1 *Character Range 20,531 - 21,040*

I think I'm strongly email-oriented, umm, I'm not a particularly social person, so you know, I sort of interact face-to-face with people if I know them or have a strong interest in them and/or their work, umm... The best thing about the net is that it doesn't argue back [laughter]. It's convenient, and most of the time it's faster when it's working, yeah. No really strong preference to be honest, I think I tend to use them all in more or less

equal measure - as the situations requires - highly situational.

Node Coding **Tree Nodes\Time off from ICTs\Very seldom** **References** 1 **Coverage** 0.75 %

Reference 1 *Character Range 30,732 - 30,982*

[Are there any times you deliberately get away from your PC?] [laughter] [Probably the wrong person to ask] - Absolutely. Only those times where my arm is right up the middle of my back and my wife's pulling it! [Laughter] [Very seldom?] Very seldom.

Participant Four Document

Total References 51

Node Coding **Cases\Participant Four** **References** 1 **Coverage** 100.00 %

Reference 1 *Character Range 0 - 23,806*

Participant Four - 13th September 2007. 11am - 11.50am.
35.01mins total recording time

Observation 4

[Recorder start time for observation (19.00)]

As I said, I have opened up my Mailbox. I got this message from **** **** - I don't know who the hell he is, but it comes from IS World, so I can trust its source, and then it looks at a journal I'm familiar with, so therefore this is a trusted source, it means that ah, umm, it umm *** if you like, so what I usually do is have a quick look - oh yes this could be quite interesting, so I usually put it into my 'to reply' box.

This one - I've got no idea who the hell Frances Luther is, however it comes from the university (VUW) so it's a trusted source, and it looks at an exhibition in that I'm not really interested, so... Delete.

Ah, this guy **** Bank - I know him, and have been communicating with him, and I sent him two of my papers - he's replying now to say thank you very much Pak, I've registered your interest - that's good. What I then do is tore it in the project I'm involved with him - so I'll put that there.

Now I've got no more messages - now I go to reply, to see if there are any I should be responding to - no nothing, so I go to Calendar - I look at the seven-day a week folder, and then look at after your interview [currently engaged in] and I've got nothing - Lunchtime - so ah, I go to my browser - I often logon to my bank account just to check, umm, that today's payday - just to check that it's gone in, which I went into earlier, and it has gone in, and so what I can do is I can go through a process of transferring some bits to different accounts I have. And then firstly I go to sports and then to weather. So I look at the weather and find that it's going to be showers tomorrow which I'm happy about - because we haven't had much rain this week - but then again I don't trust it! The forecasts aren't that terribly reliable, still it's good to know that it's at least no going to be that hot.

Move back to the main page, and then found that Australia beaten by Zimbabwe in the 20/20 World Cup. And think, oh, that's an interesting thing, and in this particular sports page at the lower left of the page they have the Rugby World Cup and Cricket and Football - which is my umm... I have been going to TV3, but trouble is TV3 compared to this page is very busy - it's sort of not as easy to peruse - so what I usually do is go straight to sports - it does look very cluttered - however, what TV3 does give is it's very good umm, video of the games, so I'll go umm, I'll just logon to - [video of football game starts] it's a game between Fiji against Japan. It gives you a feeling of what's happened - I never watch the games - but just gives a flavour of what happened.

The other thing which I love is a portal which I have been setting up called Pacific Village, and it's a professional network - online network, and it's linking the public servants around the pacific, and what I do is because I've sort of designed this web page, I keep an eye out for how often people are communicating with one another. Like for example I've got a new user, he's from the Solomon Islands - Maxwell Bandal - I don't know him, but obviously is interested in this. And then, this is another group, umm, and that was a post just been given out - and then I read the message and then this is sent from this person to this person - I say alright, that's an activity.

Umm, what else do I do? Ah, yeah, sometimes I logon to Skype, and I see Jocelyn's on - she's my PHD student, she and I don't talk much at this stage - she's busy. Last night I logged on and talked to my nephew based in Malaysia and a niece based in the States, so we have a chat among the three of us yesterday. So basically more like family - an information event in the sense that we just catching up.

been given out - and then I read the message and then this is sent from this person to this person - I say alright, that's an activity.

Node Coding **Tree Nodes\Information Event\Interest - work related\Skype_his PHD student logged in** **References** 1 **Coverage** 0.54 %

Reference 1 *Character Range 3,499 - 3,628*

sometimes I logon to Skype, and I see Jocelyn's on - she's my PHD student, she and I don't talk much at this stage - she's busy.

Node Coding **Tree Nodes\Information Event\Reply\Previously did search with archiver tool_2msgs** **References** 1 **Coverage** 1.98 %

Reference 1 *Character Range 3,872 - 4,344*

And now I have another two called X1. X1 is basically an Archiver tool. Like this morning I was trying to find a document by an author called John Lang - a lot of my messages they get indexed into my hard drive, and lots of stuff is here - it allows me to search. This is from John - even his Poststamp - 18th May last year is still there. Because I was looking for a message from him, which gives me the new email of a discussion group I belong to, and so I archive it.

Node Coding **Tree Nodes\Information Outcomes\Deleted\From uni_exhibition_not interested_delete** **References** 1 **Coverage** 0.87 %

Reference 1 *Character Range 592 - 799*

This one - I've got no idea who the hell Frances Luther is, however it comes from the university (VUW) so it's a trusted source, and it looks at an exhibition in that I'm not really interested, so... Delete.

Node Coding **Tree Nodes\Information Outcomes\Filed - electronic\ISWorld_interesting_to reply to** **References** 1 **Coverage** 1.80 %

Reference 1 *Character Range 161 - 590*

As I said, I have opened up my Mailbox. I got this message from **** **** - I don't know who the hell he is, but it comes from IS World, so I can trust its source, and then it looks at a journal I'm familiar with, so therefore this is a trusted source, it means that ah, umm, it umm *** if you like, so what I usually do is have a quick look - oh yes this could be quite interesting, so I usually put it into my 'to reply' box.

Node Coding **Tree Nodes\Information Outcomes\Filed - electronic\Working on project with colleague_stored in project** **References** 1 **Coverage** 1.25 %

Reference 1 *Character Range 801 - 1,098*

Ah, this guy **** Bank - I know him, and have been communicating with him, and I sent him two of my papers - he's replying now to say thank you very much Pak, I've registered your interest - that's good. What I then do is tore it in the project I'm involved with him - so I'll put that there.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Check Calendar_LUNCH** **References** 1 **Coverage** 0.64 %

Reference 1 *Character Range 1,218 - 1,370*

I go to Calendar - I look at the seven-day a week folder, and then look at after your interview [currently engaged in] and I've got nothing - Lunchtime

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Check Pacific Village portal he has set up** **References** 1 **Coverage** 2.86 %

Reference 1 *Character Range 2,783 - 3,463*

The other thing which I love is a portal which I have been setting up called Pacific Village, and it's a professional network - online network, and it's linking the public servants around the pacific, and what I do is because I've sort of designed this web page, I keep an eye out for how often people are communicating with one another. Like for example I've got a new user, he's from the Solomon Islands - Maxwell Bandal - I don't know him, but obviously is interested in this. And then, this is another group, umm, and that was a post just been given out - and then I read the message and then this is sent from this person to this person - I say

alright, that's an activity.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Check sports on Web** **References** 1 **Coverage** 1.11 %

Reference 1 *Character Range 2,006 - 2,270*

Move back to the main page, and then found that Australia beaten by Zimbabwe in the 20/20 World Cup. And think, oh, that's an interesting thing, and in this particular sports page at the lower left of the page they have the Rugby World Cup and Cricket and Football

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Check weather on Web** **References** 1 **Coverage** 1.19 %

Reference 1 *Character Range 1,718 - 2,002*

I look at the weather and find that it's going to be showers tomorrow which I'm happy about - because we haven't had much rain this week - but then again I don't trust it! The forecasts aren't that terribly reliable, still it's good to know that it's at least no going to be that hot.

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\Skype_his PHD student logged in** **References** 1 **Coverage** 0.54 %

Reference 1 *Character Range 3,499 - 3,628*

sometimes I logon to Skype, and I see Jocelyn's on - she's my PHD student, she and I don't talk much at this stage - she's busy.

Node Coding **Tree Nodes\Information Outcomes\Placed For Further Action\Previously did search with archiver tool_2msgs** **References** 1 **Coverage** 1.98 %

Reference 1 *Character Range 3,872 - 4,344*

And now I have another two called X1. X1 is basically an Archiver tool. Like this morning I was trying to find a document by an author called John Lang - a lot of my messages they get indexed into my hard drive, and lots of stuff is here - it allows me to search. This is from John - even his Poststamp - 18th May last year is still there. Because I was looking for a message from him, which gives me the new email of a discussion group I belong to, and so I archive it.

Node Coding **Tree Nodes\Observed Behaviours\Confirming\Working on project with colleague_confirming interest** **References** 1 **Coverage** 1.25 %

Reference 1 *Character Range 801 - 1,098*

Ah, this guy **** Bank - I know him, and have been communicating with him, and I sent him two of my papers - he's replying now to say thank you very much Pak, I've registered your interest - that's good. What I then do is tore it in the project I'm involved with him - so I'll put that there.

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Check Pacific Village portal he has set up** **References** 1 **Coverage** 2.86 %

Reference 1 *Character Range 2,783 - 3,463*

The other thing which I love is a portal which I have been setting up called Pacific Village, and it's a professional network - online network, and it's linking the public servants around the pacific, and what I do is because I've sort of designed this web page, I keep an eye out for how often people are communicating with one another. Like for example I've got a new user, he's from the Solomon Islands - Maxwell Bandal - I don't know him, but obviously is interested in this. And then, this is another group, umm, and that was a post just been given out - and then I read the message and then this is sent from this person to this person - I say alright, that's an activity.

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Check sports on Web** **References** 1 **Coverage** 1.11 %

Reference 1 *Character Range 2,006 - 2,270*

Move back to the main page, and then found that Australia beaten by Zimbabwe in the 20/20 World Cup. And

Reference 1 *Character Range 8,390 - 8,774*

I think I have to be smarter in how I use information. At the moment I have my mailbox - Outlook on all the time - that means when any message comes through, I see it at the bottom left-hand - no right-hand corner - the type of message and who it is from. I need to get in the habit of turning it off and back on at different times of the day so that I have more concentrated periods.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Non_Productive\No_could be more productive** **References** 1 **Coverage** 1.38 %

Reference 1 *Character Range 14,462 - 14,790*

Do you feel overall that your information behaviours are productive?
Why?
No - I don't think so. I think it's productive - but could be more productive. Like one of the things you tend to hear about is not to open my mailbox all the time - just at different times of the day. So I can concentrate on other things I'm doing...

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Use time spent on train journey2respond 2mail** **References** 1 **Coverage** 1.83 %

Reference 1 *Character Range 5,814 - 6,249*

empty my box at the end of each week so I won't get cluttered. I sort them out into files and archive it - and what happens now is I'm able to open my mailbox on the train and respond to email, which when I logon when I get home or when I get here - those which have been deleted will get put in the delete folder, those which I send will be sens***r on, and so on, so the train journey is not a waste of time, it allows me to do that.

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Never feel trustrated with technology_understand limitations** **References** 1 **Coverage** 1.29 %

Reference 1 *Character Range 11,640 - 11,948*

Do you ever feel frustrated by technology while interacting with information?
No, not really. I understand the limitations. You know people have unrealistic expectations of what technology can do, but being a teacher and researcher in this area; you understand the limitations and work with the limitations.

Node Coding **Tree Nodes\Technologies\Laptop\Use time spent on train journey2respond 2mail** **References** 1 **Coverage** 1.83 %

Reference 1 *Character Range 5,814 - 6,249*

empty my box at the end of each week so I won't get cluttered. I sort them out into files and archive it - and what happens now is I'm able to open my mailbox on the train and respond to email, which when I logon when I get home or when I get here - those which have been deleted will get put in the delete folder, those which I send will be sens***r on, and so on, so the train journey is not a waste of time, it allows me to do that.

Node Coding **Tree Nodes\Technologies\Most used technologies\HR Kiosk used often** **References** 1 **Coverage** 0.54 %

Reference 1 *Character Range 5,479 - 5,608*

I go to my HR Kiosk account - what it does is it gives me access to my leave, my pay, and all those things - so I use this often.

Node Coding **Tree Nodes\Technologies\Most used technologies\Laptop most used_not use cell much_check appnts** **References** 1 **Coverage** 1.05 %

Reference 1 *Character Range 9,938 - 10,189*

The most used umm, device is my laptop. I do not use my mobile phone a lot, even though I've got a mobile phone - my mobile phone is also a PDA, so it's sort of umm, I use that once in a while to check my appointments, but otherwise it's all laptop.

Node Coding **Tree Nodes\Technologies\Most used technologies\Use time spent on train journey2respond 2mail** **References** 1 **Coverage** 1.83 %

Reference 1 *Character Range 5,814 - 6,249*

empty my box at the end of each week so I won't get cluttered. I sort them out into files and archive it - and what happens now is I'm able to open my mailbox on the train and respond to email, which when I logon when I get home or when I get here - those which have been deleted will get put in the delete folder, those which I send will be sens***r on, and so on, so the train journey is not a waste of time, it allows me to do that.

Node Coding **Tree Nodes\Technologies\Preferred ICT Medium\Use each according to its strengths_no preference** **References** 1 **Coverage** 2.53 %

Reference 1 *Character Range 12,180 - 12,783*

you have to use different mediums according to the attributes they were designed for. I tend to take what the literature calls the 'Blender Approach' - you use the medium according to its strength. For example, if I wanted to introduce a topic or have a project planning at the very beginning, I usually like to meet face-to-face; and then if I want to have a Brain Storm exercise, I could use email and ask people to do something good - and then we can discuss it by having Skype or Chatterbox. You use the media according to its strength and purpose. So it is called the appropriate use of technology.

Node Coding **Tree Nodes\Time off from ICTs\No, no, no.** **References** 1 **Coverage** 1.00 %

Reference 1 *Character Range 16,820 - 17,059*

No - no, no. Even when I'm on annual leave I check my email everyday. I do send an out of office message so that people won't have the expectation that I will reply - so I choose to reply. Only to those which I think demand my attention.

Participant One — Document

Total References 144

Node Coding **Cases\Participant One** **References** 1 **Coverage** 100.00 %

Reference 1 *Character Range 0 - 34,860*

Participant One - 31 August 2007. 9.35am - 11.15am
50mins total recording time - Observation & Interview

Observation 1

[Recorder turned on (0.00)]

This is Mary Tate, its 9.34am Friday morning the (ah)... 31st of August, and I'm just doing a pilot test for Paul's research at the moment, so I'm just sitting down at my computer most really I'm trying to actually write in particular my PHD relating to ah the nature of trying to fix theory from the point of view of ***** and looking at the research on service quality from the point of view of theory. So quite a bit of what I'm doing is just related to that and a lot of the time ah basically just using Micro Soft Word, but sometimes I'm going off and looking at articles and books and sometimes I'm looking at online sources or online databases... ah to collect extra "refuge" references. So that's basically quite a lot of what I'm doing, so most of the incoming would be ah pretty much to do with administration or "refuge" because I'm not teaching this trimester.

I've also got my email up. I keep my email up all the time and tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you... So I've just got a couple of things here, I've got an email from Amazon.com - its come in and that's about a book that I ordered by Jenny Board Boon called Measuring the Night - Conceptual Issues in Contemporary Psychometrics, and Angela has written to me saying the order has been delayed - delivery's delayed... Given me a bunch of options - do I want to cancel or you know whatever. Well I'm kind of pissed off with it delayed but it's not really that much of a big deal. They reckon it will come about the 10th September and that's basically okay, so I don't really need to do anything with that... I'm just going to basically... I'm not going to delete it - I'm going to hang onto it in case I need to refer to it. I just looked at that mail and just going to make a ***** in my inbox. It doesn't need any particular action - its just for your information kind of umm...

And I've got a mail, an incoming mail from [Phil K.] who's a PHD student. He's sent me a question about mixed methods and validity in ah quantitative methods and wants to come talk to me, so I replied to that and just said sure... umm, you know that's going to be ongoing that will have a follow-up. So in fact I'm scrolling up now I have another mail from [*****] a response from my response which basically says great then I'll see you later, so that's I guess at some point she'll be coming into see me, so probably I should be doing some preparation for that... Umm, well definitely I should but where we are actually I'm not sure, umm (laugh). You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I I may do that before she comes, or I may wait until she comes and be a little embarrassed that I will have to do it after she's gone, but (laugh), and also there will probably be some

two/three page proposal outline of a chapter and then you have time to write a chapter ah after that and so *** I'm going to hang onto that one - I'll keep that one in my pile.

Node Coding **Tree Nodes\Information Event\Call for papers. eg ISWorld, chapters\Hardcopy.Info on journal of interest.Keep** **References** 1 **Coverage** 0.48 %

Reference 1 *Character Range 11,676 - 11,844*

then on marketing channels - that's just a 'for your information' about the journal and I am quite interested in publishing in that, and so I will keep that in my pile.

Node Coding **Tree Nodes\Information Event\Call for papers. eg ISWorld, chapters\ISWorld. For a journal previously published in. Not relevant to participant** **References** 1 **Coverage** 0.39 %

Reference 1 *Character Range 12,898 - 13,034*

something on a journal on electronic commerce research I have published in before but no specialised research element was relevant to me

Node Coding **Tree Nodes\Information Event\Check Calendar\Timeline on Wall for deadlines 4serious things** **References** 1 **Coverage** 0.56 %

Reference 1 *Character Range 10,881 - 11,075*

What I sometimes do is I actually do is on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it umm, but that's the sort of things I'm reasonably serious about.

Node Coding **Tree Nodes\Information Event\Colleague\Hardcopy. Colleagues phd proposal.** **References** 1 **Coverage** 0.64 %

Reference 1 *Character Range 8,004 - 8,227*

Allan's PHD research proposal which he is presenting next week and again I really need to be - again is in hard copy form; umm, ah, so I can get that from the SIM office which is the normal way that Paak can distribute them

Node Coding **Tree Nodes\Information Event\Colleague\Reply from colleague bout previous email** **References** 1 **Coverage** 0.38 %

Reference 1 *Character Range 2,425 - 2,557*

I'm scrolling up now I have another mail from [*****] a response from my response which basically says great then I'll see you later

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Hard copy.Deadline passed 4conference** **References** 1 **Coverage** 0.36 %

Reference 1 *Character Range 11,076 - 11,202*

I don't think I'm a hell of a serious about the... this one's 1st September, which is tomorrow - so I'm not gonna be doing that...

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Hardcopy.Another conference passed date.** **References** 1 **Coverage** 0.15 %

Reference 1 *Character Range 11,325 - 11,376*

another one 1st September - that's not gonna happen

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Hardcopy.Conference call for papers Taipei** **References** 1 **Coverage** 0.72 %

Reference 1 *Character Range 10,277 - 10,527*

I got a call for papers for a conference in Taipei in December, umm, e-business conference in to be perfectly

honest my main interest in that is I have a friend in Taiwan I quite like to catch up with, but really I don't think that's going to happen.

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Hardcopy.Hang on2 it.Possibility** **References** 1 **Coverage** 0.34 %

Reference 1 *Character Range 11,203 - 11,323*

this one's 15th September - that's the e-government chapter so I guess that's still a possibility - I'll hang onto that

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\Newsletter from a site_did review for them** **References** 1 **Coverage** 1.25 %

Reference 1 *Character Range 3,136 - 3,573*

And I've got this... what it is... I have no idea. I'll just find out umm, <long pause> ah, I have something from the European Institute for Advanced Studies in ***** in *****... Now, wracking my brains a bit here, but first off, why should I be getting them? Umm, ah what I think happened I reviewed for one of their conferences at the request of Stewart Barnes and somewhere along the line in doing the review I have a feeling I had to join...

Node Coding **Tree Nodes\Information Event\Interest - work related\Ad for Professor at Vic on ISWorld** **References** 1 **Coverage** 0.28 %

Reference 1 *Character Range 12,798 - 12,897*

Oh, here's a Victoria ad for an Associate Professor in E-Commerce so that's gone out on ISWorld umm

Node Coding **Tree Nodes\Information Event\Interest - work related\Delay notice for book from Amazon** **References** 1 **Coverage** 0.98 %

Reference 1 *Character Range 1,287 - 1,628*

I've got an email from Amazon.com - its come in and that's about a book that I ordered by Jenny Board Boon called Measuring the Night - Conceptual Issues in Contemporary Psychometrics, and Angela has written to me saying the order has been delayed - delivery's delayed... Given me a bunch of options - do I want to cancel or you know whatever.

Node Coding **Tree Nodes\Information Event\Interest - work related\Hard copy. Previous student's 408** **References** 1 **Coverage** 0.49 %

Reference 1 *Character Range 8,596 - 8,766*

maybe a few things here which are in hard copy - I have another piece of work of Allan's which relates to the 408 project he did a couple of years ago which I supervised

Node Coding **Tree Nodes\Information Event\Interest - work related\Hardcopy. Colleagues phd proposal.** **References** 1 **Coverage** 0.64 %

Reference 1 *Character Range 8,004 - 8,227*

Allan's PHD research proposal which he is presenting next week and again I really need to be - again is in hard copy form; umm, ah, so I can get that from the SIM office which is the normal way that Paak can distribute them

Node Coding **Tree Nodes\Information Event\Interest - work related\Hardcopy. ISWorld-related print-offs to maybe follow up** **References** 1 **Coverage** 0.45 %

Reference 1 *Character Range 9,019 - 9,177*

I have various other bits and pieces of things to possibly follow up umm, various opportunities for writing papers or whatever which I printed off ISWorld.com

Node Coding **Tree Nodes\Information Event\PHD related\PHD related work and research at moment** **References** 1 **Coverage** 0.77 %

Reference 1 *Character Range 11,076 - 11,202*

I don't think I'm a hell of a serious about the... this one's 1st September, which is tomorrow – so I'm not gonna be doing that...

Node Coding **Tree Nodes\Information Outcomes\Hard copy. Physically binned\Hardcopy. Trash paper on conference in Taipei. Friend there.** **References 1** **Coverage 0.26 %**

Reference 1 *Character Range 12,015 - 12,105*

I'm looking at Taipei and I'm gonna get rid of that paper and leave it in the dump [trash]

Node Coding **Tree Nodes\Information Outcomes\Hard copy. Physically binned\Hardcopy.Another conference passed date.** **References 1** **Coverage 0.15 %**

Reference 1 *Character Range 11,325 - 11,376*

another one 1st September – that's not gonna happen

Node Coding **Tree Nodes\Information Outcomes\Information Extracted\ISWorld. For a journal previously published in. Not relevant to participant** **References 1** **Coverage 0.39 %**

Reference 1 *Character Range 12,898 - 13,034*

something on a journal on electronic commerce research I have published in before but no specialised research element was relevant to me

Node Coding ***Tree Nodes\Information Outcomes\Papers signed - Hardcopy\Hardcopy. Admin. Sign the paper ready to return to Kim. Activity 6*** **References 1** **Coverage 0.90 %**

Reference 1 *Character Range 13,874 - 14,189*

I'm doing that because Brian's on leave at the moment so I'm kind of acting for him because umm, I'm taking over the role next year, so actually I'm going to do something about that right now, and get it off my desk. And then I'll get back to writing up what I was doing. Okay, so I'm just going to sign that paper

Node Coding **Tree Nodes\Information Outcomes\Placed For Further Action\ISWorld. Extracting relevant papers from filtered list** **References 1** **Coverage 1.18 %**

Reference 1 *Character Range 9,675 - 10,088*

several of which are good opportunities but at present I'm really kind of focussed on getting a lot of the writing done for the thesis so, umm, so I'm just looking here I've got ah a Theory Development Workshop on ISIS, ah, I've got umm a course of chapters on the Handbook of Research on Contemporary Theory **** Moral – ah – I' ve picked these out because I'm doing quite a bit of work on theory just at present.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Putting off what participant ought to do** **References 1** **Coverage 1.61 %**

Reference 1 *Character Range 2,569 - 3,131*

I guess at some point she'll be coming into see me, so probably I should be doing some preparation for that... Umm, well definitely I should but where we are actually I'm not sure, umm (laugh). You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I I may do that before she comes, or I may wait until she comes and be a little embarrassed that I will have to do it after she's gone, but (laugh), and also there will probably be some stuff that's gonna follow after that.

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Hard copy. Dislike for enrolment papers** **References 1** **Coverage 2.09 %**

Reference 1 *Character Range 6,909 - 7,637*

I have a thing about my PHD enrolment and the reason that sits there is-is because the whole process annoys

the hell out of me because umm, they don't seem, like they send you out forms that you have to fill out, but they have all the information that is already held on the university records, like your ID number and your start date and the umm, course code and all that kind of thing, and its, and-and I have to, because I'm doing this once a year – I have to look them up every year and it just really irritates me that I have to spend my time umm retrieving this information which is already really available to administrative, so I tend to kind of vote with my feet a little bit by dragging my heels on this particular job

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Hard copy. Not enjoy admin things** **References 1** **Coverage 0.28 %**

Reference 1 *Character Range 6,438 - 6,535*

I've got a couple of 'adminy' things that I'm supposed to fill out and I have a slight allergy to

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Hardcopy. Admin. Acknowledges how ought2be doing *something about* it** **References 1** **Coverage 0.36 %**

Reference 1 *Character Range 13,413 - 13,540*

It seems to have a bit of a theme doesn't it? - In how I ought to be doing something about it, umm, it was tucked under my door

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Hardcopy. Placed back with no action in pile** **References 1** **Coverage 0.74 %**

Reference 1 *Character Range 12,337 - 12,596*

at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them <laughs> Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Putting off what participant ought to do** **References 1** **Coverage 1.61 %**

Reference 1 *Character Range 2,569 - 3,131*

I guess at some point she'll be coming into see me, so probably I should be doing some preparation for that... Umm, well definitely I should but where we are actually I'm not sure, umm (laugh). You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I I may do that before she comes, or I may wait until she comes and be a little embarrassed that I will have to do it after she's gone, but (laugh), and also there will probably be some stuff that's gonna *follow after that.*

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Ad for Professor at Vic on ISWorld** **References 1** **Coverage 0.28 %**

Reference 1 *Character Range 12,798 - 12,897*

Oh, here's a Victoria ad for an Associate Professor in E-Commerce so that's gone out on ISWorld umm

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\email up all the time. gives break** **References 1** **Coverage 2.08 %**

Reference 1 *Character Range 5,608 - 6,334*

I quite like the little micro-breaks that incoming emails give because I like, although, I tend to kind of work away on something, my subconscious I don't you know I'm a bit too restless to just sit, and you know I tend to get up and take a little walk, you know I, so what I find is that incoming emails or telephone calls or whatever I generally don't kind of they don't bother me too much, umm, because I'm actually often quite I'm quite happy to-to take you know three minutes or three minutes away from what I'm doing, and just, you know it just kind of than go back to it – you know, I'm-I'm I don't tend to lose my thread, umm, I'm quite sort of tenacious about things and so I tend to be quite you know, quite reactive

Node Coding **Tree Nodes\Observed Behaviours\Curiosity\Scanning newsletter for interesting bits** **References 1** **Coverage 2.03 %**

Node Coding **Tree Nodes\Observed Behaviours\Hoarding\Keep email at least one year** **References** 1 **Coverage** 0.46 %

Reference 1 *Character Range 4,478 - 4,640*

I won't delete it because I tend to keep my mail and umm for quite a long time before I eventually chuck off all the ones that are say more than a year or so old,

Node Coding **Tree Nodes\Observed Behaviours\Ignoring\Hard copy. Dislike for enrolment papers** **References** 1 **Coverage** 2.09 %

Reference 1 *Character Range 6,909 - 7,637*

I have a thing about my PHD enrolment and the reason that sits there is-is because the whole process annoys the hell out of me because umm, they don't seem, like they send you out forms that you have to fill out, but they have all the information that is already held on the university records, like your ID number and your start date and the umm, course code and all that kind of thing, and its, and-and I have to, because I'm doing this once a year - I have to look them up every year and it just really irritates me that I have to spend my time umm retrieving this information which is already really available to administrative, so I tend to kind of vote with my feet a little bit by dragging my heels on this particular job

Node Coding **Tree Nodes\Observed Behaviours\Ignoring\Hard copy. Not enjoy admin things** **References** 1 **Coverage** 0.28 %

Reference 1 *Character Range 6,438 - 6,535*

I've got a couple of 'adminy' things that I'm supposed to fill out and I have a slight allergy to

Node Coding **Tree Nodes\Observed Behaviours\Ignoring\Ignore ISWorld information irrelevant to research interests** **References** 1 **Coverage** 0.55 %

Reference 1 *Character Range 12,604 - 12,795*

So while I'm on this *research?* opportunity have a really quick squizz through them now here and most of it I am going to completely ignore - its really not relevant to my research interests

Node Coding **Tree Nodes\Observed Behaviours\Ignoring\ISWorld. For a journal previously published in. Not relevant to participant** **References** 1 **Coverage** 0.39 %

Reference 1 *Character Range 12,898 - 13,034*

something on a journal on electronic commerce research I have published in before but no specialised research element was relevant to me

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Hard copy. Realising not able to go2conference. Friend there. Keep** **References** 1 **Coverage** 0.86 %

Reference 1 *Character Range 10,573 - 10,873*

flying a kite really so, I'm umm probably should biff that out because I'm not really that serious about it - umm, yeah, so those are kind of sitting there on the back-burner kind of thing, umm, probably most of them have dates coming up quite soon, I'm actually not going to do anything about them,

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Hardcopy. Admin. Acknowledges how ought2be doing something about it** **References** 1 **Coverage** 0.36 %

Reference 1 *Character Range 13,413 - 13,540*

It seems to have a bit of a theme doesn't it? - In how I ought to be doing something about it, umm, it was tucked under my door

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Hardcopy. Placed back with no action in pile** **References** 1 **Coverage** 0.74 %

Reference 1 *Character Range 12,337 - 12,596*

at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them <laughs> Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Hardcopy.Conference call for papers Taipei. Friend there. Not expecting to go. Keep anyway** **References** 1 **Coverage** 0.72 %

Reference 1 *Character Range 10,277 - 10,527*

I got a call for papers for a conference in Taipei in December, umm, e-business conference in to be perfectly honest my main interest in that is I have a friend in Taiwan I quite like to catch up with, but really I don't think that's going to happen.

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Hardcopy.Pile of papers as reminder2do something** **References** 1 **Coverage** 0.46 %

Reference 1 *Character Range 11,845 - 12,005*

And so, what I am going to do with these is I just basically kind of sat them up and they act as a kind of a reminder, or I may - I either just leave them there

Node Coding **Tree Nodes\Observed Behaviours\Mal-adaptive\Putting off what participant ought to do** **References** 1 **Coverage** 1.61 %

Reference 1 *Character Range 2,569 - 3,131*

I guess at some point she'll be coming into see me, so probably I should be doing some preparation for that... Umm, well definitely I should but where we are actually I'm not sure, umm (laugh). You know if I was a good colleague and umm as helpful as I probably should be then I should be looking around for some beautiful papers and stuff... I I may do that before she comes, or I may wait until she comes and be a little embarrassed that I will have to do it after she's gone, but (laugh), and also there will probably be some stuff that's gonna follow after that.

Node Coding **Tree Nodes\Observed Behaviours\Multi-tasking\email up all the time. gives break** **References** 1 **Coverage** 2.08 %

Reference 1 *Character Range 5,608 - 6,334*

I quite like the little micro-breaks that incoming emails give because I like, although, I tend to kind of work away on something, my subconscious I don't you know I'm a bit too restless to just sit, and you know I tend to get up and take a little walk, you know I, so what I find is that incoming emails or telephone calls or whatever I generally don't kind of they don't bother me too much, umm, because I'm actually often quite I'm quite happy to-to take you know three minutes or three minutes away from what I'm doing, and just, you know it just kind of than go back to it - you know, I'm-I'm I don't tend to lose my thread, umm, I'm quite sort of tenacious about things and so I tend to be quite you know, quite reactive

Node Coding **Tree Nodes\Observed Behaviours\Multi-tasking\I keep my email up all the time** **References** 1 **Coverage** 0.53 %

Reference 1 *Character Range 1,058 - 1,243*

I keep my email up all the time and tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you

Node Coding **Tree Nodes\Observed Behaviours\Organised\Timeline on Wall for deadlines 4serious things** **References** 1 **Coverage** 0.56 %

Reference 1 *Character Range 10,881 - 11,075*

What I sometimes do is I actually do is on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it umm, but that's the sort of things I'm reasonably serious about.

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Hardcopy. Placed back with no action in pile** **References** 1 **Coverage** 0.74 %

Reference 1 *Character Range 12,337 - 12,596*

at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them <laughs> Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Hardcopy.Another conference passed date.** **References** 1 **Coverage** 0.15 %

Reference 1 *Character Range 11,325 - 11,376*

another one 1st September - that's not gonna happen

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Hardcopy.Hang on2 it.Possibility** **References** 1 **Coverage** 0.34 %

Reference 1 *Character Range 11,203 - 11,323*

this one's 15th September - that's the e-government chapter so I guess that's still a possibility - I'll hang onto that

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Hardcopy.Info on journal of interest.Keep** **References** 1 **Coverage** 0.48 %

Reference 1 *Character Range 11,676 - 11,844*

then on marketing channels - that's just a 'for your information' about the journal and I am quite interested in publishing in that, and so I will keep that in my pile.

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Hardcopy.Pile of papers as reminder2do something** **References** 1 **Coverage** 0.46 %

Reference 1 *Character Range 11,845 - 12,005*

And so, what I am going to do with these is I just basically kind of sat them up and they act as a kind of a reminder, or I may - I either just leave them there

Node Coding **Tree Nodes\Observed Behaviours\Sorting - Hardcopy\Timeline on Wall for deadlines 4serious things** **References** 1 **Coverage** 0.56 %

Reference 1 *Character Range 10,881 - 11,075*

What I sometimes do is I actually do is on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it umm, but that's the sort of things I'm reasonably serious about.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Non_Productive\Adapting to the technology is unproductive** **References** 1 **Coverage** 1.15 %

Reference 1 *Character Range 30,767 - 31,167*

on the whole like we spend a lot of time adapting to the way, to the way the system views things and we do because on the whole we still prefer to do that to not having it but, it can still be an awful lot there - it could be a lot more centred around the person and their working style than it is - there's some level of adaptivity - I think that adaptivity could be a lot greater than it is - yeah.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Non_Productive\Hardcopy. Admin. Acknowledges how ought2be doing something about it** **References** 1 **Coverage** 0.36 %

Reference 1 *Character Range 13,413 - 13,540*

It seems to have a bit of a theme doesn't it? - In how I ought to be doing something about it, umm, it was tucked under my door

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Non_Productive\Hardcopy. Placed back with no action in pile** **References** 1 **Coverage** 0.74 %

Reference 1 *Character Range 12,337 - 12,596*

at present I'm not gonna do either of those two things so in terms of time management it probably totally sucks as I have already handled them <laughs> Its actually really funny... that I've put them back down again, apart from the two I have thrown in the bin

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\I keep my email up all the time** **References** 1 **Coverage** 0.53 %

Reference 1 *Character Range 1,058 - 1,243*

I keep my email up all the time and tend to respond to it as it comes in rather than, you know, kind of partitioning time for email. I tend to like the micro breaks that email gives you

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Timeline on Wall for deadlines 4serious things** **References** 1 **Coverage** 0.56 %

Reference 1 *Character Range 10,881 - 11,075*

What I sometimes do is I actually do is on my wall I make a timeline of deadlines, so I can keep an eye on it and work towards it umm, but that's the sort of things I'm reasonably serious about.

Node Coding **Tree Nodes\Technologies\Cell Phone\Cell rates third behind PC and phone** **References** 1 **Coverage** 0.84 %

Reference 1 *Character Range 32,160 - 32,454*

So I think on the whole, the cell phone seems to be something that fills in a few of those gaps like if I'm travelling, or if I'm out on the weekend - but it's not my preferred technology. Yeah, so it's kind of a distant kind of third place behind computers and regular telephony really for me.

Node Coding **Tree Nodes\Technologies\Cell Phone\Lost it and not bothered** **References** 1 **Coverage** 0.47 %

Reference 1 *Character Range 32,455 - 32,620*

And that really proves it 'cause I've lost mine and I'm not finding it difficult. I probably will get another one, or at least I'll try really hard to find that one.

Node Coding **Tree Nodes\Technologies\Cell Phone\Not use Cell much** **References** 1 **Coverage** 1.08 %

Reference 1 *Character Range 31,582 - 31,958*

I don't need to switch to my cell phone - in fact it would be annoying to go over to the cell phone. And also of course I don't have a PDA which some people use - and it would be interesting - and I have never used one - can't say I will ever or not, but certainly I think that if I had a more mobile job or lifestyle, then I probably would use my cell phone quite a bit more.

Node Coding **Tree Nodes\Technologies\Cell Phone\Problem with getting emails on cell** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 21,878 - 22,176*

I haven't really have any success with - I've had a couple of goes with trying to set up my cell phone so I could umm, so I could get email messages on it, but I didn't have any success with that, umm. I probably don't really need it but there are occasional times where it could have come in handy

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Bugs with Word** **References** 1 **Coverage** 1.00 %

Reference 1 *Character Range 24,669 - 25,016*

MS Word has got quite a bit better but its still close to being too smart and sometimes it knows what you want and some times you have trouble saying you don't want to do that you want to do something different, and there are still a few bugs occasionally that you stumble across and strange behaviours in Word, and that can be really irritating.

Node Coding Tree Nodes\Technologies\Most used technologies\P1. Online sources & dbases — **References** 1 — **Coverage** 0.17 %

Reference 1 — *Character Range 748 - 807*

sometimes I'm looking at online sources or online databases

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Email convenient with people known — **References** 1 — **Coverage** 0.50 %

Reference 1 — *Character Range 26,304 - 26,478*

I think technology can be convenient, umm, and I do use it a great deal, umm, and I use email a great deal, ah, but on the whole, I prefer to email with people I already know

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Email is the winner — **References** 1 — **Coverage** 0.28 %

Reference 1 — *Character Range 19,073 - 19,171*

I have email up all day every day... so that would be the big winner. I use email a very great deal.

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Face to face would be better or with email — **References** 1 — **Coverage** 0.85 %

Reference 1 — *Character Range 26,496 - 26,793*

I really had a choice I would say I would probably prefer to deal face-to-face if I could. And certainly I find it hard to deal with people solely by email. I mean I find that you know, that the relationship needs to be kind of, or it can be better if it's reaffirmed by meeting them occasionally.

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Face to face would win — **References** 1 — **Coverage** 0.22 %

Reference 1 — *Character Range 27,099 - 27,177*

If I had a completely free choice I would probably umm choose to meet people.

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Online sources & dbases — **References** 1 — **Coverage** 0.17 %

Reference 1 — *Character Range 748 - 807*

sometimes I'm looking at online sources or online databases

Node Coding Tree Nodes\Technologies\Preferred ICT Medium\Papertrail with email convenient — **References** 1 — **Coverage** 0.95 %

Reference 1 — *Character Range 27,181 - 27,511*

Having said that, I think there is kind of a place for both, because one of the things that people seem to love about email is that it leaves a kind of paper trail, and you know that is extremely convenient. So, you know, it is certainly good to have a short confirmation of perhaps of meetings you have with people, or agreements

Node Coding Tree Nodes\Time off from ICTs\Always connected — **References** 1 — **Coverage** 0.35 %

Reference 1 — *Character Range 34,661 - 34,784*

unless I've deliberately gone away to get away from things, I would generally be connected to email and internet and stuff

Node Coding Tree Nodes\Time off from ICTs\Computer & email addict — **References** 1 — **Coverage** 0.88 %

Reference 1 — *Character Range 34,065 - 34,372*

sometimes if I'm on holiday - depending on where I'm on holiday - but I'll tend to check email if I have the opportunity to do it, umm. Even if I'm away I travel with my laptop, umm, and often if I find a Cyber Café - so I would say yeah, I'm a bit of a - kind of a PC or computer-email addict kind of thing

Total References 118

Node Coding Cases\Participant Two — **References** 1 — **Coverage** 100.00 %

Reference 1 — *Character Range 0 - 31,469*

Participant Two - 6 September 2007. 8.20am - 9.50am.
mins total recording time ~ Observation & Interview

Observation 2

[Recorder turned on (0.00)]
Now usually when I get in, in the morning - the very first thing I do is login because I have a laptop so I always take it home with me because there is always something to do. So I logon and see what emails have come in particularly if anything needs urgent attention. So it takes a little while, umm, to come up, you know all the messages for today. As I indicated there were some that arrived late last night, so I deliberately did not access those. So I look at who they have come from to see if there's anything - any response that I am waiting for from someone that might be urgent. So that's number one. And then it's usually if it's from umm the Dean or the Head of School - that usually gets priority treatment.

There are some for instance from our ISWorld Information Community updates from LMAR which is a marketing thing, that sort of thing, umm, really interesting, but it's very very [time consuming?] ***** - I've got quite a lot on my plate at the moment, so I mustn't be tempted to submit even more papers to different conferences or different journals - I'm just concentrating on the ones I'm doing at the moment, so I resist even looking at those - I will look at them - I usually look at them over the weekend, you know, just to sort of keep up-to-date because sometimes they have got really interesting things that would, you know help with teaching - case studies or interesting resources.

Now, then I look at - it's usually in terms of the programme directors. They go down from Head of well - Dean and Head of School, maybe Faculty stuff, Faculty stuff is very important - and then I go down and look at for instance the Programme Directors, because very often they need information - and I see that there is something here from Pak (Yoong) - right, and this is in regard to the Associate Professor of E-Commerce position that we are advertising at the moment, with regard to that I see that he has just copied me in on the general response, umm, and... and again he has copied me in on information that a student wanted about their Honours Grades, umm.

Now we are about a research project with UTDC. UTDC is a community intervention **** that we introduced in INFO102 over the year, particularly now with the 'C Sharp' introduction and they are arranging focus group interviews with students in the first year, second year and third year. So Marianna Kennedy has been specially employed by UTDC to review this just for a limited period - so I know her time frame is limited - so I need to respond to her - I think she sent me three things, so I'm just going to have a look at those... Okay, she sent me an example of the letter she will be sending to the students, umm, ... <So are these being deleted, saved, or...?> I won't delete any of these - things that I will be - so I'll keep all of these...

If they are very important working documents - in other words I need to work off those documents or need to really comment on them or the content, I will print them out <okay> so I've got a number that I have printed out and I will show you. Now see here there is something from Ticketek and that I will probably just delete, okay? Because I what I want to - what performances I want to see and take things from very regularly - so I'll just delete that, but will be in my delete basket. See there's something here from *** ****, an Out of Office Reply. Umm, bit of a problem there it seems as though Maggie is a half-day employee, and umm we frequently need to contact Maggie with HEC-type things like date of destruction of data after a certain period and research and study leave and conference leave, and there are always queries about those things - and very often she is not there, you know you get an Out of Office Reply, which is a little bit frustrating. So with Maggie you've always got to get in ther

Node Coding Tree Nodes\Environmental Influences\Technological\Yes, access to stuff & speed of access — **References** 1 — **Coverage** 1.09 %

Reference 1 — *Character Range 17,387 - 17,729*

Yes - what we - speed of access very often, and access to certain things, although it's getting better and better and you can usually access whatever you want to - and if all else fails you can write to the author, you know. The library keeps acquiring new contacts and things, new databases. But its usually speed - speed is the main thing.

Node Coding Tree Nodes\Frequency of information events\Days of the Week\Not really. Quite disciplined throughout — **References** 1 — **Coverage** 1.02 %

Node Coding **Tree Nodes\Information Event\Colleague\Response about paper for journal w.colleague** **References** 1 **Coverage** 1.39 %

Reference 1 *Character Range 5,125 - 5,563*

I've written another paper for a journal... Goh and I wrote this paper and umm, it has been submitted to a journal, well they, they wanted us to have it in a journal – so we said okay, we'll put it in this journal, and umm, there seems to be some sort of umm, I need to print this out as well. I'll need to check up with Goh on this, there seems to be some sort of communication between Goh and the editor about the status of the article.

Node Coding **Tree Nodes\Information Event\Conference OR Seminar-based\To lead a workshop HC at conference** **References** 1 **Coverage** 0.37 %

Reference 1 *Character Range 13,193 - 13,311*

I've also got to lead a workshop on focus groups for the conference. So that's in Green, as it is something I must do.

Node Coding **Tree Nodes\Information Event\General work-related\Academic Statutes Committee HC. Put in folder. Not2 *important*** **References** 1 **Coverage** 2.00 %

Reference 1 *Character Range 12,446 - 13,076*

This is an Academic Statutes Committee, and they have course prescriptions and requests to change course prescriptions. This has to go to this committee. We have meetings once a month, once every two months - as the need arises. But we have quite a – I won't say heated because we weren't arguing, but there was a deep debate over the change of some honours papers in Marketing and International Business. So now these are the *revised proposals I have to go through that, you see. And these don't really have folders because they are* opportunities for conferences or journals or research funds. So those are not majorly important.

Node Coding **Tree Nodes\Information Event\General work-related\Questionaire to reply review to** **References** 1 **Coverage** 0.44 %

Reference 1 *Character Range 10,759 - 10,898*

Catherine Sutherland sent me a questionnaire which I quickly reviewed last night, so I'll send her feedback on that – Sutherland from UTDC.

Node Coding **Tree Nodes\Information Event\Interest - personal\Mail from Ticketek. Delete** **References** 1 **Coverage** 0.73 %

Reference 1 *Character Range 3,244 - 3,475*

there is something from Ticketek and that I will probably just delete, okay? Because I what I want to – what performances I want to see and take things from very regularly – so I'll just delete that, but will be in my delete basket

Node Coding **Tree Nodes\Information Event\Interest - work related\Collaboration w. European Union Project** **References** 1 **Coverage** 2.77 %

Reference 1 *Character Range 11,092 - 11,964*

This is something from a group who are working on a European Union project, and this is in regard to a system, an inter-country, an international system relating to customs and customs documentation, that type of thing, but particularly the security aspects. And they want me to be involved in this from the New Zealand side. So I've had to talk to various people about the feasibility of us getting involved. But they want me to go *there next year when I'm on sabbatical – because I'll be with Benoit in Canada. But they want me to go there* and to work with them on this. So they've sent me some stuff, and its things I've now got to follow up on with the various powers that be – various players. And if you deal with governments and government organisations you've got to be careful and you've got to get just the right person – so that's really quite a lot of work.

Node Coding **Tree Nodes\Information Event\Interest - work related\ISWorld & Community Updates. Weekend** **References** 1 **Coverage** 0.93 %

Reference 1 *Character Range 9,373 - 9,667*

the things I haven't opened are things from ISWorld and Community Updates and European Marketing thing, these are all daily things that I get, so I've got to resist those for the minute. But I don't want to be too blinkered and just not attend to them at all, but those I read over the weekend.

Node Coding **Tree Nodes\Information Event\Out of Office Reply\Out Of Office reply. Frustrating** **References** 1 **Coverage** 1.37 %

Reference 1 *Character Range 3,522 - 3,952*

Out of Office Reply. Umm, bit of a problem there it seems as though Maggie is a half-day employee, and umm we frequently need to contact Maggie with HEC-type things like date of destruction of data after a certain period and research and study leave and conference leave, and there are always queries about those things – and very often she is not there, you know you get an Out of Office Reply, which is a little bit frustrating.

Node Coding **Tree Nodes\Information Event\Outside *work hours\ISWorld & Community* Updates. Weekend** **References** 1 **Coverage** 0.93 %

Reference 1 *Character Range 9,373 - 9,667*

the things I haven't opened are things from ISWorld and Community Updates and European Marketing thing, these are all daily things that I get, so I've got to resist those for the minute. But I don't want to be too blinkered and just not attend to them at all, but those I read over the weekend.

Node Coding **Tree Nodes\Information Event\Papers & articles being worked on\Papers & articles being worked on now. HC info** **References** 1 **Coverage** 0.41 %

Reference 1 *Character Range 13,683 - 13,812*

And here's another system over here. These are different papers – articles – journal articles that I'm working *on at the moment.*

Node Coding **Tree Nodes\Information Event\PHD related\PHD_ongoing** **References** 1 **Coverage** 1.16 %

Reference 1 *Character Range 13,312 - 13,678*

And this – always – stuff for my PHD – there's always stuff ongoing there. So this is now for another article – it's got to be prepared from the PHD thing. So, these are things to do. But also things I need to reply to quickly. So I sort of organise them according to levels of importance – you know, urgency. So these need to be done quickly, so they can go on top.

Node Coding **Tree Nodes\Information Event\Query\Response about paper for journal w.colleague** **References** 1 **Coverage** 1.39 %

Reference 1 *Character Range 5,125 - 5,563*

I've written another paper for a journal... Goh and I wrote this paper and umm, it has been submitted to a journal, well they, they wanted us to have it in a journal – so we said okay, we'll put it in this journal, and umm, there seems to be some sort of umm, I need to print this out as well. I'll need to check up with Goh on this, there seems to be some sort of communication between Goh and the editor about the status of the article.

Node Coding **Tree Nodes\Information Event\Student Related\Hardcopy mail. 2 apps 4 exemptions from students** **References** 1 **Coverage** 0.60 %

Reference 1 *Character Range 10,899 - 11,087*

In the post this morning I got two applications for exemptions for students applying for transfer credit. So I've *got these, and these I can deal with quite quickly, so I can look at that.*

Node Coding **Tree Nodes\Information Event\Student Related\Masters student with question about thesis** **References** 1 **Coverage** 1.32 %

Reference 1 *Character Range 10,242 - 10,657*

Alex Schneiple has asked, he needs to make a few changes to his Masters before it's finally passed off. And usually they will give one or two comments. So I have given him my feedback and Benoit and the date of the feedback, and he has come back to me with quite a deep question, which is not something which can be

Alex Schneiple has asked, he needs to make a few changes to his Masters before it's finally passed off. And usually they will give one or two comments. So I have given him my feedback and Benoit and the date of the feedback, and he has come back to me with quite a deep question, which is not something which can be fobbed off, so I'm sitting reading the relevant part of his thesis before I can reply intelligently

Node Coding **Tree Nodes\Information Outcomes\Printed\Call for papers for conference. Print out, on hold** **References** 1 **Coverage** 1.06 %

Reference 1 *Character Range 4,639 - 4,973*

I don't know if I have – will have the opportunity to go to this conference because I'll be on research and study leave next year, and umm, I'll be focussing on other things, so I might put that on hold. I'll probably print that out so I know I have got to attend to it, and got to reply to it, so I'll print it out here in my office.

Node Coding **Tree Nodes\Information *Outcomes\Printed\Can't just rely on* phone_print out_make notes_3 diaries** **References** 1 **Coverage** 1.73 %

Reference 1 *Character Range 30,924 - 31,467*

I think it's very important to be organised so that you don't let anything slip through the cracks, particularly with this job – there's lots and lots of aspects to it, so you can't just rely on memory, you can't just rely on telephone calls – you've got to make notes about things, and I do find that printing out the stuff I've got to attend to and give people feedback on, unless I do it immediately is very important. I've got the diary on here [outlook] and the diary on here - the PDA, but this is still the best [physical diary on desk]

Node Coding **Tree Nodes\Information Outcomes\Printed\Print out important working documents** **References** 1 **Coverage** 0.79 %

Reference 1 *Character Range 2,989 - 3,239*

If they are very important working documents – in other words I need to work off those documents or need to really comment on them or the content, I will print them out <okay> so I've got a number that I have printed out and I will show you. Now see

Node Coding **Tree Nodes\Information Outcomes\Printed\Printout is physical reminder to respond** **References** 1 **Coverage** 1.22 %

Reference 1 *Character Range 9,843 - 10,227*

it's not the information-type email or keeping me in the loop of something, but something of which I have to respond to, which I first need to read in depth before I respond to it, then I print it out. And so it's a physical reminder that I need to respond to it – a big physical reminder – also I can do it – sometimes that's the stuff I take home and do it at home, not interrupted.

Node Coding **Tree Nodes\Information Outcomes\Printed*Response about paper for journal w.colleague*** **References** 1 **Coverage** 1.39 %

Reference 1 *Character Range 5,125 - 5,563*

I've written another paper for a journal... Goh and I wrote this paper and umm, it has been submitted to a journal, well they, they wanted us to have it in a journal – so we said okay, we'll put it in this journal, and umm, there seems to be some sort of umm, I need to print this out as well. I'll need to check up with Goh on this, there seems to be some sort of communication between Goh and the editor about the status of the article.

Node Coding **Tree Nodes\Information Outcomes\Printed\Student problem w.Agrotats. Printed** **References** 1 **Coverage** 1.74 %

Reference 1 *Character Range 6,405 - 6,954*

Now the student has a problem with student umm, something to do with agrotats and his request for agrotats was declined. Now this is actually serious, but because it's confidential I won't print it out in the printing room – I'll print it out here... and I really need to go into this in depth, because its very important for this student and I need to ensure that I give the student the best attention I can and help the student because obviously something has gone awry. Umm, he came in yesterday in quite an agitated state – so that's quite urgent.

Node Coding **Tree Nodes\Information Outcomes\Reply to Sender\3 emails from someone arranging focus group interviews with students** **References** 1 **Coverage** 1.04 %

Reference 1 *Character Range 2,534 - 2,861*

Marianna Kennedy has been specially employed by UTDC to review this just for a limited period – so I know *her time frame is limited – so I need to respond to her – I think she sent me three things, so I'm just going to* have a look at those... Okay, she sent me an example of the letter she will be sending to the students, umm, ...

Node Coding **Tree Nodes\Information Outcomes\Reply to Sender\Student reqest 2 see participant. Reply** **References** 1 **Coverage** 0.84 %

Reference 1 *Character Range 6,958 - 7,222*

And now I see here there's a request from a Chinese student. You can see because the font is in Chinese script... wants a credit transfer... wants an appointment this afternoon at 2 o'clock – now this is not feasible for me so, I'll just have to reply to the student.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Hardcopy mail. 2 apps 4 exemptions from students** **References** 1 **Coverage** 0.60 %

Reference 1 *Character Range 10,899 - 11,087*

In the post this morning I got two applications for exemptions for students applying for transfer credit. So I've got these, and these I can deal with quite quickly, so I can look at that.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being performed\Reply to a questionaire needed** **References** 1 **Coverage** 0.44 %

Reference 1 *Character Range 10,759 - 10,898*

Catherine Sutherland sent me a questionnaire which I quickly reviewed last night, so I'll send her feedback on that – Sutherland from UTDC.

Node Coding **Tree Nodes\Information Outcomes\Resulted in other tasks being *performed\Response about paper for* journal w.colleague** **References** 1 **Coverage** 1.39 %

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I've written another paper for a journal... Goh and I wrote this paper and umm, it has been submitted to a journal, well they, they wanted us to have it in a journal – so we said okay, we'll put it in this journal, and umm, there seems to be some sort of umm, I need to print this out as well. I'll need to check up with Goh on this, there seems to be some sort of communication between Goh and the editor about the status of the article.

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Avoid looking at ISWorld stuff till weekend** **References** 1 **Coverage** 0.91 %

Reference 1 *Character Range 883 - 1,168*

There are some for instance from our ISWorld Information Community updates from LMAR which is a marketing thing, that sort of thing, umm, really interesting, but it's very very [time consuming?] ***** - I've got quite a lot on my plate at the moment, so I mustn't be tempted to submit

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\I resist even looking at those** **References** 1 **Coverage** 0.10 %

Reference 1 *Character Range 1,297 - 1,327*

I resist even looking at those

Node Coding **Tree Nodes\Observed Behaviours\Avoiding\Information awaiting filing HC** **References** 1 **Coverage** 0.91 %

you've got to be careful and you've got to get just the right person – so that's really quite a lot of work.

Node Coding **Tree Nodes\Observed Behaviours\Organised\I have to be organised** **References** 1 **Coverage** 1.90 %

Reference 1 *Character Range 30,234 - 30,833*

My information uses, I have to be organised, because if I'm not organised it impacts negatively on my efficiency, and ultimately on my effectiveness and productivity. And an important thing to bear in mind is your own resources, so I know when I'm most productive intellectually and work around that. And for instance there are certain times of the day when I prefer to do what I call pen-pushy stuff, which doesn't require all that much creative intellectual work and so I organise those things around that time of the day. And so altogether my day is quite organised, in terms of what I do when.

Node Coding **Tree Nodes\Observed Behaviours\Organised\Organisation very important, if need be arrive early for emails** **References** 1 **Coverage** 1.88 %

Reference 1 *Character Range 24,638 - 25,231*

I organise my life around that [Life as an Academic - research, teaching and administration]. Even if it means getting in early in the morning – I get in early in the mornings – ¼ to 8 sometimes, and then I hit the emails, so that by nine I can hopefully I can do the work, or some work because some people only start arriving then and sorting themselves out. I find about tea time you get people coming in with queries – you know physical visits – face-to-face communication. Then I will go and get tea, then quickly look at email to see if anything urgent has come in. And if anything really

Node Coding **Tree Nodes\Observed Behaviours\Organised\Prioritise mail.** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 611 - 878*

So I look at who they have come from to see if there's anything - any response that I am waiting for from someone that might be urgent. So that's number one. And then it's usually if it's from umm the Dean or the Head of School – that usually gets priority treatment.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Call for papers for conference. Print out, on hold** **References** 1 **Coverage** 1.06 %

Reference 1 *Character Range 4,639 - 4,973*

I don't know if I have – will have the opportunity to go to this conference because I'll be on research and study leave next year, and umm, I'll be focussing on other things, so I might put that on hold. I'll probably print that out so I know I have got to attend to it, and got to reply to it, so I'll print it out here in my office.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Collaboration w. European Union Project** **References** 1 **Coverage** 2.77 %

Reference 1 *Character Range 11,092 - 11,964*

This is something from a group who are working on a European Union project, and this is in regard to a system, an inter-country, an international system relating to customs and customs documentation, that type of thing, but particularly the security aspects. And they want me to be involved in this from the New Zealand side. So I've had to talk to various people about the feasibility of us getting involved. But they want me to go there next year when I'm on sabbatical – because I'll be with Benoit in Canada. But they want me to go there and to work with them on this. So they've sent me some stuff, and its things I've now got to follow up on with the various powers that be – various players. And if you deal with governments and government organisations you've got to be careful and you've got to get just the right person – so that's really quite a lot of work.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Hardcopy mail. 2 apps 4 exemptions from students** **References** 1 **Coverage** 0.60 %

Reference 1 *Character Range 10,899 - 11,087*

In the post this morning I got two applications for exemptions for students applying for transfer credit. So I've got these, and these I can deal with quite quickly, so I can look at that.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Printout is physical reminder to respond** **References** 1 **Coverage** 1.22 %

Reference 1 *Character Range 9,843 - 10,227*

it's not the information-type email or keeping me in the loop of something, but something of which I have to respond to, which I first need to read in depth before I respond to it, then I print it out. And so it's a physical reminder that I need to respond to it – a big physical reminder – also I can do it – sometimes that's the stuff I take home and do it at home, not interrupted.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Prioritise mail.** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 611 - 878*

So I look at who they have come from to see if there's anything - any response that I am waiting for from someone that might be urgent. So that's number one. And then it's usually if it's from umm the Dean or the Head of School – that usually gets priority treatment.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Questionaire to reply review to** **References** 1 **Coverage** 0.44 %

Reference 1 *Character Range 10,759 - 10,898*

Catherine Sutherland sent me a questionnaire which I quickly reviewed last night, so I'll send her feedback on that – Sutherland from UTDC.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Scanning inbox for priorities** **References** 1 **Coverage** 0.93 %

Reference 1 *Character Range 1,577 - 1,871*

Now, then I look at – it's usually in terms of the programme directors. They go down from Head of well – Dean and Head of School, maybe Faculty stuff, Faculty stuff is very important - and then I go down and look at for instance the Programme Directors, because very often they need information

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Student problem w.Agrotats. Printed** **References** 1 **Coverage** 1.74 %

Reference 1 *Character Range 6,405 - 6,954*

Now the student has a problem with student umm, something to do with agrotats and his request for agrotats was declined. Now this is actually serious, but because it's confidential I won't print it out in the printing room – I'll print it out here... and I really need to go into this in depth, because its very important for this student and I need to ensure that I give the student the best attention I can and help the student because obviously something has gone awry. Umm, he came in yesterday in quite an agitated state – so that's quite urgent.

Node Coding **Tree Nodes\Observed Behaviours\Prioritising\Things to reply to_urgency HC** **References** 1 **Coverage** 1.16 %

Reference 1 *Character Range 13,312 - 13,678*

And this – always – stuff for my PHD – there's always stuff ongoing there. So this is now for another article – it's got to be prepared from the PHD thing. So, these are things to do. But also things I need to reply to quickly. So I sort of organise them according to levels of importance – you know, urgency. So these need to be done quickly, so they can go on top.

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Email from staff** **References** 1 **Coverage** 0.17 %

Reference 1 *Character Range 8,916 - 8,969*

another one from Marianne Kennedy – that will be fine

Node Coding **Tree Nodes\Observed Behaviours\Scanning\Prioritise mail.** **References** 1 **Coverage** 0.85 %

Reference 1 *Character Range 611 - 878*

So I look at who they have come from to see if there's anything - any response that I am waiting for from

Reference 1 *Character Range 22,043 - 22,571*

When I don't get frustrated, and a lot of people do, is we have a - particularly last year we went through some bad patches where the system went down, and I don't get - I'm always prepared - yes I'm always prepared - I've always got a backup plan of things to do. Because there's always an alternative, and I'm sure I have alternative communication means with students, because I do realise that does happen and I don't want them to suffer - so I need to be able to get hold of them easily. So I always have that plan in place.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Hardcopy information organising system** **References** **1** **Coverage** **1.15 %**

Reference 1 *Character Range 11,966 - 12,327*

And this - my folders - I colour-code my folders - and it's usually for external organisations. Yellow is for external to SIM, and SIM use - SIM committees and things like that are usually Blue, except if I have to work on them very specifically, and then I put them in a Green folder - green stands for having to work on them - green stands for having to work!

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\ISWorld & Community Updates. Weekend** **References** **1** **Coverage** **0.93 %**

Reference 1 *Character Range 9,373 - 9,667*

the things I haven't opened are things from ISWorld and Community Updates and European Marketing thing, these are all daily things that I get, so I've got to resist those for the minute. But I don't want to be too blinkered and just not attend to them at all, but those I read over the weekend.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Not keep email up all the time** **References** **1** **Coverage** **1.23 %**

Reference 1 *Character Range 8,043 - 8,429*

Do you keep email up all day?> No; umm, at specific times of the day. I prefer not to get distracted and can concentrate on work, otherwise it can be just watching this all the time [incoming email]. It can be very distracting so I can switch off and just focus, particularly if you're working some thesis or you know, working on anything, or working on a paper - a concentrated ethic.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Not really. Quite disciplined throughout** **References** **1** **Coverage** **1.02 %**

Reference 1 *Character Range 15,819 - 16,139*

No, I can't say that I do. But what I try to do even though we've got Internet access at home, in the evenings and in the weekends I prefer to work on what I call my 'work things' - you know, writing papers and articles and other things so I'm not distracted. I'm quite disciplined with that - I won't look at the stuff.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Organisation very important, if need be arrive early for emails** **References** **1** **Coverage** **1.88 %**

Reference 1 *Character Range 24,638 - 25,231*

I organise my life around that [Life as an Academic - research, teaching and administration]. Even if it means getting in early in the morning - I get in early in the mornings - ¼ to 8 sometimes, and then I hit the emails, so that by nine I can hopefully I can do the work, or some work because some people only start arriving then and sorting themselves out. I find about tea time you get people coming in with queries - you know physical visits - face-to-face communication. Then I will go and get tea, then quickly look at email to see if anything urgent has come in. And if anything really

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Prioritise mail.** **References** **1** **Coverage** **0.85 %**

Reference 1 *Character Range 611 - 878*

So I look at who they have come from to see if there's anything - any response that I am waiting for from someone that might be urgent. So that's number one. And then it's usually if it's from umm the Dean or the Head of School - that usually gets priority treatment.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Productive_yes very** **References** **1** **Coverage** **0.34 %**

Reference 1 *Character Range 27,264 - 27,370*

Do you feel overall that your information behaviours are productive?
Yes, very - I love my information.

Node Coding **Tree Nodes\Productive & non Productive Behaviours\Productive\Tray for 'things to do' 'things to read' 'meetings'** **References** **1** **Coverage** **1.83 %**

Reference 1 *Character Range 14,360 - 14,937*

And here [basket trays] - what I have here is - these are things that I must do - a pile to do. These are not an urgent to do. So I've got to write off some report at some stage and Benoit and I are working on an article together, but it is only October that I need to get this finished. So, these are not the urgent things. This tray is for awaiting responses from others, and this is to read [another tray] - this is the to read tray. Those over there are documents that are waiting for meetings I am going to have either today or tomorrow, so the meeting documents go there.

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Always have a backup plan in place for system going down** **References** **1** **Coverage** **1.68 %**

Reference 1 *Character Range 22,043 - 22,571*

When I don't get frustrated, and a lot of people do, is we have a - particularly last year we went through some bad patches where the system went down, and I don't get - I'm always prepared - yes I'm always prepared - I've always got a backup plan of things to do. Because there's always an alternative, and I'm sure I have alternative communication means with students, because I do realise that does happen and I don't want them to suffer - so I need to be able to get hold of them easily. So I always have that plan in place.

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\Frustration with formatting for publications** **References** **1** **Coverage** **1.47 %**

Reference 1 *Character Range 27,972 - 28,435*

But deadlines for publications , and particularly if you're working with someone else. And I can't squeeze in as many as possible - so if there's the possibility of squeezing in another - I'll squeeze it in, so I'll work like mad and keep the pressure up and the adrenaline... oh, and its very frustrating because they all have their own formatting that they want you to comply with - and sometimes the formatting doesn't work - and then you get really frustrated!

Node Coding **Tree Nodes\Technologies\Frustrations with Technology\When ICT isn't intuitive** **References** **1** **Coverage** **1.76 %**

Reference 1 *Character Range 21,436 - 21,989*

Oh yes I do, yes [laughs]. I want it to work now! Immediately - you know, I want it to work without - I know this sounds quite ridiculous - I want it to be totally intuitive, so I don't have to read in an instruction book. I'm not an operator that operates by means of manuals - I operate by being shown how, and that is the way I learn best. Though, sometimes that's not possible and I do get frustrated. And it's usually at times when there' s something urgent and I get frustrated. When I've got to produce something urgently and it's just not working

Node Coding **Tree Nodes\Technologies\Most used technologies\Apache used when away from ICTs. No good overseas** **References** **1** **Coverage** **0.77 %**

Reference 1 *Character Range 17,954 - 18,195*

Programme Directors are all given an Apache, and that uses a lot when I'm away in some god forsaken place. But it won't be any good when I'm overseas because Telecom - so I'd have to get a Vodafone Roamer - so I had to use my own cell phone.

Node Coding **Tree Nodes\Technologies\Most used technologies\Phone. Don't use cell a lot at all** **References** **1** **Coverage** **0.63 %**

Reference 1 *Character Range 18,209 - 18,406*

I'm either here or at home and quite a few students all have both my phone numbers. And students can phone